

Sand Canyon Plaza Mixed-Use Project Draft Environmental Impact Report



Prepared for:

Sand Canyon Plaza, LLC
28504 Soledad Canyon Road
Santa Clarita, CA 91387

Prepared by:

300 E. Esplanade Drive, Suite 1660
Oxnard, CA 93036

March 2017

Volume 1
Draft EIR

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- Appendix 3 – Biological Resources
- Appendix 4 – Cultural Resources
- Appendix 5 – Geology and Soils
- Appendix 6 – Greenhouse Gas Emissions
- Appendix 7 – Phase I Environmental Site Assessment – Update Report
- Appendix 8 – Hydrology and Water Quality
- Appendix 9 – Noise Technical Report
- Appendix 10 – Public Services
- Appendix 11 – Traffic and Circulation
- Appendix 12 – Water Supply Assessment

1. Introduction

This introduction is included to provide the reader with a general overview of 1) the purpose of an environmental impact report (EIR); 2) a description of the environmental review process conducted for this Project to date; 3) the lead, responsible, and trustee agencies for the Project; and 4) the general format of this EIR.

1.1 Purpose and Legal Authority

This EIR evaluates the proposed Sand Canyon Plaza Mixed-Use Project. The approximately 87-acre Project site is located immediately north of Soledad Canyon Road, east of Sand Canyon Road, north of State Route 14 (SR-14), and west of the Pinetree residential community in the City of Santa Clarita. The Project includes redevelopment of the property (currently developed with 123 mobile homes) with a mixed-use community including five Planning Areas as summarized below.

- **Planning Area 1 (Commercial)** – Approximately 130,600 square feet of commercial floor including 55,600 square feet of general retail (including restaurants) and a 75,000-square-foot assisted living facility (up to 120 rooms) on approximately 10 acres. Planning Area 1 is located at the northeast intersection of Sand Canyon Road and Soledad Canyon Road.
- **Planning Area 2 (Apartments)** – 312 multi-family rental units and required parking (including resident and guest spaces) would be developed on 12.2 acres. Planning Area 2 is located directly north of Planning Area 1 along Sand Canyon Road.
- **Planning Area 3 (Townhomes)** – 122 townhomes with required parking (including resident and guest spaces) on approximately 10.1 acres. Planning Area 3 is located north of Planning Area 2 along Sand Canyon Road.
- **Planning Area 4 (Single Family Neighborhood A)** – 71 single-family detached or attached condos with required parking spaces (resident and guest parking) on approximately 7.3 acres. Planning Area 4 is located in the central portion of the Project site north and east of Planning Area 2.
- **Planning Area 5 (Single Family Neighborhood B)** – 75 single-family detached or attached condos with required parking (resident and guest parking) on approximately 10.0 acres. Planning Area 5 is located in the eastern and northern portions of the Project site.

The Project includes a total of 580 residential units. There are 123 mobile homes on-site that would be removed and replaced by the Project. Vehicular access to the Project site would come from Soledad Canyon Road and Sand Canyon Road. Two private driveways/streets would access Planning Area 1 (Commercial) from Soledad Canyon Road and Sand Canyon Road. Two private streets would access the remaining Planning Areas from Sand Canyon Road.

The Project would include grading approximately 2.2 million cubic yards of cut and fill balanced on-site. Additional remedial grading (850,000 cubic yards) would be necessary to accommodate the Project.

A Project EIR has been prepared in accordance with the California Environmental Quality Act (CEQA), the state guidelines for the implementation of CEQA, and applicable City of Santa Clarita adopting procedures for implementation of CEQA and the CEQA Guidelines, including §15124 (Project EIRs) and §15120 through §15131. This EIR identifies and discusses potential Project-specific and cumulative environmental impacts that may occur if the Project is implemented. The intent of this EIR is to: 1) be an informational document that serves to inform public agency decision makers and the general public of the potential environmental impacts of a project, 2) identify possible ways to minimize or avoid any potential significant impacts either through mitigation or the adoption of alternatives, and 3) disclose to the public required agency approvals.

The principal use of an EIR is to provide input and information to the comprehensive planning analysis. Given the important role of the EIR in this planning and decision-making process, it is important that the information presented in the EIR be factual, adequate, and complete. The standards for adequacy of an EIR, defined in §15151 of the CEQA Guidelines, are as follows:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers 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 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.

1.2 Scope and Content

The City determined that an EIR should be prepared for Sand Canyon Plaza Mixed-Use Project. As a result, a Notice of Preparation (NOP) was prepared and circulated between April 30, 2015 and May 29, 2015 for the required 30-day review period. The purpose of the NOP was to solicit early comments from public agencies with expertise in subjects that will be discussed in the draft EIR. The NOP and written responses to the NOP are contained in **Appendix 1** of this EIR. The City of Santa Clarita also held a scoping meeting on the Project to solicit oral and written comments from the public and public agencies. The public scoping meeting was held May 27, 2015. Comments received at the meeting are contained in **Appendix 1** of this EIR.

Topics requiring a detailed level of analysis evaluated in this EIR have been identified based upon the responses to both the NOP and a review of the Project by the City of Santa Clarita. The City

determined through the initial review process that impacts related to the following topics were potentially significant and required a detailed level of analysis in this EIR:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions/Climate Change
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use
- Mineral and Energy Resources
- Noise
- Population/Housing
- Public Services
- Transportation/Traffic
- Utilities/Service Systems

1.3 Lead, Responsible, and Trustee Agencies

The City as the public agency with authority for approval of Sand Canyon Plaza Mixed-Use Project is the “Lead Agency” of the EIR, as defined by CEQA. As such, the City is responsible for ensuring that the EIR satisfies the procedural and informational requirements of CEQA and for the consideration and certification of the adequacy of the EIR prior to making any decision regarding the Project.

“Responsible Agency” means a public agency that proposes to carry out or approve a project for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purpose of CEQA, the term “Responsible Agency” includes all public agencies other than the Lead Agency having discretionary approval over the Project. “Trustee Agency” means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. During the NOP review period, no public agency identified itself as a Trustee Agency.

1.4 EIR Review Process

This EIR is being circulated for a 45-day public review period. During this public review period, written comments concerning the adequacy of the document may be submitted by any interested person and/or affected agency to the City of Santa Clarita, 23920 Valencia Boulevard, Suite 302, 91355, Attention: Patrick LeClair, Associate Planner.

Following the public review period, all oral and written comments will be responded to in writing, and incorporated into a Final EIR. At least 10 days prior to a hearing to certify the Final EIR, proposed responses to comments on the Draft EIR by public agencies will be sent to those agencies. At the conclusion of the EIR public-hearing process, the Planning Commission will vote on whether to recommend to the City Council: 1) certification of the adequacy of the EIR (including the Mitigation Monitoring and Reporting Program), and 2) approval of the Project and other requested changes or actions. The recommendation will then be presented to the City Council, who will then decide what action to take with respect to the EIR and the Project. All persons who commented on the draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the City Council.

1.5 Report Format

As stated, a principal objective of CEQA is that the environmental review process be a public one. In meeting this objective, the EIR must inform members of the general public, decision-makers, and technically oriented reviewers of the physical impacts associated with a project. To this end, specific features have been incorporated into this Project EIR to make it more understandable for non-technically oriented reviewers, yet provide the technical information necessary for agency personnel.

A description of the organization of this EIR and the content of each section are provided below to assist the reader in using this EIR as a source of information about the proposed Project. Sections of the EIR following this introduction are organized as follows.

Chapter 1, Introduction, includes the purpose of an EIR; describes the environmental review process; identifies the lead, responsible, and trustee agencies; and provides the general format of the EIR.

Chapter 2, Executive Summary, provides a brief project description of the Project and alternatives to the Project. Environmental impacts and mitigation measures are summarized.

Chapter 3, Project Description, presents a detailed description of the Project as required by the CEQA Guidelines. Topics addressed in this section include the Project objectives and the characteristics of the Project.

Chapter 4, Environmental Impact Analysis, contains analysis of each environmental topic addressed in this EIR. Each topic is addressed in separate subsections as follows: Summary, Existing Conditions, Regulatory Setting, Thresholds of Significance, Impacts Analysis, Cumulative Impacts, Mitigation Measures, and Residual Impacts after Mitigation.

Chapter 5, Project Alternatives, provides analysis of alternatives to the Project. As required by the CEQA Guidelines, a discussion of the reasons for selection of alternatives analyzed is provided with a comparative analysis of each alternative with the Project.

Chapter 6, Effects Found Not Significant, provides an explanation of potential impacts that have been determined not to be significant.

Chapter 7, Significant Irreversible Effects on the Environment, evaluates whether the Project would result in the irretrievable commitment of resources or would cause irreversible change in the environment.

Chapter 8, Growth-Inducing Impacts, discusses the ways in which the Project could foster economic or population growth in the area.

Chapter 9, Significant Unavoidable Effects That Cannot Be Avoided If the Proposed Action Is Implemented, summarizes the significant and unavoidable impacts associated with implementation of the Project.

Chapter 10, References, provides a list of persons involved in the preparation of this EIR, a list of all organizations and persons contacted during preparation of the EIR, and a list of documents used as a basis of information for the EIR.

Appendices to this EIR include the Notice of Preparation and written responses, as well as select technical reports and data generated during the preparation of the EIR.

1.6 Intended Uses of This EIR

At this time, the City of Santa Clarita has identified the following actions that will need to be taken by the City, acting as Lead Agency for this Project, and by Responsible Agencies. The list of Responsible Agencies and Project actions is preliminary, and the City anticipates that additional actions may be identified as a result of consultation facilitated by the environmental review process.

The City of Santa Clarita would be responsible for the following actions.

1. Approval of the Tentative Tract Map
2. Certification of the Final Environmental Impact Report
3. Approval of a Ridgeline Alteration Permit and Hillside Development Review to permit development on an identified significant ridgeline and to permit development on slopes over 10%.
4. A Conditional Use Permit to permit development within a Planned Development (PD) Overlay zone and to permit the assisted living facility in the MXN zone.
5. A Minor Use Permit to permit commercial development below the minimum Mixed Use Zone FAR.
6. An Oak Tree Permit to permit the removal of two non-heritage oak trees on-site. One heritage oak tree, which is not being removed, will be encroached upon by Project grading.

1.7 Incorporation by Reference

The following documents are incorporated by reference in this EIR, consistent with §15150 of the CEQA Guidelines, and are available for review at the City of Santa Clarita in the City's Planning Division.

- City of Santa Clarita General Plan – Goals and Policies were included throughout this document to ensure consistency with the General Plan.
- Santa Clarita Municipal Code – Standards and code requirements are addressed in various sections of this EIR to ensure consistency with the City's Municipal Code.

2. Executive Summary

This section summarizes the characteristics of the proposed Sand Canyon Mixed-Use Project, alternatives, environmental impacts associated with the Project, recommended mitigation measures, and the level of significance of impacts after mitigation.

2.1 Project Applicant

Sand Canyon Plaza, LLC
Contact: Tom Clark
28504 Soledad Canyon Road
Santa Clarita, CA 91387

2.2 Project Description

2.2-1 Project Characteristics

This EIR evaluates the proposed Sand Canyon Plaza Mixed-Use Project. The approximately 87-acre Project site is located immediately north of Soledad Canyon Road, east of Sand Canyon Road, north of State Route 14 (SR-14), and west of the Pinetree residential community in the City of Santa Clarita. The Project includes redevelopment of the property (currently developed with 123 mobile homes) with a mixed-use community including five Planning Areas as summarized below.

Planning Area 1 (Commercial) – Approximately 130,600 square feet of commercial floor including 55,600 square feet of general retail (including restaurants) and a 75,000-square-foot assisted living facility (up to 120 rooms) on approximately 10 acres. Planning Area 1 is located at the northeast intersection of Sand Canyon Road and Soledad Canyon Road.

Planning Area 2 (Apartments) – 312 multi-family rental units and required parking (including resident and guest spaces) would be developed on 12.2 acres. Planning Area 2 is located directly north of Planning Area 1 along Sand Canyon Road.

Planning Area 3 (Townhomes) – 122 townhomes with required parking (including resident and guest spaces) on approximately 10.1 acres. Planning Area 3 is located north of Planning Area 2 along Sand Canyon Road.

Planning Area 4 (Single Family Neighborhood A) – 71 single-family detached or attached condos with required parking spaces (resident and guest parking) on approximately 7.3 acres. Planning Area 4 is located in the central portion of the Project site north and east of Planning Area 2.

Planning Area 5 (Single Family Neighborhood B) – 75 single-family detached or attached condos with required parking (resident and guest parking) on approximately 10.0 acres. Planning Area 5 is located in the eastern and northern portions of the Project site.

The Project includes a total of 580 residential units. There are 123 mobile homes on-site that would be removed and replaced by the Project. Vehicular access to the Project site would come from Soledad Canyon Road and Sand Canyon Road. Two private driveways/streets would access Planning Area 1 (Commercial) from Soledad Canyon Road and Sand Canyon Road. Two private streets would access the remaining Planning Areas from Sand Canyon Road.

The Project would include grading approximately 2.2 million cubic yards of cut and fill balanced on-site. Additional remedial grading (850,000 cubic yards) would be necessary to accommodate the Project.

2.2-2 Project Objectives

The Applicant's Objectives for the proposed Project are as follows:

Land Use Planning Objectives

1. Create a new mixed-use community with connected neighborhoods that provides for residential, commercial and recreational uses in close proximity to each other.
2. Provide a sensitive and compatible Project through the use of appropriate grading, landscape, and water quality methods.
3. Provide development and transitional land use patterns that do not conflict with surrounding communities and land uses.
4. Arrange land uses to reduce vehicle miles traveled and energy consumption, and to encourage pedestrian mobility.
5. Design neighborhoods to create a unique identity and sense of place.
6. Design neighborhoods to locate a variety of residential and non-residential land uses in close proximity to each other and major road corridors, transit, and trails.
7. Provide a rich set of public spaces.
8. Implement sustainable development principles, including greater energy efficiency, waste reduction, drought-tolerant landscaping, use of water efficiency measures, and use of recycled materials and renewable energy sources.
9. Create and enhance opportunities for non-vehicular travel and encourage pedestrian mobility by providing an internal pedestrian circulation system that links residential neighborhoods to on-site recreation areas, regional trail systems, and neighborhood retail/commercial areas.

10. Foster the design and integration of a mutually beneficial relationship between the natural and built environments, and implement sensitive land use transition treatments, attractive streetscapes, and high quality design themes.
11. Integrate a new community into the City's existing and planned circulation network.
12. Provide a landscape design emphasizing a pleasant neighborhood character and inviting streetscapes.
13. Provide on-site recreational facilities to meet the demands of future residents.

Economic Objectives

1. Enhance and augment the housing market by providing a variety of housing types and densities to meet the varying needs of future residents.
2. Adopt development regulations that provide flexibility to respond and adjust to changing economic and market conditions.
3. Provide a tax base to support public services and infrastructure.
4. Create permanent jobs on-site through the incorporation of commercial land uses to assist the City in meeting its jobs/housing balance.
5. Adopt development regulations and guidelines that allow site, parking and facility sharing, and other innovations that reduce the costs of providing public services.

Resource Conservation Objectives

1. Restore and minimize impacts to important biotic resources.
2. Minimize impacts to oak trees and incorporate, where possible, oak trees into public spaces.

2.3 Required Approvals

Implementation of the proposed Sand Canyon Mixed-Use Project would require the following discretionary approvals from the City and other agencies:

1. Approval of the Tentative Tract Map
2. Certification of the Final Environmental Impact Report
3. Approval of a Ridgeline Alteration Permit and Hillside Development Review to permit development on an identified significant ridgeline and to permit development on slopes over 10 percent.
4. A Conditional Use Permit to permit development within a Planned Development (PD) Overlay zone and to permit the assisted living facility in the MXN zone.

5. A Minor Use Permit to permit commercial development below the minimum Mixed Use Zone FAR.
6. An Oak Tree Permit to allow removal of two non-heritage oak trees on the site, and to permit encroachment by Project grading within the protected zone of one heritage oak tree.

2.4 Alternatives

This EIR examines four alternatives, as described below.

Alternative 1: No Project Alternative

This alternative is required by the CEQA Guidelines and compares the impacts that might occur if the site is left in its current condition with those impacts that would be generated by the Project. Under this alternative, no development or redevelopment would occur beyond what exists today, and the Project area would retain the existing zoning designations. In addition, the existing circulation system would remain the same.

Alternative 2: Increased Commercial and Office

Alternative 2 would increase the commercial building area by 29,400 commercial square feet and the office building area by 30,000 square feet. Alternative 2 would also remove 60 dwelling units from Planning Area 2. None of the assisted living units would be constructed in Planning Area 1. All other uses on the Project site would remain as proposed.

Alternative 3: Ridgeline Preservation

Approximately 1,200 lineal feet of the City identified as significant ridgeline would be preserved under this Alternative due to the elimination of the northerly portion of Planning Area 5. To a lesser extent, the Ridgeline Preservation Alternative would remove 29 dwelling units from Planning Area 5. The alternative would also increase open space/landscape areas within the Project. None of the other Project site plan specifics would be changed.

Alternative 4: ACOE-CDFW Avoidance

Alternative 4 would avoid jurisdictional areas associated with Sand Canyon wash. Specifically, 7,800 square feet of commercial building area would be eliminated in Planning Area 1, 44 units would be eliminated in Planning Area 2. Planning Area 3, consisting of 10.1 acres, would be converted from residential use to open space (removing 122 units), Planning Area 4 would be reduced by 42 units, Planning Area 5 would be reduced by 42 dwelling units. The above modifications would result in an increase of 22.4 acres of open space. In total, Alternative 4 would remove 250 units when compared to the Project.

2.5 Areas of Public Controversy

Based on the responses to the Notice of Preparation of a Draft EIR, areas of public controversy include air emissions and increased traffic. These issues are discussed in the EIR as appropriate. **Appendix 1** lists these comments and the locations where they are addressed.

2.6 Summary of Impacts and Mitigation Measures

Table 2-1 lists the environmental impacts of the proposed Project, proposed mitigation measures, and residual impacts. As noted in Table 2-1 below, several Project impacts were found to be significant and unavoidable, and the Project would contribute to a cumulative impact that is likewise significant and unavoidable. The remaining Project-generated direct, indirect, and cumulative impacts can be mitigated to a less than significant level through implementation of proposed mitigation measures, or were found to be less than significant without mitigation.

Table 2-1 Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Significance after Mitigation
Aesthetics		
Impact Aes-1 – The Project site does not offer any scenic vistas or scenic resources. Impacts to scenic vistas and scenic resources would be less than significant.	None required	Less than Significant
Impact Aes-2 – The Project area is not within a state scenic highway and does not contain any unique rock outcroppings. There are no designated scenic highways within the City.	<p>MM Aes-1 Prior to the issuance of a grading permit, the Project Applicant, or responsible party, shall submit a grading plan for review and approval by the City's Director of Public Works and the Director of Community Development. This grading plan shall utilize methods to reduce grading impacts associated with the Project and, to the extent feasible, blend in with the natural contours of the site. Said grading methods shall include landform grading as well as the blending of any manufactured slopes or required drainage benches into the natural topography along with the use of curvilinear street design.</p> <p>MM Aes-2 The Project Applicant, or responsible party, shall submit a final site plan for review and approval by the City's Director of Community Development. This site plan shall utilize building setbacks, building heights, and building forms throughout the site to blend buildings and structures with the terrain and surrounding development as much as possible. Additionally, landscaping with natural vegetation shall be used to minimize the visual effects of grading and construction on hillside areas.</p> <p>MM Aes-3 As part of any grading on the Project site, the Project Applicant, or responsible party, shall be required to "lay back" and regrade the manufactured slope along Soledad Canyon Road, which will allow for this slope to be landscaped, further softening its appearance from SR-14, Soledad Canyon Road, and areas to the south.</p>	Less than Significant
Impact Aes-3 – Each district's standards and guidelines are designed to reinforce the individual district's desired development pattern, character, and image. These tools would help achieve the Project's overall vision and ensure that future projects are compatible with the surrounding neighborhood character. Therefore, buildout of the Project would not substantially degrade the existing visual character or quality of the Project area, and impacts would be less than significant.	None required	Less than Significant
Impact Aes-4 – During construction of the Project, nighttime lighting would	MM Aes-4 The Project Applicant, or responsible party, shall require that the use of	Less than Significant after

Impacts	Mitigation Measures	Significance after Mitigation
<p>be maintained on the Project site for security purposes. The Sierra Hills community and Sand Canyon Ranch Apartments to the west, Canyon Collection community to the northwest, and Stetson Ranch community to the north are considered light-sensitive uses nearest to the Project site. The ridgeline on the eastern boundary of the Project site would provide buffers between the construction areas and the light-sensitive uses to the east. Implementation of Mitigation Measures MM Aes-4 and MM Aes-5 would limit the use of construction security lighting to those planning areas requiring illumination, and would require all security lights to be properly shielded and projected downwards. Furthermore, construction lighting would be temporary and removed upon completion of construction activities. Accordingly, with implementation of mitigation, impacts due to light and glare generation during construction are considered less than significant.</p> <p>In compliance with City standards and to minimize impacts to off-site residential uses, the Project would include a Lighting Plan that indicates the proposed locations of all outdoor lighting installations. The lighting must comply with UDC Chapter 17.15, Property Development Standards, which requires all light sources to be directed downward and shielded from streets or adjoining properties and would prevent light spillover to adjacent residential uses. Regardless, mitigation measures have been included to ensure lighting impacts to off-site uses would be less than significant. Therefore, implementation of the Mitigation Measure MM Aes-6 and compliance with the UDC would reduce long-term light and glare impacts to surrounding uses to a less than significant level.</p>	<p>nighttime lighting during project construction be limited to only those features on the construction site requiring illumination.</p> <p>MM Aes-5 The Project Applicant, or designee, shall require that all security lights be properly shielded and projected downwards during construction, such that light is directed only onto the work site.</p> <p>MM Aes-6 Prior to the issuance of building permits, the City of Santa Clarita Planning Division shall ensure that the following elements are included in project plans, as appropriate:</p> <ul style="list-style-type: none"> • All exterior lighting shall be designed and located as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the Project site. Low-intensity street lighting and low-intensity exterior lighting shall be used throughout the development to the extent feasible. Lighting fixtures shall use shielding, if necessary, to prevent spill lighting on adjacent off-site uses. • Design and placement of site lighting shall minimize glare affecting adjacent properties, buildings, and roadways. • Outdoor lighting along the Project site boundary shall consist of low-intensity downlights, or be equipped with louvers, shields, hoods or other screening devices. • Fixtures and standards shall conform to state and local safety and illumination requirements. • Buildings shall use low-reflective glass and building materials on building exteriors. • Automatic timers on lighting shall be designed to maximize personal safety during nighttime use while saving energy. 	<p>Mitigation</p>
Agriculture and Forestry Resources		
<p>Impact AG-1 – The aforementioned significance threshold states that a significant impact would occur if a project converts prime agricultural land to non-agricultural uses. The Project site is not within an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation’s California Important Farmland Finder (accessed March 14, 2016). Therefore, the Project would have no impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Impact AG-2 –Within the City of Santa Clarita, there are no agricultural</p>	<p>None required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>preserve areas, no land under a Williamson Act contract, and no land zoned exclusively for agricultural use. Horticulture for commercial sale is permitted in the City's Business Park (BP) and Industrial (I) zones and conditionally permitted in the City's Non-Urban zones and Urban Residential zones 1 and 2. The Project is within the Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3) zones, which does not allow horticulture for commercial sale. As stated previously, the Property is not located within a Williamson Act Contract.</p>		
<p>Impacts AG-3 and AG-4 – AG-3 and AG-4 address issues regarding the rezoning of timberland lands and the loss of forest land or conversion of forest land., or cause rezoning of, forestland, timberland, or timberland zoned as Timberland Production. In addition, the Project site does not contain The Project site is currently zoned Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3) zones and is not located within an area zoned as Open Space-National Forest (OS-NF). Therefore, implementation of the Project would not conflict with the existing zoning for any forestland.</p>	None required	Less than Significant
<p>Impact AG-5 – No agricultural operations are currently being conducted on the Project site, and the site is not zoned for agricultural uses. In addition, there is no forest land located on the Project site or in the vicinity of the site, as the area is highly urbanized. No farmland or forest land would be converted to other uses under the Project, and therefore, no impact would occur.</p>	None required	Less than Significant
Air Quality		
<p>Impact AQ-1 – The net increase in regional operational emissions generated by the Project would exceed the regional thresholds of significance set by the SCAQMD for ROG and NOX during the summertime and the wintertime. These emissions are primarily due to motor vehicles and area source emissions associated with the operation of a relatively high number of proposed residential uses. These emissions are typical for a mixed-use commercial and residential project of this size, and there is no feasible mitigation to reduce these emissions to a less-than-significant level. As such, regional operational air quality impacts would be considered significant and unavoidable.</p>	No mitigation measures are feasible	Significant and Unavoidable
<p>Impact AQ-6 – Will the Project increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations? Impact AQ-7 Will the Project exceed the assumptions utilized in preparing</p>	None required	Less than Significant

Impacts	Mitigation Measures	Significance after Mitigation
<p>the AQMP?</p> <p>The Project is consistent with City's 2011 General Plan and the zoning designation of MXN (Mixed Use Neighborhood) zone and the Urban Residential 3 (UR-3) zone, and the Project would be consistent with the site's maximum allowable density of 18 dwelling units per acre planned for the site. Because the Project would be consistent with the planned buildout of the City's 2011 General Plan, the Project's population, housing, and employment increases would not have the potential to conflict with regional growth projections identified in SCAG's RTP/SCS and the AQMP. Furthermore, the Project would be consistent with primary goals of the RTP/SCS including, but not limited to, mixed-use design and the promotion of active transportation (i.e., non-motorized transportation such as walking and bicycling). the Project would be consistent with the City's General Plan, and these impacts would be less than significant.</p>		
<p>Impact AQ-4 – The Project would not include the operations of any land uses routinely involving the use, storage, or processing of carcinogenic or non-carcinogenic toxic air contaminants. Thus, no appreciable operational-related toxic airborne emissions would result from Project implementation. With respect to construction, the construction activities associated with the Project would be typical of other similar land use development projects in the region, and would be subject to the regulations and laws relating to toxic air pollutants at the regional, state, and federal level that would protect sensitive receptors from substantial concentrations of these emissions.</p>	None required	Less than Significant
<p>Impact AQ-5 – Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents as well as asphalt paving. However, the Project would be consistent with all applicable rules and regulations governing construction equipment and processes. As such, the Project would not create objectionable odors affecting a substantial number of people during construction or long-term operation.</p>	None required	Less than Significant
<p>Cumulative – Due to the non-attainment status of O₃, PM₁₀, and PM_{2.5}, the generation of daily operational emissions associated with cumulative development would result in a cumulative significant impact associated with the cumulative net increase of any criteria pollutant for which the region is in non-attainment. With respect to operational emissions, the SCAQMD has indicated that if an individual project results in air emissions of criteria pollutants (CO, ROG, NO_x, SO_x, PM₁₀, and PM_{2.5}) that exceed the SCAQMD-recommended daily thresholds for project-specific impacts, then it</p>	No feasible mitigation to reduce cumulative operational impacts	Significant and Unavoidable

Impacts	Mitigation Measures	Significance after Mitigation
<p>would also result in a cumulatively considerable net increase of these criteria pollutants for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard. As discussed previously, the operational emissions associated with the Project would exceed the established SCAQMD thresholds for ROG and NO_x during the operation of the Project. Because ROG and NO_x are considered O₃ precursors, and given the region's non-attainment status of O₃, the cumulative impact of the Project's operational emissions would be significant.</p>		
Biological Resources		
<p>The Project site has been in agricultural production since the early 1950s and presently is being used for flower agricultural production.</p> <p>The 2005 Ventura General Plan Final Environmental Impact Report (General Plan EIR) reviewed biological resources in Section 4.4. As shown on General Plan EIR Figure 4.4-1, Habitat Types, the Project site is designated as Agriculture, with the areas surrounding the site designated as Urban. Neither of these habitats is considered a sensitive habitat. The California Natural Diversity Database, indicates no special status species (sensitive plants and wildlife) from the California Natural Diversity Database (December 2004) were documented for the Project site. A review of the California Department of Fish and Wildlife Biogeographic Information and Observation System (BIOS) 5 tool, accessed August 17, 2015, confirmed that no sensitive habitats or sensitive species occur on the Project site.</p> <p>Implementation of the Project would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special-status species nor on any riparian or other sensitive natural community. Given that no sensitive species occur on-site, implementation of the Project would not interfere 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. Also, implementation of the Project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Lastly, implementation of the Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act as no wetlands exist on-site.</p>	<p>MM Bio-1 Active nests of native bird species are protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the <i>California Fish and Game Code</i> (§3503). If activities associated with construction or grading are planned during the bird nesting/breeding season, generally February through March for early nesting birds (e.g., Cooper's hawks or hummingbirds) and from mid-March through mid-September for most bird species, the Applicant shall have a qualified biologist conduct surveys for active nests. To determine the presence/absence of active nests, pre-construction nesting bird surveys shall be conducted weekly beginning 30 days prior to initiation of ground-disturbing activities, with the last survey conducted no more than 3 days prior to the start of clearance/construction work. If ground-disturbing activities are delayed, additional pre-construction surveys shall be conducted so that no more than 3 days have elapsed between the survey and ground-disturbing activities.</p> <p>Surveys shall include examination of trees, shrubs, and the ground for nesting birds. Several bird species such as killdeer and night hawks are known to nest on bare ground. Protected bird nests that are found within the construction zone shall be protected by a buffer deemed suitable by a qualified biologist, and verified by the California Department of Fish and Wildlife. Typically, a 300-foot buffer is required for most species and a 500-foot buffer for raptor and special-status species (CDFW may reduce these buffers on a site-specific basis). Buffer areas shall be delineated with orange construction fencing or other exclusionary material that would inhibit access within the buffer zone. Installation of the exclusionary material delineating the buffer zone shall be verified by a qualified biologist prior to initiation of</p>	<p>Less than Significant After Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>A limited number of trees exist on-site along the northerly boundary adjacent to SR-126 and mature trees exist off-site immediately adjacent to the easterly boundary. Construction of the Project has the potential to affect mature trees that could support nests by native bird species. Such an impact would be a potentially significant under CEQA and a violation of state and federal laws pertaining to the protection of native bird species.</p>	<p>construction activities. The buffer zone shall remain intact and maintained while the nest is active (i.e., occupied or being constructed by the adult bird(s)) and until young birds have fledged and no continued use of the nest is observed, as determined by a qualified biologist.</p> <p>MM Bio-2 A qualified biologist, approved by the City and CDFW, shall prepare a detailed capture and relocation plan for San Diego tiger (coastal) whiptail and coast horned lizard that will include measures to avoid or minimize take of these sensitive species and identify appropriate relocation sites. The plan shall be submitted to CDFW for approval prior to implementation. The plan shall specify the pre-construction time frame for the biologist to conduct surveys within appropriate habitat areas to capture and relocate individual San Diego tiger whiptail and coast horned lizard in accordance with the approved relocation plan. Results of the surveys and relocation efforts shall be provided to the City with a copy to CDFW.</p> <p>MM Bio-3 A qualified biologist, approved by the City and CDFW, shall prepare a detailed capture and relocation plan for San Diego black-tailed jackrabbit and San Diego desert woodrat that will include measures to avoid or minimize take of these sensitive species and identify appropriate relocation sites. The plan shall be submitted to the city and CDFW for approval prior to implementation. The plan shall specify the pre-construction timeframe for the biologist to conduct surveys within appropriate habitat areas to capture and relocate individual San Diego black-tailed jackrabbit and San Diego desert woodrat in accordance with the approved relocation plan. Results of the surveys and relocation efforts shall be provided to the City with a copy to CDFW.</p> <p>MM Bio-4 The Project Applicant shall retain a qualified biologist, approved by the City, to conduct focused bat surveys utilizing visual and electronic detection methods. The qualified biologist shall conduct the surveys between late May and mid-July, the recognized maternity season for most bats in southern California. If any special-status bat species are determined to be roosting on-site, bat boxes of a size and design suitable for the estimated number of bats on-site shall be installed, under the supervision of a qualified bat biologist, in the outer perimeter of the Project site, as close as feasible to adjacent undeveloped land, and a suitable height and solar aspect. Further, if any maternity sites are identified on site, CDFW will be notified immediately. In addition to</p>	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>any other direction by CDFW, no site disturbance shall occur within 300 feet of the occupied roost until it is determined that the maternity roost(s) is no longer active. Additional bat boxes designed to serve as maternity roosts shall be placed as directed by the qualified bat biologist and CDFW.</p> <p>MM Bio-5 A qualified restoration specialist shall ensure that the proposed landscape plants will not naturalize and cause maintenance or vegetation community degradation in open-space areas of the Project site. Container plants to be installed within public areas shall be inspected by a qualified restoration specialist for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases shall be rejected. In addition, landscape plants shall not be on the Cal-IPC California Invasive Plant Inventory.</p>	
<p>Impact Bio -2 Approximately 1.31 acres of holly leaf cherry – California buckwheat scrub and 0.35 acre of holly leaf cherry chaparral are situated in the northern and northwestern portions of the site. Holly leaf cherry alliances have a state rank of S3, meaning they are rare to uncommon; not yet susceptible to becoming extirpated in the state, but may be if additional populations are destroyed. Therefore, they meet the CDFW criteria as a sensitive habitat. Both of the holly leaf cherry alliances occurring on-site would be eliminated with development, equaling 1.66 acres and resulting in a significant impact. Mitigation Measure MM Bio-6 proposes mitigation through restoration (on-site or off-site), thereby reducing the impact to less than significant.</p>	<p>MM Bio-6 The Project Applicant, or the responsible party, shall prepare a holly leaf cherry restoration plan that details planting plans to mitigate the loss of 1.66 acres of holly leaf cherry alliance vegetation. This plan shall entail planting one holly leaf cherry shrub for each holly leaf cherry shrub to be removed. The plan shall include temporary irrigation and monitoring for 3 years after the initial installation to assure establishment of the installed shrubs. The planting site may be located within the landscaped areas of the property.</p>	<p>Less than Significant after Mitigation</p>
<p>Impact Bio -3 As proposed, all federal and state jurisdictional areas on the property would be removed by Project development. Federal jurisdictional areas impacted would include 0.09 acre of wetland and 1.471 acres of non-wetland waters. State jurisdictional areas impacted would encompass 0.09 acre of wetland and 2.87 of non-wetland waters. Without appropriate authorizations, such a removal would be in violation of federal and state laws, resulting in a significant impact.</p>	<p>MM Bio-7 The Project impacts shall be subject to the regulations set forth by regulatory agencies as part of the jurisdictional permitting process. The Army Corps of Engineers, the California Department of Fish and Wildlife, and/or the Regional Water Quality Control Board shall require the Project Applicant, or the responsible party, to explore alternatives to avoid or reduce impacts and shall also require mitigation for all unavoidable impacts. The Army Corps of Engineers has a “no net loss” policy that requires that any unavoidable impacts to stream values and functions be replaced. In addition, the Regional Water Quality Control Board shall add restrictions to control runoff from the site, require on the site treatment of runoff to improve water quality, and impose Best Management Practices on the construction. All of the features of the Project that address water quality issues shall be mitigated within the</p>	<p>Less than Significant after Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
	Water Quality Management Plan and Storm Water Pollution Prevention Plan.	
<p>Impact Bio -4 The Project site is completely surrounded on all sides by development, is not connected to adjacent natural habitat areas, and does not lie within nor provide a corridor that would facilitate movement between such areas and the subject property. The western ephemeral drainage is undergrounded at the existing mobile home development in the southwest portion of the site, and does not serve as a localized movement path, except for a short distance off site to the north. As such, impacts to wildlife movement from Project implementation are anticipated to be less than significant.</p>	None required	Less than Significant
<p>Impact Bio -5 Three protected trees have been identified as coast live oak (<i>Quercus agrifolia</i>) on the Project site. The trees are identified as #1, #2 and #3. Tree #2 is classified as a “heritage tree” having a trunk diameter of 46 inches. The coast live oak trees were found to be in average to good condition with no significant insect pest or disease problems. Tree #2 has a sizeable trunk cavity at the root collar; however, the main stem is believed to have a high volume of sound wood, enough to reasonably support the tree with minimal risk at present.</p>	<p>MM Bio-8 The Project Applicant, or the responsible party, shall be responsible for implementing the following maintenance and care measures for on-site oak trees prior to, during, and post-construction.</p> <ol style="list-style-type: none"> 1. Thoroughly irrigate all preserved trees one-week prior to any excavation that takes place within the tree protection zone. 2. Provide quarterly Arborist monitoring of Tree #2 for not less than 2 years. 3. Install and maintain protective fencing around trees as illustrated on the plans in the Oak Tree Report. There must be a three-foot opening in the protective fencing to allow for inspection and maintenance, position openings every 50 to 75 feet. 4. Any work taking place in the ground, grading, trenching, drilling etc., within the tree protection zone shall be supervised by the arborist on record and be performed using hand tools only. 5. Any tree roots encountered, measuring 1-inch or greater must be preserved in place, or if unavoidable, properly pruned as deemed acceptable by project arborist 6. Preserved tree roots that are left exposed shall be wrapped in burlap or other moisture retentive material and must be kept moist. 7. Construction materials or debris shall not be stored or disposed of within the protected zone of any tree. 8. No irrigation shall be installed within the dripline of any oak tree 9. Any planting within the tree protection zone must maintain a minimum distance of 15 feet from the trunk, and must consist of drought tolerant or native plant species, plant pallet must be approved by the city of Santa Clarita. 10. No changes in soil grade shall be made within the tree protection 	Less than Significant after Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	zone other than in the permitted work area. 11. All drainage shall be directed away from the root zone of all oak trees.	
Impact Bio -6 No habitat conservation plans (HCP) or natural community conservation plans (NCCP) are present within the City of Santa Clarita. As such, the Project site is not within a habitat conservation plan (HCP), a natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan. Therefore, the Project would not conflict with any adopted habitat conservation plans, and the Project impacts would be less than significant.	None required	Less than Significant
Impact Bio -7 The Project site is not within a Significant Ecological Area as identified on General Plan Conservation and Open Space Element Exhibit CO-5, Significant Ecological Areas. The Project site is also not within a Significant Natural Area identified by the California Department of Fish and Wildlife. Therefore, the Project would not affect a Significant Ecological Area or Significant Natural Area.	None required	Less than Significant
Cultural Resources		
Impact CR-1 – Records searches performed for the Project site and a site survey did not identify any historical resources within the Project site. Currently, there are 123 mobile home units on the Project site. Development of the residential or commercial uses proposed by the Project would therefore not affect any historical resources. There are no previously recorded cultural resources within the Project site. Therefore, impacts related to historic resources would be less than significant.	None required	Less than Significant
Impact CR-2 – Previous cultural resources technical investigations and archival records for the Project vicinity indicate that there is a low potential for the inadvertent discovery of cultural resources during earth moving activities related to the Project. Furthermore, the Project Applicant has entered into a consultation agreement with the Tataviam that would ensure their involvement through Project implementation. Therefore, impacts would be potentially significant. Thus, a mitigation measure has been provided in the unlikely scenario that artifacts are found during grading and construction activities.	CR-1 Would the project cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	Less than Significant
Impact CR-3 – Portions of the Project site are hilly in nature and the site does not contain any prominent geologic features or known paleontological resources. The records search and the site survey performed for the Project	None required	Less than Significant

Impacts	Mitigation Measures	Significance after Mitigation
<p>site did not identify any existing paleontological resources within the site. Consequently, there is little potential for the Project to disturb or indirectly destroy a unique paleontologic resource site or geologic feature, and less than significant impacts would occur.</p>		
<p>Impact CR-4 –There are no known cemeteries or burial grounds on the Project site. As previously discussed, the site, as with other areas in the Santa Clarita Valley, has a history of use by Native Americans; therefore, there is potential for archaeological resources, including burial grounds, to exist on the Project site. Because the potential exists for human remains to be unearthed during earthwork and grading of the Project site, impacts would be potentially significant.</p>	<p>MM CR-2 If human remains are encountered during excavation and grading activities within the project site, the contractor shall stop such activities. In the event of accidental discovery or recognition of any human remains there shall be no further excavation or disturbance of the subject site or any nearby areas reasonably suspected to overlie adjacent human remains and the following steps shall be taken:</p> <ul style="list-style-type: none"> • The coroner of the City in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required;and, If the remains are of Native American origin, either of the following steps shall be taken: <ul style="list-style-type: none"> • The coroner should contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. • Implementing or local agencies or authorized representatives should retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs: <ul style="list-style-type: none"> • The Native American Heritage Commission is unable to identify a descendent. • The descendant identified fails to make a recommendation. • The implementing agency or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 	<p>Less than Significant after Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
Geology and Soils		
<p>Geo 1(i) The Project site is not located in an Alquist-Priolo Earthquake Fault Zone, and no known active faults are located within the Project site. Therefore, the Project would not expose people or structures to the rupture of a known earthquake fault, and no impacts would occur in this regard.</p>	None required	Less than Significant
<p>(ii) The Project site would likely experience moderate to high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the Southern California region. The Project would be required to incorporate necessary design and structural elements to resist strong ground motion in compliance with the California Building Code and the geotechnical report (Mitigation Measures MM Geo-29 through MM Geo-33).</p> <p>Although some structural damage is typically not avoidable during a large earthquake, the Project would be constructed to meet existing City ordinances, the California Building Code, and the geotechnical report (Mitigation Measures MM Geo-29 through MM Geo-33) in order to protect against building collapse and major injury during a seismic event. Thus, potentially significant risks related to strong seismic shaking would be reduced to less than significant.</p> <p>(iii), (iv), Geo- 3 These are all acceptable for the type of development proposed by the project. Future bedrock cut areas would not be impacted by potential liquefaction. Therefore, no liquefaction impacts would occur due to implementation of the Project.</p> <p>A landslide is located in the northern portion of Planning Area 4. The landslide has been observed to a maximum depth of approximately 60 feet below ground surface. Most of the landslide lies within a future fill area, with a small portion of the slide mass extending into proposed Cut Slope CS6. The entire landslide would be removed during grading. As addressed in the "Slope Stability" section of this report below, the landslide removals would impact the cut slope, requiring restoration of the slope grades with engineered fill.</p> <p>Other cut slopes proposed for the site are underlain by bedrock of the Mint Canyon Formation. The Mint Canyon Formation can range from massive to thinly bedded sedimentary rock units of sandstone, conglomerate, and</p>	<p>MM Geo-1 Potential debris flow shall be further evaluated once a 40-scale rough grading plan has been developed for the Project site. Appropriate mitigation measures can be provided for any additional debris flow areas identified on the rough grading plan.</p> <p>MM Geo-2 Cut Slope CS-3: Bedrock shall be eliminated during removals within the adjacent canyons and the slope grades re-established as a 25-foot-wide, 3-foot-deep stability fill slope. The stability fill slope should be constructed with backdrains in accordance with the recommendations presented in the "Conclusions and Recommendations" section of the RTF&A report, and as shown on the Stability Fill Details for Grossly Stable Slopes, presented as Figure 4 (Frankian Study).</p> <p>MM Geo-3 Cut Slope CS-6 shall be constructed entirely as a 20-foot-wide, 3-foot-deep stability fill slope after landslide removal.</p> <p>MM Geo-4 Cut Slope CS-7: Bedrock shall be eliminated during the removals within the adjacent canyons and the slope grades reestablished as a 25-foot-wide, 3-foot-deep stability fill slope.</p> <p>MM Geo-5 Cut Slope CS-8: Bedrock shall be eliminated during the removals within the adjacent canyons and the slope grades reestablished as a 25-foot-wide, 3-foot-deep stability fill slope.</p> <p>MM Geo-6 Cut Slope CS-11: A small canyon is situated in the central portion of Cut Slope CS-11, below future Lot Nos. 19 and 20. The removals as part of the canyon cleanout in this area, and eventual fill placement, shall extend to the bottom of the cut slope at "D" Drive to eliminate a potential fill-over-cut condition.</p> <p>MM Geo-7 Site Preparation Requirements:</p> <ul style="list-style-type: none"> • Prior to performing earthwork, the existing vegetation and any deleterious debris should be removed from the site. • All unsuitable soils in the areas of grading that are receiving fill should be removed to competent bedrock materials and replaced with engineered fill. • The depth of removal and recompaction of unsuitable soils is 	

Impacts	Mitigation Measures	Significance after Mitigation
<p>siltstone. Bedding planes within the Mint Canyon Formation range from poorly defined and gradational to sharp and planar and can constitute significant planes of weakness, particularly where sandstone/conglomerate beds are in contact with siltstone. Where bedding is adversely oriented, or “daylighted,” with respect to natural or cut slopes, potential for bedding plane, or “block-glide,” failure exists.</p> <p>The Project would include grading of 14 cut slopes. Numerous surficial failures are present on the site. As indicated previously, surficial failures located within future cut areas would be eliminated as part of the grading. Surficial failures lying within future fill areas would require removal before placement of engineered fill. Implementation of Mitigation Measures MM Geo-2 through MM Geo-28 would reduce potentially significant impacts to less than significant.</p> <p>To ensure consistency with the conclusion reached above, potential debris flow should be further evaluated once a 40-scale rough grading plan has been developed for the Project site. Mitigation Measures MM Geo-1 and MM Geo-20 would reduce potentially significant impacts to less than significant.</p> <p>Proposed building pads located in a transition zone may experience cracking and movement of the footings and slab due to differing compressibility of the fill, as compared to the bedrock material. Therefore, differential settlement constitutes a potentially significant impact to the Project. As required by Mitigation Measure MM Geo-24, the portion of the Project site in bedrock shall be over-excavated to a depth of at least 5 feet below the proposed finished pad elevation, or 3 feet below the bottom of proposed footings, whichever is greater. The over-excavation shall extend at least 5 feet laterally beyond the building limits. This technique would reduce the potential for differential settlement.</p> <p>Where removal and recompaction for potentially expansive soils or bedrock is also required, 8-foot removals shall be performed. With implementation of Mitigation Measure MM Geo-24, potentially significant impacts would be reduced to less than significant.</p>	<p>noted on the Geotechnical Map. Any fill required to raise the site grades should be properly compacted. Removal of the exposed natural soils should extend to at least the depths indicated on the Site Geology Map (Figure 4.6-1).</p> <p>MM Geo-8 Removal Depth Requirements: The required depth of removal and recompaction of the natural soils is indicated on the Geotechnical Map.</p> <ul style="list-style-type: none"> • Deeper removals will be required if disturbed or unsuitable soils are encountered. • After excavation of the upper natural soils on hillsides and in canyons, further excavation should be performed, if necessary, to remove slope wash or other unsuitable soils. • The Geotechnical Consultant of Record may require that additional shallow excavations be made periodically in the exposed bottom to determine that sufficient removals have been made prior to recompacting the soil in-place. Deeper removals may be recommended by RTF&A, based on observed field conditions during grading. • During grading operations, the removal depths should be observed by a representative of RTF&A and surveyed by the Project Civil Engineer for conformance with the recommended removal depths shown on the grading plan (Figure 4.6-1). <p>MM Geo-9 Fill Material Requirements: The on-site soils, less any debris or organic matter, may be used in the required fills.</p> <ul style="list-style-type: none"> • Any expansive clays should be mixed with nonexpansive soils to result in a mixture having an expansion index less than 30 if they are to be placed within the upper 8 feet of the proposed rough grades. • Rocks or hard fragments larger than 8 inches may not be placed in the fill without special treatment. Rocks or hard fragments larger than 4 inches shall not be clustered or compose more than 25% by weight of any portion of the fill or a lift. Soils containing more than 25% rock or hard fragments larger than 4 inches must be removed or crushed with successive passes (e.g., with a sheepsfoot roller) until rock or hard fragments larger than 4 inches constitute less than 25% of the fill or lift. <p>MM Geo-10 Oversized Material Requirements:</p> <ul style="list-style-type: none"> • Rocks or material greater than 8 inches in diameter, but not exceeding 4 feet in largest dimension, shall be considered 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>oversized rock. The oversized rocks can be incorporated into deep fills where designated by the Geotechnical Consultant of Record. Rocks should be placed in the lower portions of the fill and should not be placed within the upper 10 feet of compacted fill, or nearer than 15 feet to the surface of any fill slope. Windrows should be excluded from areas of proposed utilities, pools, and other types of future underground improvements. Additional costs and construction difficulties should be anticipated if future improvements are located in areas where there will be conflicts with existing windrows.</p> <ul style="list-style-type: none"> • Rocks between 8 inches and 4 feet in diameter shall be placed in windrows or shallow trenches located so that equipment can build up and compact fill on both sides. The width of the windrows shall not exceed 4 feet. The windrows should be staggered vertically so that one windrow is not placed directly above the windrow immediately below. • Rock greater than one foot in diameter shall not exceed 30% of the volume of the windrows. Granular fill shall be placed on the windrow, and enough water should be applied so that soil can be flooded into the voids. Fill should be placed along the sides of the windrows and compacted as thoroughly as possible. After the fill has been brought to the top of the rock windrow, additional granular fill should be placed and flooded into the voids. Flooding is not permitted in fill soils placed more than 1 foot above the top of the windrowed rocks. • Where utility lines or pipelines are to be located at depths greater than 15 feet, rock shall be excluded in that area. Excess rock that cannot be included in the fill, or that exceeds 4 feet in diameter, should be stockpiled for export or used for landscaping purposes. • The oversized material recommendations presented in this report provide for the geotechnical consultant to coordinate with the grading contractor to develop a procedure for construction of compacted fills that have a satisfactory fill performance for the intended use of the fill. It should be understood that it is not feasible and/or cost effective to eliminate all oversized material from constructed fills as part of a conventional grading operation. The exclusion of all oversized material is not necessary for satisfactory fill performance on the majority of projects. 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>MM Geo-11 Compaction Requirements: After the site is cleared and excavated as recommended, the exposed soils should be carefully observed for the removal of all unsuitable material. Next, the exposed subgrade soils should be scarified to a depth of at least 6 inches, brought to above optimum moisture content, and rolled with heavy compaction equipment. The upper 6 inches of exposed soils should be compacted to at least 90% of the maximum dry density obtainable by the ASTM D1557 Method of Compaction. After compacting the exposed subgrade soils, all required fills should be placed in loose lifts, not more than 8 inches in thickness, and compacted to at least 90% of their maximum density. For fills placed at depths greater than 40 feet below proposed finish grade, a minimum compaction of 93% of the maximum dry density is required. The moisture content of the fill soils at the time of compaction should be above the optimum moisture content. Compacted fill should not be allowed to dry out before subsequent lifts are placed.</p> <p>Rough grades should be sloped so as not to direct water flow over slope faces. Finished exterior grades should be sloped to drain away from building areas to prevent ponding of water adjacent to foundations.</p> <p>MM Geo-12 Shrinkage and Bulking Requirements: Shrinkage of about 10% to 15% is estimated for the on-site natural alluvial soils when removed and placed as compacted fill. A bulking value of about 3% to 10% is estimated for materials generated from Mint Canyon Formation bedrock cut areas for use as compacted fill. The actual shrinkage and bulking will depend upon the relative compaction obtained by the contractor during grading operations and would be expected to change on a daily basis.</p> <p>MM Geo-13 Permanent Slope Requirements: Permanent cut and fill slopes may be inclined at 2:1 or flatter. The current site plan indicates that the steepest slope to be constructed at the site during grading will be 2:1.</p> <p>MM Geo-14 Proposed Cut Slope Requirements: Cut slopes proposed for the rough grading of the Project site have been designated as shown on the Geotechnical Map. Each cut slope is discussed with specific recommendations presented below. All grading should conform to the minimum recommendations presented in this report.</p> <p>If these slopes are modified from those that are discussed in this report, the modifications should be reviewed by RTF&A to ascertain the applicability of our recommendations.</p>	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>MM Geo-15 Fill Slope Requirements:</p> <ul style="list-style-type: none"> • Where the toe of a fill slope terminates on natural, fill, or cut materials, a keyway is required at the toe of the fill slope. The fill slope keyway should be a minimum width of 12 feet, be founded within competent material, and extend a horizontal distance beyond the toe of the fill to the depth of the keyway. The keyway should be sloped back at a minimum gradient of 2% into the slope. The width of fill slopes shall be no less than 8 feet, and under no circumstances should the fill widths be less than what the compaction equipment being used can fully compact. Benches should be cut into the existing slope to bind the fill to the slope. Benches should be step-like in profile, with each bench not less than 4 feet in height and established in competent material. Compressible or other unsuitable soils should be removed from the slope prior to benching. Competent material is defined as being essentially free of loose soil, heavy fracturing, or erosion-prone material and is established by the Geotechnical Consultant of Record during grading. • Where the top or toe of a fill slope terminates on a natural or cut slope and the natural or cut slope is steeper than a gradient of 3:1, a drainage terrace with a width of at least 6 feet is recommended along the contact. As an alternative, the natural or cut portion of the slope can be excavated and reconstructed as a stability fill slope to provide an all-fill slope condition. Where the contact between the face of the fill slope and the face of a lower natural or cut slope is inclined at 45 degrees or steeper, a drainage terrace would not be required. • When constructing fill slopes, the grading contractor shall avoid spillage of loose material down the face of the slope during the dumping and rolling operations. Preferably, the incoming load shall be dumped behind the face of the slope and bladed into place. After a maximum of 4 feet of compacted fill has been placed, the contractor shall backroll the outer face of the slope by backing the tamping roller over the top of the slope, thoroughly covering all of the slope surface with overlapping passes of the roller. The foregoing should be repeated after the placement of each 4-foot thickness of fill. As an alternative, the fill slope can be overbuilt and the slope cut back to expose a compacted core. If the required compaction is not obtained on the fill slope, 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>additional rolling will be required prior to placement of additional fill, or the slope shall be overbuilt and cut back to expose the compacted core.</p> <p>MM Geo-16 Stability Fill Requirements: Stability fills have been recommended for several of the cut slopes on-site, as discussed in the “Slope Stability” section of this report. The stability fill slopes should be constructed in accordance with Stability Fill Details for Grossly Stable Slopes (Figure 4), Frankian study. Backdrains should be installed at the backcut of the stability fill as recommended below in Mitigation Measures MM Geo-17 and MM Geo-18.</p> <p>MM Geo-17 Subdrain Requirements:</p> <ul style="list-style-type: none"> • Canyon subdrains are recommended to intercept and remove groundwater within canyon fill areas. All subdrains should extend up-canyon, with the drain inlet carried to within 15 feet of final pad grade. The approximate locations for recommended subdrains are shown on Figure 4.6-1, Site Geology Map. Specific subdrain locations should be determined in the field during grading operations. The subdrains should be surveyed by the Project Surveyor to establish line and grade during construction, and for future location reference. Subdrain and backdrain excavations should be observed by the Geotechnical Consultant. • The subdrains should be installed in accordance with the manufacturer's specifications. • A minimum 2% gradient is to be maintained in the subdrain pipes and the pipe shall have at least eight uniformly spaced narrow slots per foot. The width of the slots should not exceed one-sixteenth of an inch. If PVC pipe with drilled perforations is utilized, the diameter of the holes should not exceed three-eighths of an inch if gravel and filter fabric is used, or one-eighth inch-diameter perforations if Los Angeles County Flood Control District (LACFCD) Designation F-1 Filter Material is used. There should be at least eight uniformly spaced sets of two perforations per lineal foot of pipe. When constructing the subdrain, the pipe should be placed so that the drilled perforations are positioned on the bottom half of the pipe. The upstream end of subdrains should be capped. The final 20 feet of pipe at the downstream end of canyon, stabilization, buttress, and side hill fills shall not be slotted or perforated. Provisions should be made at all times 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>during construction to prevent damage to the subdrain from construction equipment, and to prevent soils from being washed into an exposed subdrain by surface waters.</p> <ul style="list-style-type: none"> • For runs up to 500 feet, subdrains for the bottom of canyon fills should consist of at least 6-inch-diameter pipe. For runs of 500 to 1,500 feet, 8-inch-diameter pipe shall be used. For runs over 1,500 feet, 10-inch-diameter pipe shall be used. • Canyon subdrains may be installed in a rectangular trench excavated to expose competent material and shall be approved by the Geotechnical Consultant. The subdrains should be surrounded by at least 3 cubic feet per lineal foot of granular filter material and there should be at least 6 inches of compacted granular filter material or gravel on all sides of the pipe. The granular filter material for subdrains should meet the F1 material criteria, or have a gradation approved by the Geotechnical Consultant prior to placement. As an alternative to the granular filter material, three-quarter-inch-diameter gravel may be placed around the pipe. The gravel should be separated from the surrounding soils by a filter fabric such as Mirafi 140N, or equivalent, wrapped around the gravel (“burrito wrapped”). <p>MM Geo-18 Backdrains Requirements: Backdrains are required for all stability fills or buttress fills.</p> <ul style="list-style-type: none"> • Backdrains shall consist of 4-inch-diameter perforated or slotted pipe. • The vertical spacing of the backdrains shall be a maximum of 15 feet, with a horizontal spacing of 100 feet. • Backdrain outlets shall consist of non-perforated pipe. • The backdrain gradient shall be at least 2% to the discharge end. • The exact location of the backdrains shall be determined in the field by the Geotechnical Consultant after the backcut has been made, so that it can be best positioned to intercept potential seepage. <p>MM Geo-19 Surface Drainage Requirements:</p> <ul style="list-style-type: none"> • All surface drainage shall be directed away from proposed structures through non-erosive devices. The ponding of water must not be allowed, especially adjacent to foundations. The pad gradients shall not slope toward any descending slopes in order to reduce the potential for surficial erosion. Water that flows 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>towards slopes shall be conducted to appropriate discharge locations via non-erodible drainage devices. Drainage devices, including drainage terraces on graded slopes shall be inspected periodically and kept clear of debris. Drainage and erosion control shall be designed in accordance with the standards set forth in the CBC.</p> <ul style="list-style-type: none"> • Any modification of the grades of building pads, parking areas, etc., could adversely affect drainage at the site. Future landscaping, construction of walkways, planters and walls, etc. must never modify site drainage unless additional measures to enhance drainage (e.g., area drains, additional grading) are designed and constructed in accordance with the applicable City of Santa Clarita. <p>MM Geo-20 Erosion Protection Requirements</p> <ul style="list-style-type: none"> • To reduce the potential for erosion, all permanent cut-and-fill slopes on-site should be seeded or planted with lightweight, deep-rooting, drought-resistant vegetation. A landscaping expert should be consulted for ground cover recommendations. Excessive landscape irrigation or leakage from irrigation lines can cause localized slope failures. Therefore, irrigation systems for slope vegetation should be designed and maintained to minimize leakage onto graded slopes. If automatic sprinkler systems are used, they should be adjusted for seasonal variations in rainfall. Vegetation on natural slopes should remain natural and not be landscaped or irrigated in the same manner as graded slopes. • Rodent burrows are known to provide direct conduits for water flow that can decrease slope stability. Therefore, to maintain the integrity of graded slopes, a rodent abatement program shall be instituted. • Even with the implementation of these recommendations, it is not possible to eliminate erosion within hillside developments. Removal of debris from drainage devices, slope maintenance, and landscaping shall be required, especially after periods of heavy rainfall. <p>MM Geo-21 General Grading Requirements</p> <ul style="list-style-type: none"> • All fills, unless otherwise specifically designed, shall be compacted to at least 90% of the maximum dry unit weight as determined by the ASTM D1557 Method of Soil Compaction. 	

Impacts	Mitigation Measures	Significance after Mitigation
	<ul style="list-style-type: none"> • No fill shall be placed until the area to receive the fill has been adequately prepared, and subsequently approved by the Geotechnical Consultant of Record or his representative. • Fill soils should be kept free of debris and organic material. • Rocks or hard fragments larger than 8 inches may not be placed in the fill without approval of the Geotechnical Consultant of Record or his representative, and in a manner specified for each occurrence. • Bedrock fragments larger than 8 inches, or fill soils containing greater than 25% of bedrock fragments larger than 4 inches in diameter, must be removed or processed using successive passes of a sheepsfoot compactor until rock fragments constitute less than 25% of the fill material. • The fill material shall be placed in layers which, when compacted, shall not exceed 8 inches per layer. Each layer shall be spread evenly and shall be mixed thoroughly during the spreading to ensure uniformity of material and moisture. • When moisture content of the fill material is too low to obtain adequate compaction, water shall be added and thoroughly dispersed until the soil is approximately 2% to 4% above optimum moisture content. • When the moisture content of the fill material is too high to obtain adequate compaction, the fill material shall be aerated by blading, or other satisfactory methods, until the soil is approximately 2% to 4% above optimum moisture content. • Fill and cut slopes shall not be constructed at gradients steeper than 2:1 (horizontal:vertical). <p>MM Geo-22 Grading Observation. Construction observation shall be made by the Geotechnical Consultant of Record during any grading activities within the Project site, to verify the findings within this report. Additional recommendations may be required for landfill design based on conditions uncovered during grading.</p> <p>MM Geo-23 Temporary Excavation. Based on review of the subject plans, it does not appear that significant temporary excavations will be required during the construction of the proposed development. However, the following recommendations are applicable in areas where excavations are to be made.</p> <ul style="list-style-type: none"> • Temporary excavations are not expected to stand vertically in 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>cuts that exceed 4 feet in height. Temporary excavations in excess of 4 feet may be sloped at a gradient of ¾:1, to a maximum height of 12 feet in favorably oriented Mint Canyon Formation or Terrace Deposits. Temporary slopes within alluvial soils and slopes greater than 12 feet may be sloped at gradients of 1:1. “Temporary” means a period not exceeding 60 days. All regulations of State or Federal OSHA shall be followed.</p> <ul style="list-style-type: none"> • If excavations are made during the rainy season (normally from November through April), particular care shall be taken to protect slopes against erosion. Measures to help mitigate erosion, such as the installation of berms, plastic sheeting, or other devices, may be warranted. Surface water shall be prevented from flowing over or ponding at the top of excavations. <p>MM Geo-24 Expansive Bedrock. It is anticipated that bedrock materials exposed at pad grade may contain expansive claystone beds that could cause differential expansion. Therefore, within building areas at locations where expansive bedrock units are exposed at pad grade, it is recommended that the bedrock be removed and recompacted to a depth at least 8 feet below the proposed final pad elevations or 5 feet below the bottom of proposed footings, whichever is greater. It is also recommended that the bedrock be removed and recompacted to a depth at least 3 feet below proposed soil subgrade in exposed bedrock areas receiving pavement or hardscape improvements. The soils generated by these over-excavations should be mixed with nonexpansive soils to yield a relatively nonexpansive mixture. If the resulting fill soil is still expansive, special construction techniques, such as pad subgrade saturation or post-tensioned slabs, may be required to reduce the potential for expansive soil-related distress.</p> <p>MM Geo-25 Transition Lots. Proposed building pads located in a cut and fill transition zone may experience cracking and movement of the footings and slab due to differing compressibility of the fill, as compared to the bedrock material. To reduce the potential for cracking and differential settlement, the portion of the lot in cut bedrock or terrace deposits should be over-excavated to a depth at least 5 feet below the proposed finished pad elevation or 3 feet below the bottom of proposed footings, whichever is greater. The over-excavation shall extend at least 5 feet laterally beyond the building limits. Where removal and recompaction for potentially expansive soils or bedrock is also required that the 8-foot</p>	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>removals be performed as described in the “Expansive Bedrock” section of the RTF&A 2015 report.</p> <p>MM Geo-26 The applicability of the preliminary recommendations for foundation and retaining wall design should be confirmed at the completion of grading.</p> <p>MM Geo-27 Paving studies and soil corrosivity tests should be performed at the completion of rough grading, to develop detailed recommendations for protection of utilities and structures and for construction of the proposed roads.</p> <p>MM Geo-28 Expansive Soils. The on-site alluvial soils and terrace deposits are expected to have a very low potential for expansion. Compacted fills generated from the Mint Canyon Formation are expected to have up to a medium potential for expansion. The compacted fills generated by the on-site materials are expected to be classified as having a very low to medium potential for expansion. Samples of the compacted fill shall be obtained at the completion of the rough grading operations to support final foundation design.</p> <p>MM Geo-29 Foundation</p> <ul style="list-style-type: none"> • General: Buildings may be supported on continuous or individual spread footings established in properly compacted fill soils. Foundations and floor slabs should be designed by a structural engineer, in accordance with the minimum requirements of the CBC. • Design Criteria: The recommendations presented in this section are based on the assumption that the proposed structures will have column loads not exceeding approximately 100 kips and continuous foundation loads not exceeding 3 kips per lineal foot. A bearing value of 2,000 pounds per square foot (psf) may be used in the design of spread foundations. This value can be increased by one-third when considering seismic and wind forces. The bearing material shall consist of compacted fill soil. Individual column pads and continuous wall footings shall be designed to meet the minimum width and depth requirements as set forth in the CBC. Foundation depths shall be measured from the lowest adjacent final grade. • Building Setbacks: Building setbacks for structures located adjacent to either ascending or descending slopes shall be in accordance with the standards set forth in the CBC. All foundation 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>excavations shall be observed and approved by a representative from our firm prior to placement of reinforcing steel. Foundations shall be deepened, where necessary, to prevent surcharge loads from being imposed on adjacent foundations or utilities. Observation of foundation excavations may also be required by the appropriate reviewing governmental agencies. The contractor shall be familiar with the requirements of the governing reviewing agencies.</p> <ul style="list-style-type: none"> • Lateral Design: Lateral restraint at the bases of footings or slabs may be assumed to be the product of the dead load and a coefficient of friction of 0.4. Passive pressure on the faces of footings may also be used to resist lateral forces. A passive pressure of zero at the surface of finished grade, increasing at the rate of 250 psf per foot of depth, to a maximum value of 2,500 psf, may be used at this site. The passive pressure and friction may be combined without reduction when evaluating lateral resistance. • Settlement: Provided that the proposed buildings are supported on shallow foundations established in compacted fill soils, as recommended, column loads do not exceed 100 kips, and continuous footings do not exceed 3 kips per lineal foot, it is estimated that the maximum static settlement will be about 0.75 inches. The total static and seismic settlement is estimated to be about 1.5 inches. It is further estimated that static and seismic differential settlements will be less than 1.0 inches of vertical movement across a horizontal distance of 30 feet. RTF&A shall review the foundation loads after plans are developed to verify the applicability of our recommendations to the proposed structures. <p>MM Geo-30 Floor Slab Support</p> <ul style="list-style-type: none"> • General: The floor slab design recommendations presented in this section are based upon the assumption that the soil subgrade in proposed floor slab areas will consist of compacted fill soil and that floor slabs will be subjected to normal loads with no special requirements. Any surficial soils that become dried or disturbed during the course of construction shall be moisture-conditioned and compacted prior to casting the floor slab. Conventional floor slabs may be utilized at the subject development, provided the 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>subgrade soils consist of compacted fill soils with a very low (Expansion Index of 0 to 20) potential for expansion. If the subgrade soils are determined to have an expansion potential in the low or higher range (Expansion Index greater than 21), post-tensioned floor slabs, as indicated below, are recommended. Post-tensioned floor slabs can also be used in soils with a very low potential for expansion.</p> <ul style="list-style-type: none"> • Conventional Floor Slabs: Conventional slabs-on-grade should be designed per the recommendations of the CBC. However, as a minimum, the building floor slabs should have a nominal thickness of at least 4 inches and should be reinforced with a No. 4 rebar spaced at 16 inches on center, in each direction, or equivalent. Thicker slabs may be required depending on CBC requirements, the floor loads, and the structural requirements; we defer to the Project Structural Engineer for design of the floor slabs. • Post-Tensioned Floor Slabs: Post-tensioned floor slabs should be designed per the recommendations of the CBC. The design values, presented following this paragraph, assume that the proposed floor slabs will be poured monolithic with continuous perimeter edge footings. Perimeter edge footings should have a minimum depth of 12 inches. Footing depths should be measured from the lowest adjacent grade for perimeter footings or the top of slab for interior footings. • Net Bearing Value: An allowable net bearing value of 2,000 psf may be used for footings with a minimum width of 12 inches and a minimum depth of 12 inches below the top of slab or 12 inches below the lowest adjacent grade. • Coefficient of Friction: 0.75 • Passive Pressure: 250 pcf for level ground condition • Modulus of Subgrade Reaction (K): 150 pounds per cubic inch (pci) for a footing width of one foot. For larger footings or floor slabs, this value should be reduced using the following equation: $K_r = K \left[\frac{(B + 1)}{2B} \right]^2$ <p>where: Kr = Reduced Modulus Value</p>	

Impacts	Mitigation Measures	Significance after Mitigation
	<p style="text-align: center;">K = Modulus of Subgrade Reaction for a One-Foot-Wide Plate B = Width of Large Footing or Slab</p> <ul style="list-style-type: none"> • Modulus of Elasticity: 1,000 pounds per square inch (psi) • Edge Moisture Variation Distance: Me (Center Lift): 5.25 feet Me (Edge Lift): 2.5 feet • Estimated Differential Movements My (swelling): Low – 0.4; Medium – 0.9 My (shrink): Low – 0.3; Medium – 0.7 • Water Vapor: Water vapor transmitted through floor slabs is a common cause of floor covering problems. An impermeable membrane vapor barrier should be installed to reduce excess vapor drive through the floor slab. The function of the impermeable membrane is to reduce the amount of water vapor transmitted through the floor slab. Vapor-related impacts should be expected in areas where a vapor barrier is not installed. Floor slabs shall be underlain by a vapor barrier surrounded by 2 inches of sand above and below it. The membrane should be at least 10 millimeters thick; care shall be taken to preserve the continuity and integrity of the membrane beneath the floor slab. The sand shall be sufficiently moist to remain in place and be stable during construction; however, if the sand above the membrane becomes saturated before placing concrete, the moisture in the sand can become a source of water vapor. Another factor affecting vapor transmission through floor slabs is a high water-to-cement ratio in the concrete used for the floor slab. A high water-to-cement ratio increases the porosity of the concrete, thereby facilitating the transmission of water and water vapor through the slab. The Project Structural Engineer or a concrete mix specialist should provide recommendations for design of concrete for footings and floor slabs in accordance with CBC. <p>MM Geo-31 Retaining Walls</p> <ul style="list-style-type: none"> • General: A bearing value of 2,000 psf may be used in the design of retaining wall footings. Backfill placed behind retaining walls shall be compacted to a minimum of 90% of the maximum dry density, as determined by the Soil Compaction Test Method 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>(ASTM Standard D1557). When backfilling, walls should be braced. Heavy compaction equipment shall not be used any closer to the back of the wall than the height of the wall. Soils that have an expansion index in excess of 30 shall not be utilized for backfill behind walls that are greater than 3 feet in height. The backs of retaining walls shall be water-proofed where aesthetics are concerned.</p> <ul style="list-style-type: none"> • Lateral Earth Pressure: Cantilevered retaining walls separate and independent of buildings, where the surface of the backfill is level and the retained height of soils is less than 15 feet, may be designed assuming that drained, nonexpansive soils will exert a lateral pressure equal to that developed by a fluid with a density of 30 pounds per cubic foot (pcf). The indicated pressure assumes that a lateral deflection of up to about 1% of the wall height is acceptable at the top of the wall. If it is desired to decrease the amount of potential wall deflection, a greater lateral pressure could be used in the wall design. Where the surface of the backfill is inclined at 2:1, it may be assumed that drained soils will exert a lateral pressure equal to that developed by a fluid with a density of 45 pcf. For the design of a rigid wall where rotation and lateral movement are not acceptable, as in the case of buildings, it may be assumed that drained, nonexpansive soils will exert a rectangular lateral pressure with a maximum pressure equal to 22H psf, where "H" is the wall height in feet. The pressure value and distribution may vary significantly when considering wall rigidity and restraining conditions. The structural characteristics of the wall are referred to the Project Structural Engineer. If requested, we can provide additional geotechnical design parameters for specific restrained conditions. In addition to the recommended earth pressure, walls should be designed to resist any lateral surcharges due to nearby buildings, storage, or traffic loads. A drainage system should be provided behind the walls to reduce the potential for development of hydrostatic pressure. If a drainage system is not installed, walls should be designed to resist an additional hydrostatic pressure equal to that developed by a fluid with a density of 55 pcf for the full height of the wall. • Seismic Lateral Earth Pressure: The preceding recommended values indicate earth pressures for conventional static loading 	

Impacts	Mitigation Measures	Significance after Mitigation
	<p>conditions. Ground shaking associated with earthquakes may cause additional pressure on walls. In addition to the previously mentioned lateral earth pressures, it is recommended that all rigid (building) walls of any height, and cantilevered retaining walls greater than 6 feet in height, be designed to support an additional seismic earth pressure equal to an inverted equivalent fluid pressure of 29 pcf.</p> <ul style="list-style-type: none"> • Density of Backfill: When designing retaining walls to resist overturning, it can be assumed that compacted, on-site soils will have a density of 125 pcf. • Drainage: A drainage system should be provided behind retaining walls, or the walls should be designed to resist hydrostatic pressures. <ul style="list-style-type: none"> • The drainage system could consist of a 4-inch-diameter perforated pipe placed 6 inches from the base of the wall, with the perforations down, and connected to an outlet device. • The pipe should be sloped at least 1 inch per 50 feet and surrounded on all sides by at least 6 inches of clean gravel. The gravel should be “burrito-wrapped” with filter fabric, such as Mirafi 140N, or equivalent. As an alternative to the gravel and filter fabric, filter material meeting the requirements of LACFCD Designated F-1 Filter Material, and slotted pipe, may be used. • The backside of the wall should be water-proofed. • A vertical, 6-inch-wide gravel chimney drain, or a drainage geocomposite such as Miradrain, should be placed against and behind retaining walls that are higher than 3 feet. The top of the back drain should be capped with 18 inches of on-site soils. • The installed drainage system should be observed by the Geotechnical Consultant of Record prior to backfilling the system. Inspection of the drainage system may also be required by the reviewing governmental agencies. <p>MM Geo-32 Pavement Design: Samples of the on-site soil should be obtained from near final grade elevation in proposed pavement areas, following the grading operations, to perform R-value tests. The R-value test results would be used to prepare pavement section recommendations. The</p>	

Impacts	Mitigation Measures	Significance after Mitigation																								
	<p><i>preliminary</i> pavement section recommendations presented below are based on the assumption that the on-site soils have an R-value of at least 20. The <i>final</i> pavement section recommendations could vary depending on the results of the actual R-value tests. We would be pleased to provide pavement section recommendations for alternative Traffic Index values upon request.</p> <table border="1"> <thead> <tr> <th>Traffic Index</th> <th>Asphalt Thickness (inches)</th> <th>(CAB) Base Course Thickness (inches)</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>3</td> <td>5</td> </tr> <tr> <td>6</td> <td>4</td> <td>9</td> </tr> <tr> <td>8</td> <td>5</td> <td>14</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Base course material should consist of crushed aggregate base (CAB), as defined by Section 2002.2 of the Standard Specifications for Public Works Construction (“Greenbook”), or crushed miscellaneous base (CMB), as defined by Section 200-2.4 of the Greenbook. Base course material should be compacted to at least 95% of the maximum dry density of that material. • Base course material should be purchased from a supplier who will certify that it will meet or exceed the specifications in the Greenbook, as indicated. We could, upon request, perform sieve analysis and sand equivalency tests on material delivered to the site that appears suspect. Additional tests could be performed, upon request, to determine if the material is in compliance with the remainder of the specifications indicated in the Greenbook. • The pavement section recommendations presented above are based upon assumed Traffic Index values. RTF&A does not take responsibility for the numerical determination of the Traffic Index values, nor the areas where they apply within the site. <p>MM Geo-33 Seismic Design. The following factors are recommended for seismic force design of structures at the subject site. The parameters were determined using the U.S. Seismic Design Maps at the United States Geological Survey (USGS) Earthquakes Hazard website.</p> <table border="1"> <thead> <tr> <th>Site Class</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>Ss</td> <td>2.509</td> </tr> <tr> <td>S1</td> <td>0.898</td> </tr> <tr> <td>SMs</td> <td>2.509</td> </tr> <tr> <td>SM1</td> <td>1.347</td> </tr> <tr> <td>SDs</td> <td>1.673</td> </tr> </tbody> </table>	Traffic Index	Asphalt Thickness (inches)	(CAB) Base Course Thickness (inches)	4	3	5	6	4	9	8	5	14	Site Class	D	Ss	2.509	S1	0.898	SMs	2.509	SM1	1.347	SDs	1.673	
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Impacts	Mitigation Measures	Significance after Mitigation
	SD1 0.898 PGA 0.899	
Greenhouse Gas/Climate Change		
The net increase in GHG emissions generated by the Project Without GHG Reduction Measures Scenario (“BAU Scenario” defined in the City’s CAP) would be 13,061.36 MTCO ₂ e per year and the net increase in GHG emissions generated by the Project With GHG Reduction Measures Scenario would be 11,441.21 MTCO ₂ e per year. This represents an approximate 12.4% reduction in GHG emissions as a result of the Project’s GHG reduction measures and design features as recommended in the City’s adopted CAP. This reduction is generally consistent with the overall 12% reduction expected in the CAP. Based on the information provided above, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and these impacts would be less than significant.	None required	Less than Significant
Hazards and Hazardous Materials		
Haz-2 Businesses that store large quantities of hazardous materials (e.g., fuel storage facilities, chemical warehouses) can be subject to accidents that result from transporting, pumping, pouring emptying, injecting, spilling, and dumping or disposing of hazardous materials and wastes and that could be released into the environment. The severity of potential effects varies with the activity conducted and the concentration and type of waste involved. However, as discussed above, the land uses proposed as part of the Project would not significantly increase the amount of hazardous materials used as it is a residential and commercial project only. No industrial uses are proposed with the Project. Additionally, federal, state, and local regulations and policies governing the use of hazardous materials strictly regulate the proper handling of such materials and their containers to ensure that accidents involving the release of toxic materials into the environment do not occur. Compliance with appropriate regulations and policies would limit the impact from release of hazardous materials to less than significant.	None required	Less than Significant
Haz 3 The residential and commercial uses associated with the Project uses would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste; and therefore, would not impact any existing or proposed schools within one-quarter mile of the project site. Thus, no impacts would occur in this regard.	None required	Less than Significant

Impacts	Mitigation Measures	Significance after Mitigation
<p>Haz-4 In addition, the Project site is not identified on any of the databases searched by EDR and is not within 1.0 mile of a federal Superfund property. There is a low probability that the other listed properties have impacted the Project site.</p> <p>Nonetheless, the mobile homes that are original to the park could contain some asbestos materials. Construction workers could be at risk during earth moving activities. Residents on or adjacent to the hazardous materials sites could be exposed to hazardous materials. Therefore, the hazardous materials sites have the potential to pose a significant hazard to the public or the environment. The impact to the public and the environment from these hazardous materials sites would be potentially significant. Mitigation Measure MM Haz-1 would be implemented to reduce this impact to less than significant.</p>	<p>MM Haz-1 The structures on-site were constructed prior to 1981. Based on the age of construction, building materials in on-site structures may include asbestos containing materials (ACM), and certain building materials are presumed to contain ACM (PACM), unless testing has shown otherwise. As of October 1, 1995, OSHA made building owners responsible for complying with the asbestos construction standard, for buildings built in 1981 or earlier. The building owner is responsible for identifying the presence, location and quantity of asbestos containing building materials, if warranted. The building owner must tell employees, other employers, and tenants in the building of the presence and location of asbestos or presumed asbestos containing materials (PACM). If the building owner intends to demolish or remodel the structure(s), the building owner shall hire a California Certified Asbestos Consultant for assistance in compliance.</p>	<p>Less than Significant after Mitigation</p>
<p>Haz 5 and 6 The Project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not expose people residing or working on the Project site to excessive safety hazard impacts from airports or private air strips. Therefore, no impacts would occur in this regard.</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Haz-7 Construction activities associated with development of the Project could reduce the number of lanes or temporarily close certain street segments, including those used for evacuation routes. Construction equipment and vehicles may block or slow traffic. Possible street closures and slower traffic during construction could interfere with emergency response including evacuations. However, construction would be temporary and would affect a limited number of streets or intersections at any one time. Additionally, the Los Angeles County Sheriff's Department, which provide guidance for the City's planned response to extraordinary emergency situations associated with natural disasters, terrorism, technological incidents, and nuclear defense operations, would continue to be implemented. However, the impact to the City of Santa Clarita evacuation routes from construction of the Project would be potentially significant. Implementation of Mitigation Measure MM Haz-2 would reduce the impact to less than significant.</p>	<p>MM Haz-2 Prior to construction, the Project Applicant shall prepare a Traffic Control Plan for review and approval by the City Traffic Engineer that shall be implemented during the construction phase.</p>	<p>Less than Significant after Mitigation</p>
<p>Haz-8 The project site and surrounding areas are predominately built out and no wildlands occur within or immediately adjacent to the project site.</p>	<p>Refer to Mitigation Measures MM PS-4 through MM PS-6.</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>The risk of wildfire is greatest in the non-urbanized portion of the City and Los Angeles County where vegetation, varied topography, and slopes are all present. The Project area is exposed to a lesser amount of threat because of its developed character. The Project site is located in close proximity to fire stations and response times would be within the Los Angeles County Fire Department's desired range of five minutes. As shown in Figure 4.8-3, the project site is within a Very High Fire Hazard Severity Zone (VHFHSZ). In addition, the Project would be subject to compliance with the Los Angeles County Fire Department's development conditions. Refer to Section 4.15, Fire Protection, for additional analysis. Implementation of the recommended Mitigation Measures MM PS-4 through MM PS-6 would reduce impacts to less than significant in this regard.</p>		
Hydrology and Water Quality		
<p>Hyd-3, Hyd-4, Hyd-5, Hyd-11, Hyd-12 As expected, runoff volumes increase throughout all the storm events. The 25-Year developed condition volume is shown to increase 3.57 acre-feet (af) above that of the existing condition. Through the use of on-site water quality improvements already incorporated into the project design, this small increase would result in less than significant impacts.</p> <p>The Project would not result in hydrologic impacts related to stream channel hydromodification. Runoff from the 25-year 24-hour storm would be infiltrated on-site. Project runoff above the 25year storm would be discharged directly to a storm drain system that flows directly to the Santa Clara River. Discharges to the Santa Clara River are exempt from the hydromodification requirements in the MS4 Permit, therefore the Project is exempt. However, the Project would implement a more protective performance standard than what is required by the MS4 Permit.</p> <p>Project BMPs include LID site design, source control, and LID treatment control BMPs in compliance with the MS4 Permit, City Municipal Code, and LID Manual requirements. Sizing criteria contained in the MS4 Permit and LID Manual would be met for all LID BMPs because the Project's BMPs would be designed to infiltrate runoff volumes up to the 25-year storm event. Thus, less than significant impacts would occur.</p>	None required	Less than Significant
<p>Hyd-1, Hyd-5 and Hyd-6 Prior to the issuance of preliminary or precise grading permits, the landowner or subsequent project applicant would provide the County with evidence that a Notice of Intent (NOI) has been filed with the SWRCB. Such evidence would consist of a copy of the NOI</p>	None required	Less than Significant

Impacts	Mitigation Measures	Significance after Mitigation
<p>stamped by the SWRCB or Regional Water Quality Control Board, or a letter from either agency stating that the NOI has been filed and a copy of the site's applicable Waste Discharge identification (WDID) number.</p> <p>On this basis, the impact of Project construction-related runoff is considered less than significant.</p> <p>Project construction phase impacts on water quality are generally caused by soil disturbance and subsequent suspended solids discharge. These impacts would be minimized through implementation of construction BMPs that would meet or exceed measures required by the Construction General Permit and General Dewatering Permit, as well as BMPs that control the other potential construction-related pollutants (PAHs, metals). A SWPPP would be developed as required by, and in compliance with, the Construction General Permit. Erosion control BMPs would be implemented to prevent erosion, whereas sediment controls, including but not limited to silt fence, sedimentation ponds, and secondary containment on stockpiles would be implemented to trap sediment once it has been mobilized. On this basis, the construction-related impact of the Project on water quality is considered less than significant.</p> <p>The infiltration BMPs would prevent the discharge of pollutants of concern to the Santa Clara River originating from wet weather and dry weather flows and would be design as full trash capture BMPs, therefore the Project's impacts on surface receiving water quality would be less than significant.</p> <p>The Project would not be a source of pollutants of concern that could impact water quality. Based on compliance with the federal, state, and local requirements designed to protect water quality and beneficial uses, Project impacts are less than significant.</p>		
<p>Hyd-2 Although the Project would increase impervious area compared to the existing condition, increases in runoff volumes up to the 25-year storm event would be infiltrated in the Project LID treatment BMPs. In addition, the Project would include landscape irrigation, which would result in an increase in recharge compared to the existing condition. The Project is required to incorporate LID BMPs that promote groundwater recharge. Therefore, the Project would not significantly deplete groundwater supplies or interfere substantially with groundwater recharge, and less than significant impacts.</p>	None required	Less than Significant
<p>Hyd 7 and 8 According to the Flood Insurance Rate Map (FIRM), Map Number 06037C0845F, Panel Number 0845F, September 26, 2008,</p>	None required	Less than Significant

Impacts	Mitigation Measures	Significance after Mitigation
<p>published by the Federal Emergency Management Agency (FEMA), the project site is located within Zone D. As indicated previously, the Project would include the construction of drainage facilities (box culvert) to accommodate the existing on-site Sand Canyon wash. These improvements would comply with all City and County requirements and would remove any flood hazard potential to future development associated with the Project. Additionally, the Project site is located north of and at a higher elevation than the Santa Clara River, which is within a special flood hazard area. Therefore, the Project would not place housing or other structures within the 100-year floodplain and no impacts would occur in this regard.</p>		
<p>Hyd 9 and 10 The Project site is located inland from the Pacific Ocean and not in proximity to any large, continuously filled bodies of surface water; therefore, it is not subject to seiche or tsunamis. There are no dams that occur upstream of the project site. There is no indication that the Project, or other existing or planned projects in the project area, would be at risk a failure of the dam.</p> <p>The Project site is subject to some debris or mudflows; however, adequate building setbacks from natural slopes and debris control facilities proposed in upstream areas of the site would protect the Project development from mudflow hazard. Thus, impacts would be less than significant.</p>	None required	Less than Significant
Land Use		
<p>LU-1 A portion of the Project site is currently developed with mobile home units. Remaining portions of the site are undeveloped. Surrounding uses include single-family residential to the west and north; single-family and multi-family residential to the east; and commercial uses to the south and west along Sand Canyon Road, north of SR14. Redeveloping the site from residential uses to a mixed-use development would not physically divide an established community. Commercial and residential uses already surround the Project site, and redevelopment of the Project site would provide for additional compatible uses adjacent to existing uses.</p>	None required	Less than Significant
<p>LU-2 The Project site has a General Plan and zoning designation of MXN (Mixed Use Neighborhood) and Urban Residential (UR-3). No changes to the General Plan land use or zoning designations are necessary for the Project.</p>	None required	Less than Significant

Impacts	Mitigation Measures	Significance after Mitigation
Minerals and Energy Resources		
<p>Min 1 and 2 The Project site is not within a mineral area identified on General Plan Conservation and Open Space Element Exhibit CO 2, Mineral Resources, and the site is not otherwise known to contain mineral resources. Therefore, the Project would not result in the loss of availability of a known mineral resource and would have no impacts.</p>	None required	Less than Significant
<p>Min -3 Market-rate conditions encourage the efficient use of materials and manpower during construction. Similarly, the energy and water resources that would be utilized by the Project would be supplied by the regional utility purveyors, which participate in various conservation programs. Furthermore, there are no unique conditions that would require excessive use of nonrenewable resources on-site, and the Project is expected to utilize energy or water resources in the same manner as typical modern development. Therefore, the Project would not use nonrenewable resources in a wasteful and inefficient manner; thus resulting in less than significant impacts.</p>	None required	Less than Significant
Noise		
<p>N-1 and 4 The Project’s construction-related noise levels at the above mentioned sensitive receptors would have the potential to exceed the City’s exterior daytime noise standards identified previously. However, it should be noted that the Project would be consistent with Section 11.44.080 of the SCMC (Special Noise Sources—Construction and Building), which states no person shall engage in any construction work which requires a building permit from the City on sites within 300 feet of a residentially zoned property except between the hours of 7:00 AM and 7:00 PM, Monday through Friday, and from 8:00 AM to 6:00 PM on Saturday. Nevertheless, as temporary construction noise levels would exceed exterior daytime noise standards, construction noise impacts would be potentially significant.</p>	<p>Regulatory Compliance Measure MM N-1 The Project shall adhere to Section 11.44.080 of the SCMC (Special Noise Sources—Construction and Building). As stated therein, no person shall engage in any construction work which requires a building permit from the City on sites within 300 feet of a residentially zoned property except between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. Further, no work shall be performed on the following public holidays: New Year’s Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day.</p> <p>Mitigation Measures MM N-2 Noise and ground-borne vibration construction activities whose specific location on the Project site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest off-site land uses. MM N-3 When possible, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels. MM N-4 Flexible sound control curtains shall be placed around all drilling</p>	Even after Mitigation, impacts are considered significant and unavoidable

Impacts	Mitigation Measures	Significance after Mitigation
	<p>apparatuses, drill rigs, and jackhammers when in use.</p> <p>MM N-5 The Project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.</p> <p>MM N-6 Barriers such as flexible sound control curtains shall be erected around heavy equipment to minimize the amount of noise on the surrounding land uses to the maximum extent feasible during construction.</p> <p>MM N-7 All construction truck traffic shall be restricted to truck routes approved by the City, which shall avoid residential areas and other sensitive receptors to the extent feasible.</p> <p>MM N-8 A construction notice shall be prepared and shall include the following information: job site address, permit number, name and phone number of the contractor and owner or owner’s agent, hours of construction allowed by code or any discretionary approval for the site, and City telephone numbers where violations can be reported. The notice shall be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public and approved by the City.</p>	
<p>N-2 With respect to human annoyance, residential sensitive receptors located within 75 feet of the Project site boundaries (Sensitive Receptor No. 1 located as close as 20 feet from Project site) could experience construction related vibration levels of up to approximately 73-87 VdB. These levels would exceed the FTA’s vibration impact threshold of 72 VdB for residences and buildings where people normally sleep. However, similar to construction noise sources, it should be noted that the Project would be consistent with Section 11.44.080 of the SCMC (Special Noise Sources—Construction and Building), which states no person shall engage in any construction work which requires a building permit from the City on sites within three hundred (300) feet of a residentially zoned property except between the hours of 7:00 AM to 7:00 PM, Monday through Friday, and 8:00 AM to 6:00 PM on Saturday. Nevertheless, as temporary construction vibration levels would exceed residential annoyance thresholds, impacts would be potentially significant.</p>	<p>Even with the implementation of Mitigation Measures MM N-1 through MM N-7, construction vibration levels (human annoyance) would be significant and unavoidable.</p>	<p>Significant and Unavoidable</p>
<p>N-1, N-3 and N-4 Uses with greater setbacks and without a direct line-of-sight to these roadways are expected to experience exterior noise levels below the City’s exterior noise standard of 65 dBA CNEL (i.e., locations where project building facades along the site’s boundary will shield internal on-site uses from the roadway noise). Based on data published by the</p>	<p>Regulatory Mitigation Measures</p> <p>MM N-9 Consistent with Policy N 3.1.2 of the City’s Noise Element, where the projected exterior noise levels could exceed 65 CNEL at single-family residences (rear yards), open space areas, and common recreational and open space areas for multi-family developments, the Applicant shall</p>	<p>Even with the implementation of Mitigation Measures MM N-9, MM N-10, MM N-12, and MM N-13, impacts for traffic noise on exterior noise levels would be</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>Federal Highway Administration, such conditions can reduce line-of-sight noise levels by approximately 10 dBA for some locations.^{83F83F⁸} Assuming a 10 dBA reduction described above, uses with greater setbacks and without a direct line-of-sight to the roadways would experience exterior noise levels of approximately 61.5 dBA CNEL to 64.7 dBA CNEL. These noise levels would be within the City's exterior noise standard of 65 dBA CNEL. Nevertheless, because exterior spaces fronting Sand Canyon and Soledad Canyon Roads with a direct line-of-sight to these roadways may experience exterior noise levels above the City's exterior noise standard of 65 dBA CNEL, this impact would be potentially significant.</p>	<p>provide noise barriers, setbacks, and site design standards to reduce future on-site traffic noise levels to the maximum extent feasible.</p> <p>MM N-10 Consistent with Policy N 3.1.9 (Mixed-Use Developments) of the City's Noise Element, the Project shall implement a buyer and renter notification program for residences where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. As determined by the reviewing authority, notification may be appropriate in the following areas: within 200 feet of commercial uses in mixed-use developments, potential buyers and renters should receive notice that the commercial uses within the mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use.</p> <p>MM N-11 The Project shall comply with Title 24 Noise Insulation Standards, which specifies the maximum allowable sound transmission between dwelling units in multi-family residential buildings, and limits allowable interior noise levels in habitable spaces to 45 dBA CNEL.</p> <p>Mitigation Measures</p> <p>MM N-12 Prior to the issuance of building permits for uses fronting Sand Canyon and Soledad Canyon Roads, the project developer shall submit evidence demonstrating that all feasible design features have been considered to meet the City's exterior noise standard of 65 dBA CNEL. Locations that could be exposed to future exterior noise levels above 65 dBA CNEL shall consider at least the following: 1) Increase setbacks along Sand Canyon and Soledad Canyon Roads to the maximum extent feasible; 2) Consider the use of noise barriers between the roadway sources and the receptors (earthen berms, masonry walls, and vegetation may be appropriate); and/or 3) Prohibit balconies for multi-family units facing Sand Canyon and Soledad Canyon Roads.</p> <p>MM N-13 The Project shall implement a buyer and renter notification program for residences where appropriate, to educate and inform potential buyers and renters that due to traffic levels on Sand Canyon Road, Soledad Canyon Road and the SR-14 Freeway, noise in excess of levels typically found in residential areas may be possible.</p>	<p>significant and unavoidable.</p>
<p>N5 and N-6 The project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or</p>	<p>None required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not expose people residing or working on the Project site to excessive noise impacts from airports or private air strips. Therefore, no impacts would occur in this regard.</p>		
<p>Cumulative mobile source noise impacts would occur primarily as a result of increased traffic on local roadways due to the Project, ambient growth, and related projects/cumulative development within the study area. Although the Project would only contribute a maximum increase of 0.8 dBA CNEL for future 2030 traffic noise levels, cumulative traffic noise level increases would be considered significant for the following roadway segments along Sand Canyon: between N. Silver Saddle Circle and Sand Canyon “C” Project Driveway, between Sand Canyon “C” Project Driveway and South Silver Saddle Circle, between South Silver Saddle Circle and Sand Canyon “A” Project Driveway, and between Sand Canyon “A” Project Driveway and Soledad Canyon Road. As no feasible mitigation is available to reduce this impact, cumulative traffic noise impacts would be significant and unavoidable.</p>	<p>There is no feasible mitigation to reduce cumulative operational noise.</p>	<p>Significant and Unavoidable</p>
Population and Housing		
<p>PH-1 In addition, the City of Santa Clarita General Plan contains numerous other goals, policies, and actions supporting the creation of housing opportunities within the City. The City of Santa Clarita General Plan also includes various policies that encourage infill development and would be expected to reduce vehicle miles traveled (VMT) and associated air pollutant emissions compared to previous low density development within the City. The Project is considered an infill development, as the site is surrounded on all sides by urban development.</p> <p>new Project residential and employment generating land uses would result in a total population increase of 2,220 persons. The additional population associated with potential employees relocating to the City and occupying existing either vacant housing or new housing has already been accounted for in the City of Santa Clarita General Plan. Further, approximately 3,116 unemployed persons currently reside within the City. Some of these currently unemployed persons could fill jobs created by the Project.</p> <p>In conclusion, the additional jobs to be provided by the Project have been accounted for in the City of Santa Clarita General Plan and in SCAG’s 2020 forecasts. Thus, impacts would be less than significant.</p>	<p>None required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>PH-2 and PH-3 Implementation of the Project would result in less than impacts with respect to resident displacement or the need for replacement housing.</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Parks and Recreation</p>		
<p>Rec 1 and Rec-2 Based on 3.10 persons per household, the development of 580 single-family and multi-family residential units would result in a population increase of 1,798 persons, which would require a minimum of 5.39 acres of parkland. However, the City’s General Plan strongly encourages new development to provide fees and/or parkland at a rate of five acres per 1,000 persons. Therefore, consistent with the General Plan the Project would be required to provide 8.99 acres of parkland. On-site recreational areas may receive credit against a portion (up to 30%) of the parkland acreage requirement. Prior to Project development, the Project Applicant will be required to pay for an appraisal to establish the value of a finished acre of land in the Project area. The City will collect fees based on the approved appraisal. The payment of the Quimby fees would satisfy the City’s park requirement. Therefore, impacts to parks and recreation are less than significant.</p> <p>New residents of the Project are expected to use the City’s and County’s existing and proposed trail systems in the Santa Clarita Valley area as they are constructed. Anticipated use of the surrounding trails would increase the density of users on such trails once they are constructed. Once the Project is completed, the trails would connect to those local and regional trails that would be in place at that time. The proposed trail network is considered to have a beneficial impact on the local and regional trail system because it would provide linkages to local and regional trails.</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Public Services</p>		
<p>PS-1 Fire Although the Project would be in close proximity to existing fire stations, it would increase the demand on existing fire protection resources in the general area. Additional manpower, equipment, and facilities would be needed to accommodate future growth, and the LACoFD has long-range plans to upgrade the level of fire protection in the area as growth occurs. Thus, as required by Mitigation Measure MM PS-1 the Project Applicant would be required to pay fees, under the Developer Fee Program to provide funds for fire protection facilities, which are required by new residential, commercial, or industrial development in an amount proportionate to the</p>	<p>MM PS-1 Concurrent with the issuance of building permits, the Project Applicant shall participate in the Developer Fee Program to the satisfaction of the Los Angeles County Fire Department and/or City of Santa Clarita.</p> <p>MM PS-2 Adequate access to all buildings on the Project site shall be provided for emergency vehicles during the building construction process.</p> <p>MM PS-3 Adequate water availability shall be provided to service construction activities.</p> <p>MM PS-4 All on-site development shall comply with the applicable Los Angeles</p>	<p>Less than Significant after Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
<p>demand created by the Project.</p> <p>Mitigation measures that would reduce construction-related fire impacts to a less than significant level would include availability of adequate water to service construction activities, and that all construction-related requirements of the landscape plan and the irrigation plan be fulfilled, as approved by the LACoFD. Implementation of the applicable General Plan goals and policies, conditions of approval, and Mitigation Measures MM PS-2 and MM PS-3 below would reduce impacts to a less than significant level.</p> <p>Implementation of the applicable General Plan goals and policies and Mitigation Measures MM PS-4 through MM PS-6 would ensure that operational-related fire service impacts are reduced to a less than significant level.</p>	<p>County and City of Santa Clarita code requirements for construction, access, water mains, fire flows, and fire hydrants, as stipulated by the Los Angeles County Fire Department or the City of Santa Clarita through Project approvals or building plan reviews.</p> <p>MM PS-5 Prior to the issuance of building permits, the Project Applicant, or responsible party, shall obtain the necessary clearances from and shall comply with all applicable conditions imposed by Los Angeles County Fire Department, including but not limited to those from the Planning Division, Land Development Unit, Forestry Division, or Fuel Modification Unit.</p> <p>MM PS-6 The Project Applicant, or responsible party, shall file all landscape plans with the Los Angeles County Fire Department Fuel Modification Unit to ensure compliance with the High Fire Hazard Severity Zone.</p>	
<p>PS-Police Due to the presence of building materials, construction equipment, and related temporary office buildings, the potential for vandalism and theft is greater; thereby increasing Sheriff’s calls for service demands for property protection. Implementation of the Mitigation Measure MM PS-7 would reduce impacts to less than significant.</p> <p>To prevent slow-moving construction impacts, Mitigation Measure MM PS-8 has been included to prepare a construction traffic control plan prior to the initiation of any construction activities, and reduce impacts to less than significant.</p> <p>The Project would generate an increased demand for police services. To offset this potential increase, the Project as it develops, would create revenues from property and sales taxes that would be deposited into the City of Santa Clarita General Fund. A portion of these revenues would then be allocated, in accordance with the City of Santa Clarita and County of Los Angeles contractual service agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Station in response to related demands.</p> <p>The LASD prescribes to the principles of Crime Prevention Through Environmental Design (CPTED), which includes defensible space, territoriality, surveillance, lighting, landscaping, and physical security. Implementing CPTED principles serves to discourage criminal activity, while encourage the legitimate use of proposed on-site uses. Potentially significant impacts to police protection could arise as a result of Project design. Incorporation of safety design techniques into the Project design</p>	<p>MM PS-7 During construction, private security patrols shall be utilized to protect the Project site.</p> <p>MM PS-8 Prior to construction activities, the Project Applicant shall have a construction traffic control plan approved by the City of Santa Clarita.</p> <p>MM PS-9 Project Applicant, or designee, shall pay the City’s law enforcement facilities impact fee in effect at the time of issuance of a building permit.</p> <p>MM PS-10 As final development plans are submitted to the City of Santa Clarita for approval in the future, the Los Angeles County Sheriff’s Department design requirements that reduce demands for service and ensure adequate public safety shall be incorporated into the building design. The design requirements for this Project shall include:</p> <ul style="list-style-type: none"> • Proper lighting in open areas and parking lots to the satisfaction of the Los Angeles County Sheriff’s Department, around and throughout the development to enhance crime prevention and enforcement efforts • Sufficient street lighting for the Project’s streets • Good visibility of doors and windows from the streets and between buildings on the Project site • Building address numbers on both residential and commercial/retail uses are lighted and readily apparent from the streets for emergency response agencies • Plant low-growing groundcover and shade trees, to the extent feasible, rather than a predominance of shrubs that could conceal potential criminal activity around buildings and parking areas 	<p>Less than Significant after Mitigation</p>

Impacts	Mitigation Measures	Significance after Mitigation
(refer to Mitigation Measures MM PS-10) and implementation of applicable General Plan goals and policies, potentially significant security impacts to persons and property would be reduced to a less than significant level.		
<p>PS- Schools The Residential Mitigation Payment shall be adjusted annually with the District’s revisions of its SFNA in conformance with California Government Code §65995.5 and §65995.6. In addition, the Project Applicant would receive credit for the assessable square footage of the existing on-site mobile home units as they are removed. Therefore, the Project Applicant would be required to pay the statutory fees as stipulated in the School Facilities Mitigation Agreement (refer to Mitigation Measure MM PS-11), reducing impacts to a less than significant level.</p> <p>The Project Applicant would be required to pay the statutory fees as stipulated in the Agreement for Fair Share Funding of School Facilities (refer to Mitigation Measure MM PS-12), reducing impacts to a less than significant level.</p>	<p>MM PS-11 The Project Applicant, or responsible party, shall pay the required mitigation fees to the Sulphur Springs Union School District as stipulated in the School Facilities Mitigation Agreement.</p> <p>MM PS-12 The Project Applicant, or responsible party, shall enter into an Agreement with the William S. Hart Union High School District prior to final map. All fees shall be paid in accordance with the Agreement.</p>	Less than Significant after Mitigation
<p>PS-Libraries Residents of the Project would generate new tax revenues and, as noted above, funding sources for the Santa Clarita Public Library consist of property taxes, state assistance, and revenue from fines, fees, and other miscellaneous revenue. According to Library staff, increased tax revenues funding addresses only library operations and, because of uncertainty regarding General Fund contribution levels, it is not adequate to offset the impact of the Project on the Santa Clarita Public Library’s ability to construct new libraries and purchase new items (e.g., books, periodicals, audio cassettes, videos). Consequently, the tax revenues collected would not adequately cover all the costs of serving the Project population, and a significant impact on the library system would result.</p>	<p>MM PS-13 The Project Applicant shall pay a library facilities mitigation fee. Currently this fee is \$800.00 per residential unit. This is the estimated fee that would be collected to pay for new library construction and items totaling \$464,000.00.</p>	Less than Significant after Mitigation
Traffic and Circulation		
<p>Buildout of the Project would occur over approximately 18 months. During construction of the Project, construction workers would arrive at and depart from the Project site during off-peak hours, minimizing trips during the AM and PM peak traffic periods. As such, construction-related trips associated with buildout of the Project would result in less than significant impact.</p> <p>Based on the mixed-use trip generation model described above, which was approved by the Santa Clarita Department of Public Works, buildout of the Project would generate approximately 393 new AM peak hour trips, 695 new PM peak hour trips, and 7,986 new daily trips.</p>	<p>MM T-1 Sand Canyon at Soledad Canyon. Modify traffic signal timing to coordinate with Kenroy Avenue and SR-14 SB Ramp intersections along Soledad Canyon Road.</p> <p>MM T-2 SR-14 SB Ramps at Soledad Canyon. Modify traffic signal to change westbound left-turn phasing from permissive to protective permissive.</p> <p>MM T-3 The Project Developer shall enter into a Mitigation Agreement with Caltrans. Said Mitigation Agreement shall be finalized prior to the recordation of a final map.</p>	Less than Significant after Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
<p>The Project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not result in any change in air traffic patterns or traffic levels. Therefore, no impact would occur in this regard.</p> <p>Implementation of the Project would not result in the construction and/or operation of hazardous design features (e.g., sharp curves and/or dangerous intersections) or the interaction of incompatible uses. However, the Project's goals and policies do encourage pedestrian linkages, the implementation of bicycle facilities, and the reconfiguration of roadways. Thus, it is imperative that facilities designed for non-automobile modes include enhanced safety features to minimize conflicts between transit riders, bicyclists, pedestrians, and motor vehicles. The Project incorporates street improvement standards that would provide a defined and often separated space for pedestrians, motorists, and bicyclists.</p>	<p>None required</p>	<p>Less than Significant</p>
<p>The Project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not result in any change in air traffic patterns or traffic levels. Therefore, no impact would occur in this regard.</p> <p>Implementation of the Project would not result in the construction and/or operation of hazardous design features (e.g., sharp curves and/or dangerous intersections) or the interaction of incompatible uses. However, the Project's goals and policies do encourage pedestrian linkages, the implementation of bicycle facilities, and the reconfiguration of roadways. Thus, it is imperative that facilities designed for non-automobile modes include enhanced safety features to minimize conflicts between transit riders, bicyclists, pedestrians, and motor vehicles. The Project incorporates street improvement standards that would provide a defined and often separated space for pedestrians, motorists, and bicyclists.</p>	<p>None required</p>	<p>Less than Significant</p>
<p>All of the freeway mainline segments and ramps in the study area would operate at LOS E or better, except for the segment of SR-14 southbound between Newhall Avenue and Golden Valley Road in both the northbound and southbound directions. These segments are shown to exceed capacity in the AM and PM peak hour under both Without Project and With Project conditions, and to operate at LOS E (based on volume-density calculations). However, based on the CMP impact criteria (V/C increase greater than</p>	<p>None required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
0.02), the Project would not create a significant impact on the SR-14 mainline.		
The impact to the City of Santa Clarita evacuation routes from construction would be potentially significant. Impacts would be reduced through implementation of Mitigation Measure MM Haz-2 , which requires project applicants/developers to prepare a Traffic Control Plan for implementation during the construction phase, as deemed necessary by the City Traffic Engineer, which would ensure that the Los Angeles County Sheriff's Department is aware of temporary roadway closures due to construction activities and alternative travel.	See Mitigation Measure Haz-2	Less than Significant after Mitigation
The Project is consistent with the General Plan and Development Code. The Project includes the installation of a Class I Trail along Sand Canyon Road and the preservation of the Class II Trail along Soledad Canyon Road. Direct connections from the Project site to the City's trail system would be provided. All required Transit facilities have been incorporated into the project design. As proposed, the Project would not conflict with transit, bicycle and pedestrian facilities, but instead, enhances these facilities. Therefore, less than significant impacts would occur.	None required.	Less than Significant
Even though the amount of increased traffic due to the Project would not exceed the CMP threshold of significance since the V/C increase due to the Project would be less than 0.02 at each location, the Project would contribute its pro rata share to the anticipated costs for design and implementation of future improvements on SR-14 as required by Caltrans.	<p>MM T-4 Sand Canyon at Soledad Canyon (Cumulative Conditions). Modify traffic signal timing to coordinate with Kenroy Avenue and SR-14 SB Ramp intersections along Soledad Canyon Road.</p> <p>MM T-5 Sand Canyon at Soledad Canyon (Cumulative Conditions). Modify intersection to restripe one northbound right-turn lane to a through lane (for 2 NB Left, 2 NB Through and 1 NB Right) (Project Share = 24%).</p> <p>MM T-6 SR-14 SB Ramps at Soledad Canyon (Cumulative Conditions). Modify traffic signal to change westbound left-turn phasing from permissive to protective permissive.</p> <p>MM T-7 SR-14 Freeway Mainline (Cumulative Conditions). Contribute pro-rata share to the anticipated costs for design and implementation of future improvements. (Project Share = 1.6%).</p>	
Utilities and Service Systems		
Util - Solid Waste The implementation of Mitigation Measures MM Util-2 through MM Util-4 and compliance with the Municipal Code and General Plan goals and policies, long-term operational impacts on a Project-specific basis would be less than significant.	MM Util-1 The project application shall complete and submit to the Building & Safety Division a Construction and Demolition Materials Management Plan (C&DMMP), approved by the City's Director of Public Works, or the Director's Designee, on a C&DMMP form approved by the City. The	Less than Significant after Mitigation

Impacts	Mitigation Measures	Significance after Mitigation
	<p>completed C&DMMP, at a minimum, shall indicate all of the following:</p> <ol style="list-style-type: none"> 1. the estimated weight of project C&D materials, by materials type, to be generated; 2. the maximum weight of C&D materials that it is feasible to divert, considering cost, energy consumption and delays, via reuse or recycling; 3. the vendor or facility that the Applicant proposes to use to collect, divert, market, reuse or receive the C&D materials; 4. the estimated weight of residual C&D materials that would be transported for disposal in a landfill or transformation facility; and 5. the estimated weight of inert waste to be removed from the waste stream and not disposed of in a solid waste landfill. (General Plan EIR Mitigation Measure 3.17-6) <p>MM Util-2 The Project Applicant shall provide adequate areas for the collection and loading of recyclable materials (i.e., paper products, glass, and other recyclables) in compliance with the State Model Ordinance, implemented on September 1, 1994, in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991. (General Plan EIR Mitigation Measure 3.17-2)</p> <p>MM Util-3 The Project Applicant shall be required to implement waste reduction programs in conformance with the City’s Source Reduction and Recycling Element program. (General Plan EIR Mitigation Measure 3.17-4)</p> <p>MM Util-4 Any hazardous waste that is generated on site, or is found on site during demolition, rehabilitation, or new construction activities shall be remediated, stored, handled, and transported in compliance per appropriate local, state, and federal laws, as well as with the City’s Source Reduction and Recycling Element. (General Plan EIR Mitigation Measure 3.17-5)</p>	
<p>During construction and operation, the Project would be required to comply with all federal, state, and local solid waste regulations, including the 2013 Green Building Standards Code, and AB 939 waste diversion requirements. The 2013 Green Building Standards Code aims to improve the health, safety, and general welfare of the public by incorporating design and construction measures which result in waste reduction by promoting material conservation and the efficient use of resources. As discussed above, the most recent data published by CalRecycle shows that the City met the</p>	<p>None required</p>	<p>Less than Significant</p>

Impacts	Mitigation Measures	Significance after Mitigation
diversion rate required by AB 939 and AB 1016 in 2014. Thus, impacts would be less than significant.		
Wastewater Util 3, Util-4 and Util-5 The CSDLAC requires new users to pay a fee to connect to the CSDLAC's Sewerage System. Therefore, the CSDLAC would require payment of a connection fee to construct any incremental expansion of the SCVJSS to accommodate the Project. Furthermore, the City of Santa Clarita would not issue connection permits to the sewer system if it cannot be demonstrated that sufficient capacity exists to serve the proposed development.	MM Util-5 Payment of a connection fee to the County Sanitation Districts of Los Angeles County shall be made prior to issuance of a permit to connect (directly or indirectly) to the County Sanitation Districts of Los Angeles County's Sewerage System.	Less than Significant after Mitigation
Water Supply Util 6 and Util-7 The development potential of the Project is consistent with the General Plan, and has been accounted for in the associated Environmental Impact Report. In summary, there would be sufficient water supply to meet the project's water demand under an average/normal water year, single dry year, or multiple dry years. In addition, the Project would include development of a distribution system that would provide sufficient capacity for domestic and fire flow requirements.	None required	Less than Significant

3. Project Description

3.1 Introduction

The purpose of the project description is to describe the Project in a way that will be meaningful to the public, reviewing agencies, and decision-makers. For this Environmental Impact Report (EIR), the project description will focus on Project-level information pertaining to the Sand Canyon Plaza Mixed-Use Project (Project). As described in §15124 of the California Environmental Quality Act (CEQA) Guidelines, the Project Description in an EIR is required to contain the following information: 1) the location of the Project; 2) a statement of Project objectives; 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 CEQA Guidelines state 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 project description is the starting point for all environmental analysis required by the CEQA Guidelines. Section 15146 of the CEQA Guidelines states that the degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity, which is described in the EIR. The following Project Description serves as the basis for the environmental analysis contained in this EIR.

3.2 Lead Agency

Under CEQA, the public agency that is principally responsible for carrying out or approving a Project is referred to as the “Lead Agency” (CEQA Guidelines §15051). The Project site is located in the City of Santa Clarita; therefore, the City will act as the Lead Agency. Contact information for the City is as follows:

City of Santa Clarita
23920 Valencia Boulevard, Suite 302
Santa Clarita, California 91355

Contact:

Patrick LeClair, Associate Planner
Community Development Department
661-255-4349

3.3 Intended Use of the Project EIR

This EIR will serve as the primary source of environmental information for the actions and approvals associated with the Sand Canyon Plaza Mixed-Use Project. In accordance with §21002.1 of CEQA, the purpose of this EIR is to provide the City, serving as the Lead Agency, information on the potentially significant environmental impacts that would result from Project implementation, alternatives to the Project, and mitigation measures that may reduce or avoid any significant effects. This EIR will also be used as an information document by other public agencies in connection with any approvals or permits necessary for construction and operation of the Project.

3.4 Responsible Agencies

Under CEQA, a public agency, other than the Lead Agency, that has discretionary approval power over the Project is considered a “Responsible Agency” (CEQA Guidelines §15096. If the City approves this Project, subsequent implementation of various Project components could require discretionary approval authority from responsible agencies including:

1. California Department of Transportation (Caltrans)
2. California Regional Water Quality Control Board, Los Angeles Region (RWQCB)
3. California Department of Fish and Wildlife (CDFW)
4. United States Army Corps of Engineers (ACOE)
5. South Coast Air Quality Management District (SCAQMD)

This section is not intended to provide a complete and final list of all subsequent discretionary actions or approvals that are needed, or may be needed, to implement the Project. This section is intended only to identify the potential responsible agencies that may have subsequent discretionary approval authority over implementation of various Project components in the future.

3.5 Project Applicant

The Applicant of the Project is:

Sand Canyon Plaza, LLC
28504 Soledad Canyon Road
Santa Clarita, CA 91387

Contact:

Tom Clark
310-968-0125

3.6 Project Summary

The Applicant proposes to develop the approximately 87-acre¹ Sand Canyon Plaza Mixed-Use Project site with up to 580 residential units, 55,600 square feet of retail commercial (including restaurants), and a 75,000-square-foot (up to 120-bed) assisted living facility.

The Project includes three private recreation areas, commercial plaza areas, various private streets, driveways and landscaped areas, and adjacent roadway improvements to Sand Canyon Road (including the construction of two roundabouts) and Soledad Canyon Road.

To implement the Project, the City will have to approve the following entitlements: 1) a tentative tract map, 2) a conditional use permit, 3) a hillside review, including a ridgeline alteration permit, 4) a minor use permit, and 5) an oak tree permit.

Additional subsequent ministerial actions, such as grading permits, building plan review, and building permits, would be required by the City prior to actual grading and construction of the Project.

3.7 Project Location

The City of Santa Clarita is located in northern Los Angeles County, California, (**Figure 3-1, Regional Vicinity Map**). The Sand Canyon Plaza Mixed-Use Project is situated on an approximately 87-acre parcel located immediately north of Soledad Canyon Road, east of Sand Canyon Road, north of State Route 14 (SR-14), and west of Pinetree residential community in the City of Santa Clarita. (**Figure 3-2, Project Area Vicinity Map**).

Existing Development On-Site and Project Area Land Uses

Currently, a portion of the Project site is developed with 123 mobile home units, of which 15 are owner-occupied units paying space rent. The remaining 108 mobile homes are owned by the Project Applicant and rented on a month-to-month basis. Written agreements have been secured with all 15 owner-occupied units to purchase the units and provide relocation benefits to those residents in accordance with City requirements.

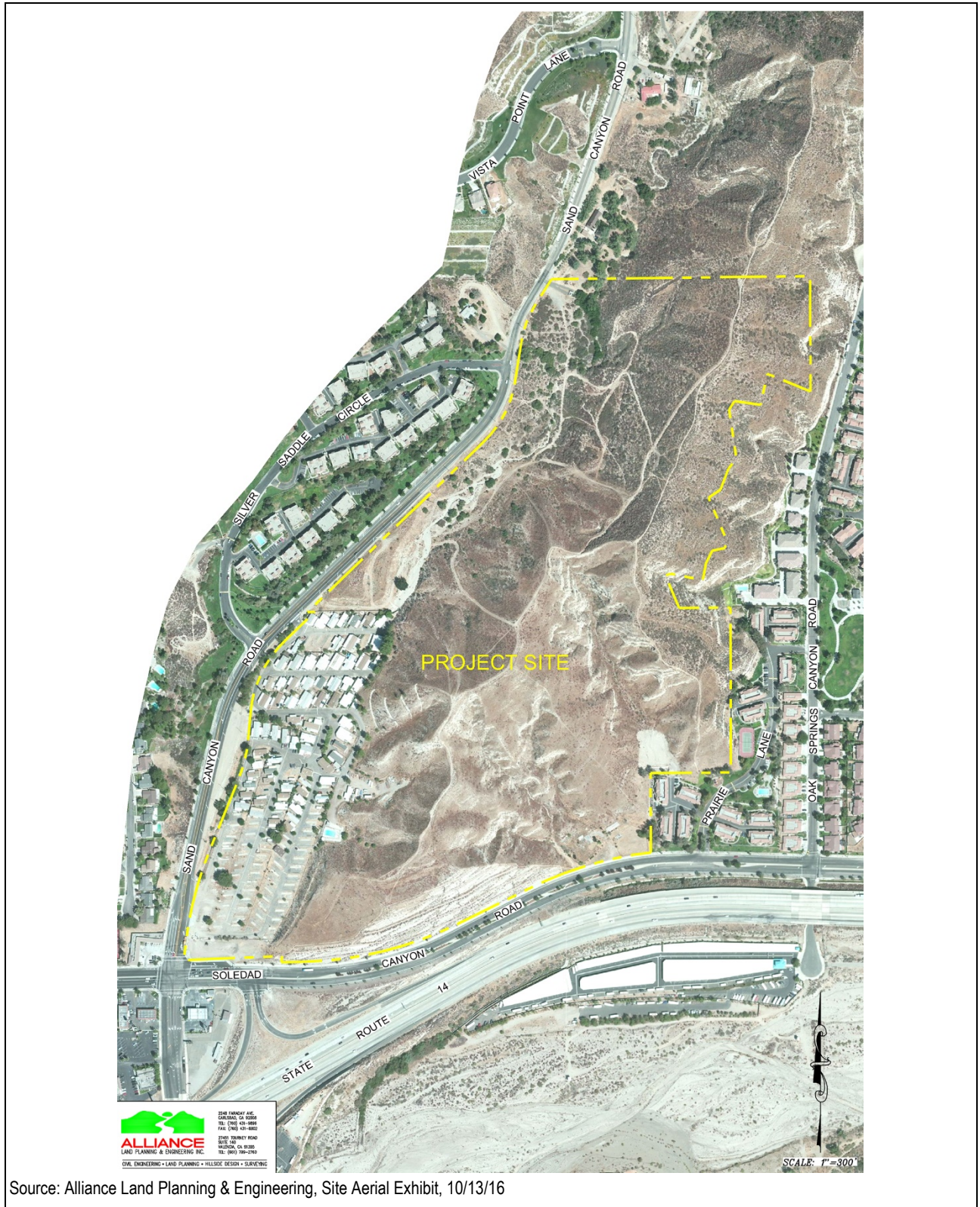
Additional improvements on the property include the rental office, various roadways, and driveway and landscaped areas. Remaining portions of the Project site are undeveloped but highly disturbed (**Figure 3-3, Existing Photographs**).

The Project site is generally surrounded on all sides by development. Residential uses are located to the north, east, and west. Commercial uses are located to the south and west.

1 For purposes of the Draft EIR, all technical reports and studies will refer to an “approximately 87-acre site.” Technically, the site is 87.5 acres with receipt of the most recent survey.



Figure 3-1 Regional Vicinity Map



Source: Alliance Land Planning & Engineering, Site Aerial Exhibit, 10/13/16

Figure 3-2 Project Area Vicinity Map

3.8 Land Use Designations and Zoning

The Project site has a General Plan and zoning designation of MXN (Mixed Use Neighborhood) and Urban Residential 3 (UR-3). This zone is intended for mixed-use development, which is encouraged to create neighborhoods that integrate residential uses with complementary commercial uses. The MXN zone allows for a maximum density of 18 dwelling units per acre. Approximately 2.7 acres of the site are in the Urban Residential 3 (UR-3) General Plan and zoning designations. No development (i.e., buildings) is proposed within the UR-3 zoned area.

Approximately 77 acres of the Project site are dedicated to residential land uses and accompanying open space. Under this designation, and not taking into account hillside ordinance requirements, the Project site could support up to 1,386 residential units. Approximately 10 acres of the site are designated for commercial land use. Under the MXN and UR-3 designations the Project site could accommodate up to 217,800 square feet of commercial uses.

3.9 Phasing

The Sand Canyon Plaza Mixed-Use Project would likely be developed in a single phase. Grading and site development would occur site-wide. It is expected that the three residential product types, the commercial area, and various on-site and off-site infrastructure would be constructed at or near the same time.

3.10 Requested Project Approvals

The Applicant is requesting the Project approvals described below, which would govern development of the proposed Sand Canyon Plaza Mixed-Use Project. Prior to issuing Project approvals, the City must certify that this EIR: 1) has been reviewed and considered; 2) has adequately analyzed the potential impacts of the Project; 3) has been completed in compliance with CEQA, the CEQA Guidelines, and the City's Environmental Guidelines, and reflects the independent judgment of the City Council. The requested Project approvals are described in further detail below.

1. **Tentative Tract Map No. 53074.** The Applicant is proposing to subdivide the property to facilitate construction of 580 residential units (146 small-lot condominium units, 122 attached townhomes/condominium units, and 312 apartment units), up to 55,600 square feet of commercial uses (retail and restaurants), a 75,000-square-foot assisted living facility (up to 120 beds), other lots for landscape/open space, private streets, and recreation areas.



Figure 3-3 Existing Photographs

2. **Conditional Use Permit No. 14-014.** The Applicant is requesting approval of a Conditional Use Permit (CUP) to allow for development within a Planned Development (PD) Overlay Zone. Any new proposal for development in a PD Overlay requires the submittal of a Conditional Use Permit, which is intended to provide for additional discretion for previously vacant or underutilized parcels. Additionally, the Applicant is requesting approval of a 75,000-square-foot assisted living facility with up to 120 beds. A Conditional Use Permit is required to permit the assisted living facility within the zone.
3. **Hillside Development Review No. 14-001.** The Applicant is requesting approval of a Hillside Development Review Permit to allow development on slopes over 10%.
4. **Ridgeline Alteration Permit No. 14-001.** The Applicant is requesting approval of a Ridgeline Alteration Permit to allow for development in a Ridgeline Preservation (RP) Overlay Zone, more specifically to allow for development within 100 feet vertically and horizontally of a significant ridgeline.
5. **Minor Use Permit No. 14-016.** The Applicant is requesting approval of a Minor Use Permit to allow for the commercial floor area ratio (FAR) to be less than the minimum required by the MXN zone. Under the MXN zone requirements, the minimum floor area ratio of commercial uses on the site would be 0.2:1 or 87,120 square feet of commercial floor area. The Applicant is proposing to develop the site with up to 55,600 square feet of commercial uses, which is a floor area ratio of 0.13.
6. **Oak Tree Permit No. 14-008.** The Applicant is requesting approval of an Oak Tree Permit to allow for removal of two non-heritage oak trees and to permit Project grading to encroach within the protected zone of one heritage oak tree.

Permits and Approvals for the Project are highlighted in **Table 3-1** below.

Table 3-1 Future Agency Actions

Agency	Action Required
California Department of Transportation	Encroachment Permit
Regional Water Quality Control Board	National Pollution Discharge Elimination System Permit; Section 401 permit under the federal Clean Water Act
California Department of Fish and Wildlife	Streambed Alteration Agreement per Fish & Wildlife Code Section 1602
U.S. Department of Army Corps of Engineers	Section 404 Permit under the federal Clean Water Act
South Coast Air Quality Management District	Various permits for air emissions regulation found in the Air Quality Management Plan

This table is not intended to provide the complete and final list 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.

3.11 Project Objectives

CEQA Guidelines §15124(b) requires that an EIR include a statement of the objectives sought by the Project:

A statement of objectives sought by the proposed Project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project.

The Project objectives are listed below.

Land Use Planning Objectives

1. Create a new mixed-use community with connected neighborhoods that provides for residential, commercial and recreational uses in close proximity to each other.
2. Provide a sensitive and compatible Project through the use of appropriate grading, landscape, and water quality methods.
3. Provide development and transitional land use patterns that do not conflict with surrounding communities and land uses.
4. Arrange land uses to reduce vehicle miles traveled and energy consumption, and to encourage pedestrian mobility.
5. Design neighborhoods to create a unique identity and sense of place.
6. Design neighborhoods to locate a variety of residential and non-residential land uses in close proximity to each other and major road corridors, transit, and trails.
7. Provide a rich set of public spaces.
8. Implement sustainable development principles, including greater energy efficiency, waste reduction, drought-tolerant landscaping, use of water efficiency measures, and use of recycled materials and renewable energy sources.
9. Create and enhance opportunities for non-vehicular travel and encourage pedestrian mobility by providing an internal pedestrian circulation system that links residential neighborhoods to on-site recreation areas, regional trail systems, and neighborhood retail/commercial areas.
10. Foster the design and integration of a mutually beneficial relationship between the natural and built environments, and implement sensitive land use transition treatments, attractive streetscapes, and high quality design themes.
11. Integrate a new community into the City's existing and planned circulation network.
12. Provide a landscape design emphasizing a pleasant neighborhood character and inviting streetscapes.
13. Provide on-site recreational facilities to meet the demands of future residents.

Economic Objectives

1. Enhance and augment the housing market by providing a variety of housing types and densities to meet the varying needs of future residents.
2. Adopt development regulations that provide flexibility to respond and adjust to changing economic and market conditions.
3. Provide a tax base to support public services and infrastructure.
4. Create permanent jobs on-site through the incorporation of commercial land uses to assist the City in meeting its jobs/housing balance.
5. Adopt development regulations and guidelines that allow site, parking and facility sharing, and other innovations that reduce the costs of providing public services.

Resource Conservation Objectives

1. Restore and minimize impacts to important biotic resources.
2. Minimize impacts to oak trees and incorporate, where possible, oak trees into public spaces.

3.12 Technical, Economic, and Environmental Characteristics

The CEQA Guidelines require an EIR to provide “[a] general description of the Project’s technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.” (CEQA Guidelines, §15124 (c)).

The Project includes a mix of single-family, multi-family, recreational, commercial, and open space uses. The Project would provide land uses that support the local vicinity and region, particularly with the incorporation of a residential and commercial uses in close proximity of each other. New housing would be provided to support existing and new employment opportunities expected to occur in the region. Up to 55,600 square feet of commercial uses would be developed on-site, providing employment opportunities for future residents of the Project and existing residents within the Santa Clarita Valley. The proposed trail system and recreation areas would provide local recreational support for new residents. The retail commercial uses would support the proposed residential uses as well as the existing residents in the local area.

3.13 Description of Project

The following discussion describes the types and amounts of new land uses proposed by the Applicant and the infrastructure improvements necessary to construct the development. This description is intended to provide a sufficient level of detail from which an evaluation and review of the environmental impacts of the Project can be made.

Table 3-2 below summarizes the statistics associated with the Project.

Table 3-2 Sand Canyon Land Use Summary

Planning Area No.	Project Use	Commercial Square Footage	Residential Dwelling Units	Acreage
PA-1	Commercial/retail/restaurant/ assisted living Open Space	55,600-SF commercial retail/restaurant; 75,000-SF assisted living facility (120 rooms)	n/a	10.0
PA-2	Multi-family attached	N/A	312	12.2
PA-3	Multi-family attached	N/A	122	10.1
PA-4	Single-family detached condos	N/A	71	7.3
PA-5	Single-family detached condos	N/A	75	10.0
	Streets	N/A	n/a	7.2
	Drainage basin	N/A	n/a	1.0
	Open space/landscaped areas	N/A	n/a	28.6
	Right of way dedication	N/A	n/a	1.0
Total		55,600-SF commercial retail/restaurant; 75,000-SF assisted living facility	580	approx. 87

Source: Tentative Tract Map No. 053074, November 2016

As provided in **Table 3-2** above, the approximately 87-acre Project site would be developed with up to 55,600 square feet of commercial/retail/restaurant uses and 75,000 square feet of assisted living facilities (up to 120 beds). Also proposed on the Project site are 580 residential units comprising 434 multi-family units (including up to 312 apartment units) and 146 single-family condos. If approval of the Project is granted, Project conditions of approval would permit modifications to building locations, building footprints, and product types shown on **Figure 3-4, Tentative Tract Map 53074**.

The approximately 87-acre Project site is divided into five Planning Areas. **Figure 3-5** depicts each Planning Area in relationship to the entire Project site. Details further describing the Planning Areas are provided below.

- Planning Area 1 (PA-1), Commercial** – Approximately 130,600 square feet of commercial/residential floor including 55,600 square feet of commercial (retail and restaurants) and a 75,000-square-foot assisted living facility (up to 120 rooms) on approximately 10 acres. Planning Area 1 is located at the northeast intersection of Sand Canyon Road and Soledad Canyon Road and is depicted in **Figure 3-6**. PA-1 also includes a water quality/water feature located at the southwest corner of the Project site. Consistent with the requirements of the MXN zone, the maximum building height in PA-1 would be 55 feet (assisted living facility). The remaining commercial buildings in PA-1 would range in height from 20 to 35 feet.

Access to PA-1 would occur via Soledad Canyon Road and “A” Drive (left in/right in and right out) and Sand Canyon Road and “A” Drive (left in/right in and right out). Up to 278 parking spaces would be provided for the retail commercial area contingent upon final uses and square footage. Up to 60 spaces would be provided for the assisted living facility contingent upon the final bed count.

Illustrative renderings are provided in **Figure 3-7** and **Figure 3-8**.

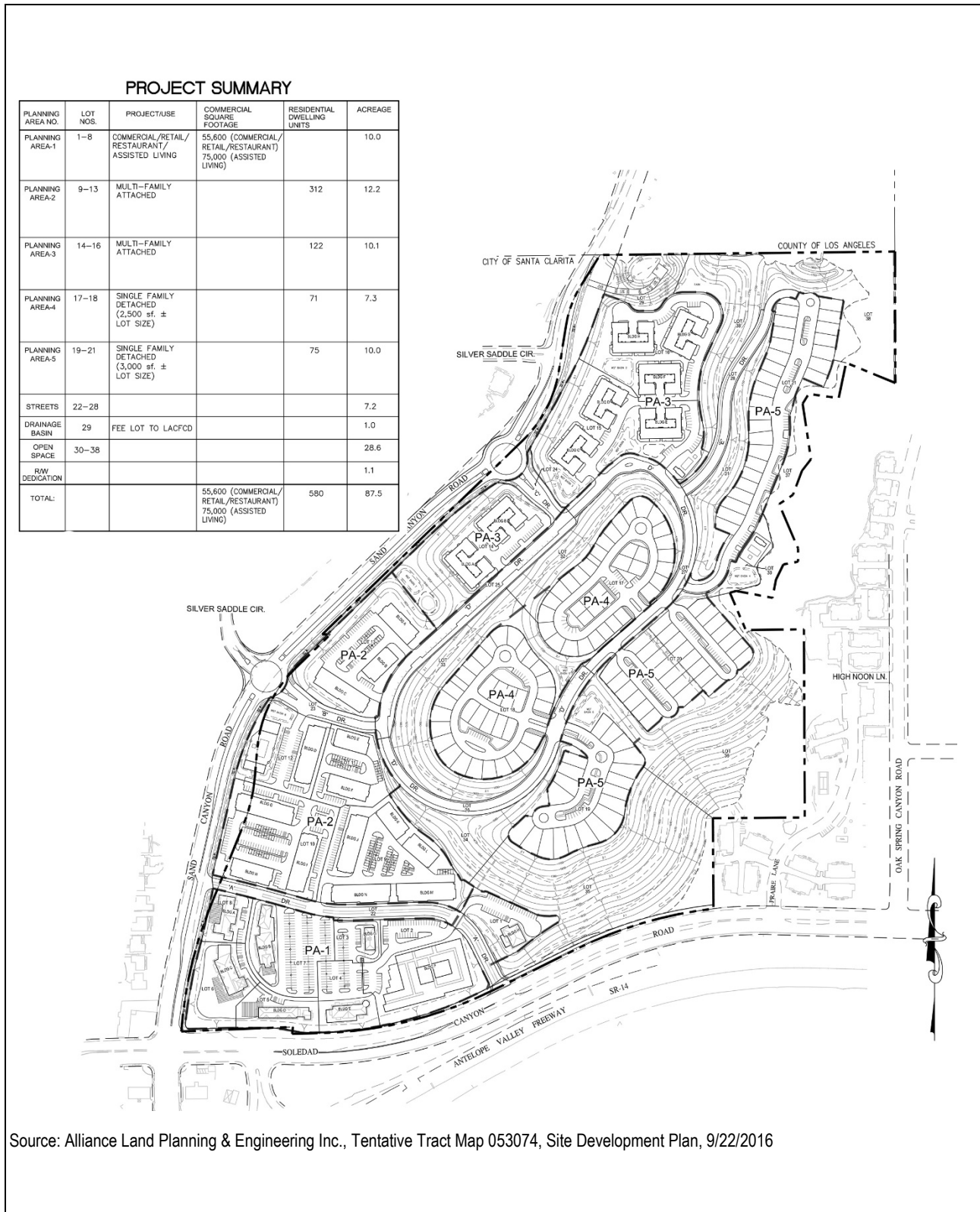


Figure 3-4 Tentative Tract Map 53074

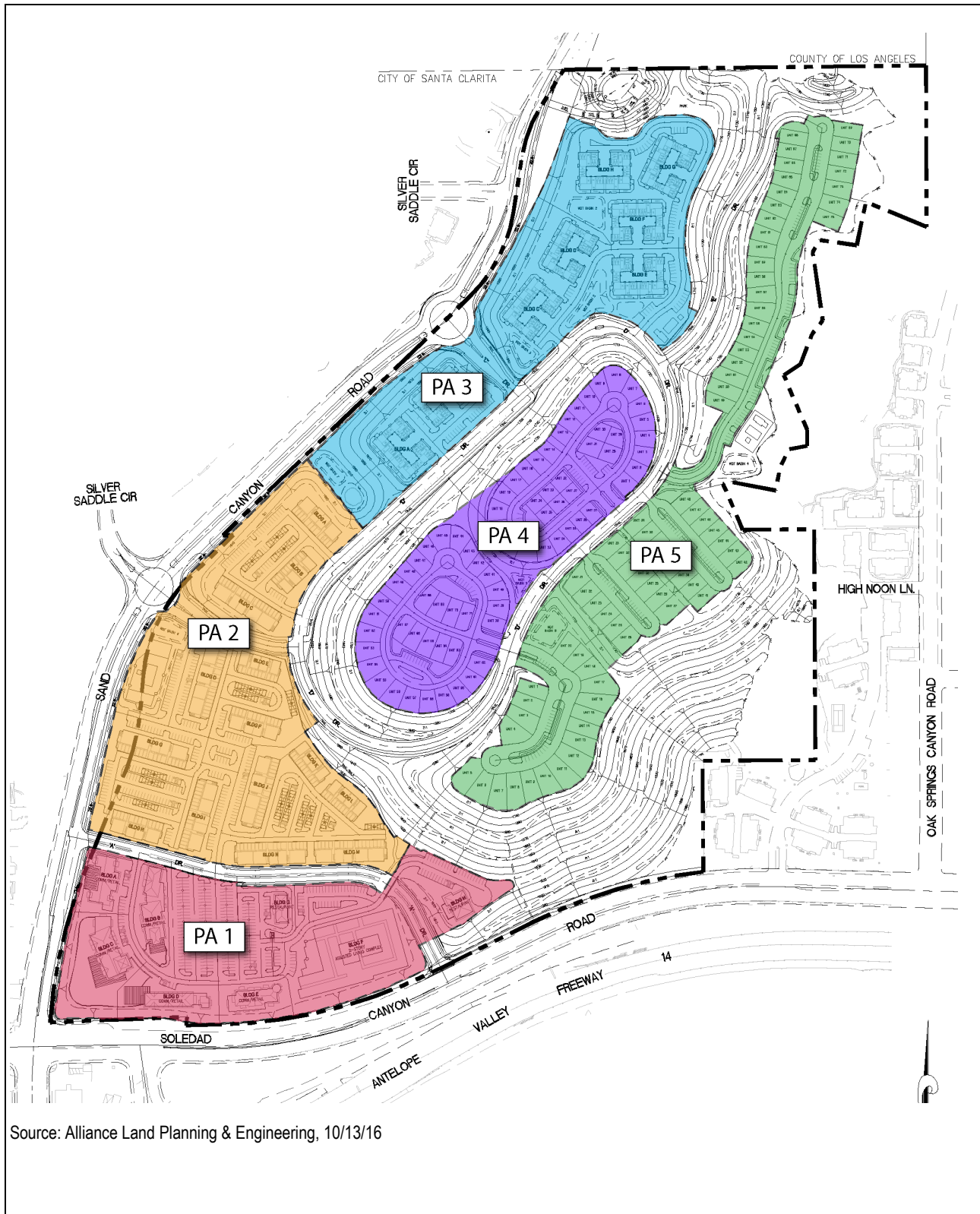
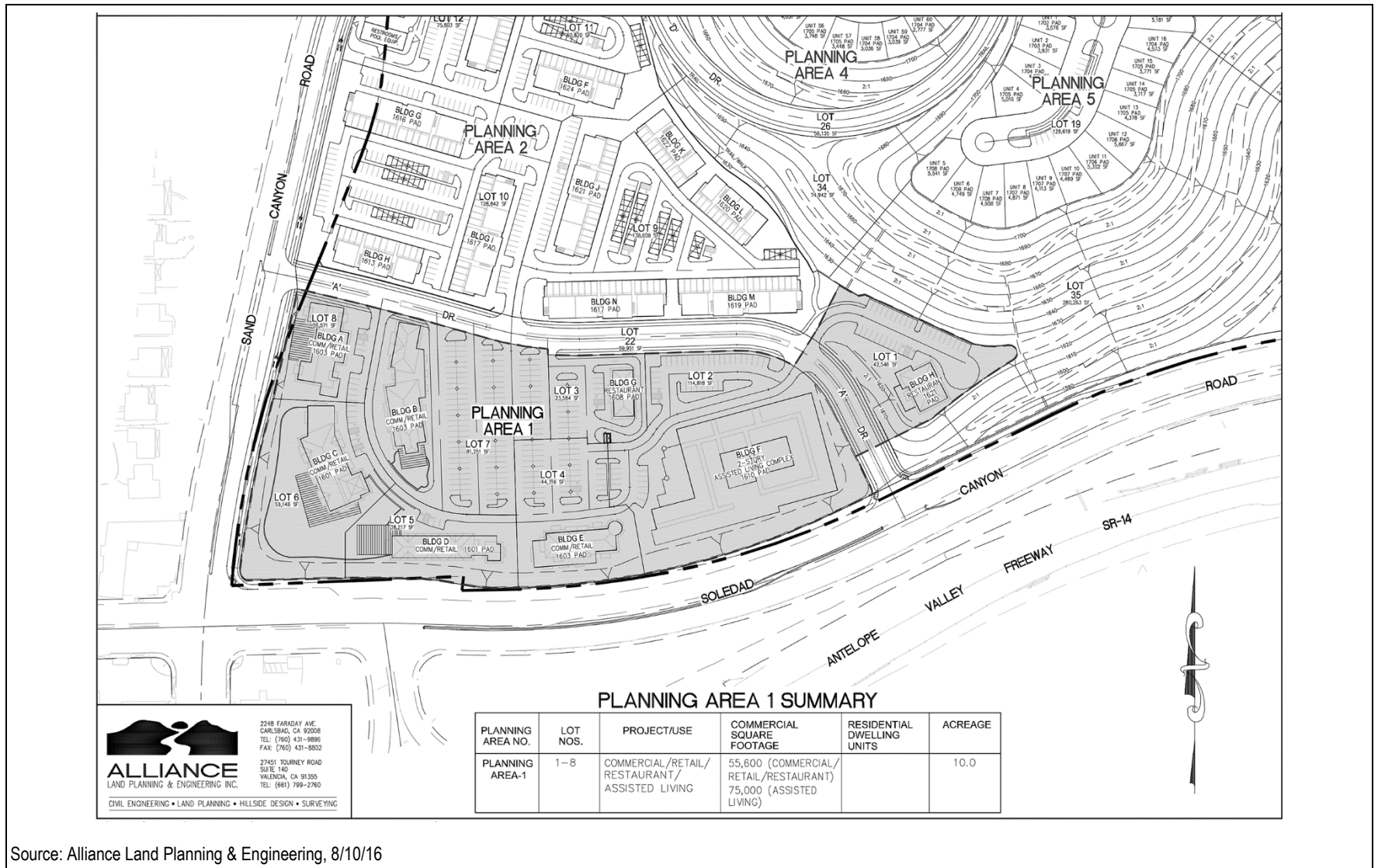


Figure 3-5 Sand Canyon Plaza Mixed-Use Project Planning Areas



Source: Alliance Land Planning & Engineering, 8/10/16

Figure 3-6 Planning Area 1



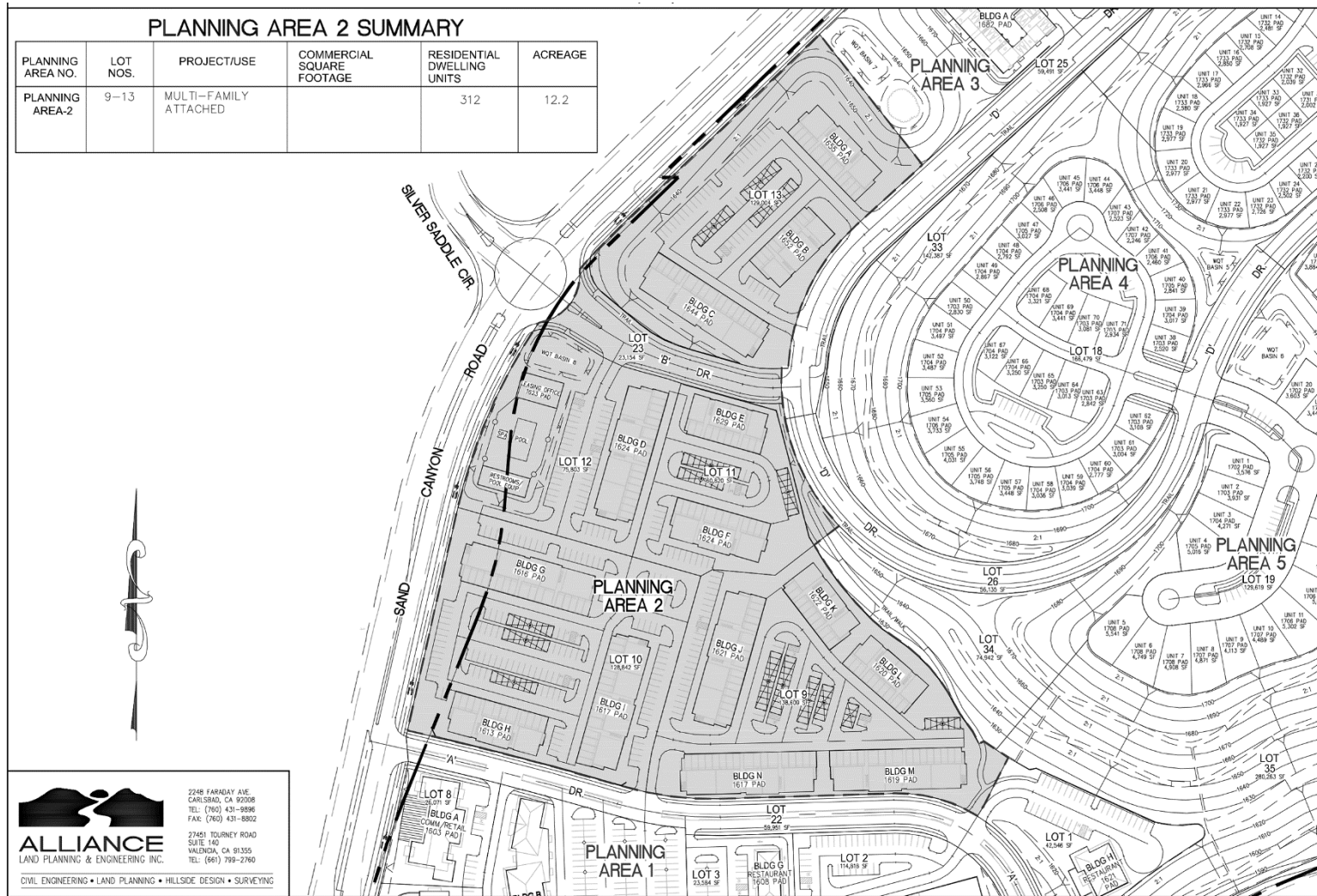
Figure 3-7 Commercial Site (Planning Area 1) – Illustrative



Figure 3-8 Commercial Site (Planning Area 1) – Aerial Perspective

- **Planning Area 2 (Multi-Family Attached)** – 312 multi-family units (intended to be rental units) and required parking per the MXN and UR-3 zone requirements would be developed on 12.2 acres. One private recreational area, internal drive aisles, water quality improvements, and other open areas would be provided within PA-2. The maximum building height in PA-2 is 55 feet. Access to PA-2 would be from Sand Canyon Road via “A” and “B” Drives. Approximately 1 acre of the existing Sand Canyon Road right-of-way would be vacated by the City and included in PA-2, as it would no longer be needed for roadway purposes. Planning Area 2 is located directly north of PA-1 along Sand Canyon Road and is depicted in **Figure 3-9, Planning Area 2**. An illustrative rendering is provided in **Figure 3-10**.
- **Planning Area 3 (Multi-Family Attached Townhomes)** – 122 townhomes with required parking (per the MXN and UR-3 zone requirements) on approximately 10.1 acres. One private recreational area, water quality improvements, internal drive aisles, trails and other open areas would be provided within PA-3. The maximum building height in PA-3 is 40 feet. Access to PA-3 would be from Sand Canyon Road via “B”, “C” and “D” Drives. Planning Area 3 is located north of Planning Area 2 along Sand Canyon Road and is depicted in **Figure 3-11, Planning Area 3**.
- **Planning Area 4 (Multi-Family Detached or Attached Condos)** – 71 units with required parking (per MXN and UR-3 zone requirements) on approximately 7.3 acres. Internal drive aisles, water quality improvements, trails, and other open areas would be provided within PA-4. The private recreational area located in PA-5 would also service PA-4. Access to PA-4 would be from Sand Canyon Road via “B,” “C,” and “D” Drives. Planning Area 4 is located in the central portion of the Project site north and east of Planning Area 2 and is depicted in **Figure 3-12, Planning Area 4**.
- **Planning Area 5 (Multi-Family Detached or Attached Condos)** – 75 units with required parking (per MXN and UR-3 zone requirements) on approximately 10.0 acres. One private recreational area, internal drive aisles, water quality improvements, trails and other open areas would be provided within PA-5. Access to PA-5 would be from Sand Canyon Road via “B”, “C” and “D” Drives. Planning Area 5 is located in the eastern and northern portions of the Project site and is depicted in **Figure 3-13** and **Figure 3-14**.

The Project includes a total of 580 residential units (replacing the existing 123 mobile homes), 55,600 square feet of retail commercial uses, and a 75,000-square-foot assisted living facility.



Source: Alliance Land Planning & Engineering, 8/10/16

Figure 3-9 Planning Area 2



Figure 3-10 Multi-Family Attached (Apartments, Planning Area 2) – Illustrative

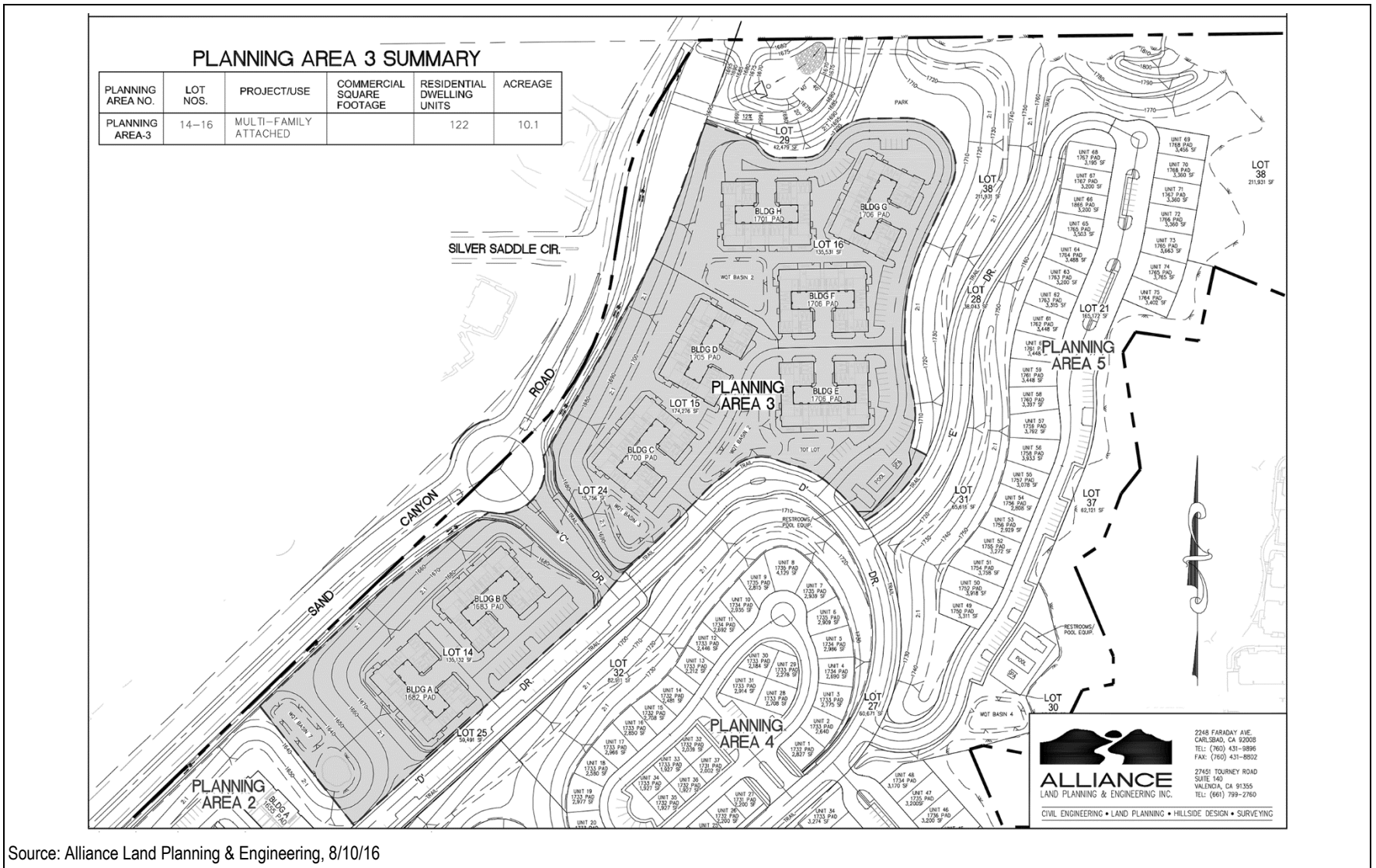


Figure 3-11 Planning Area 3

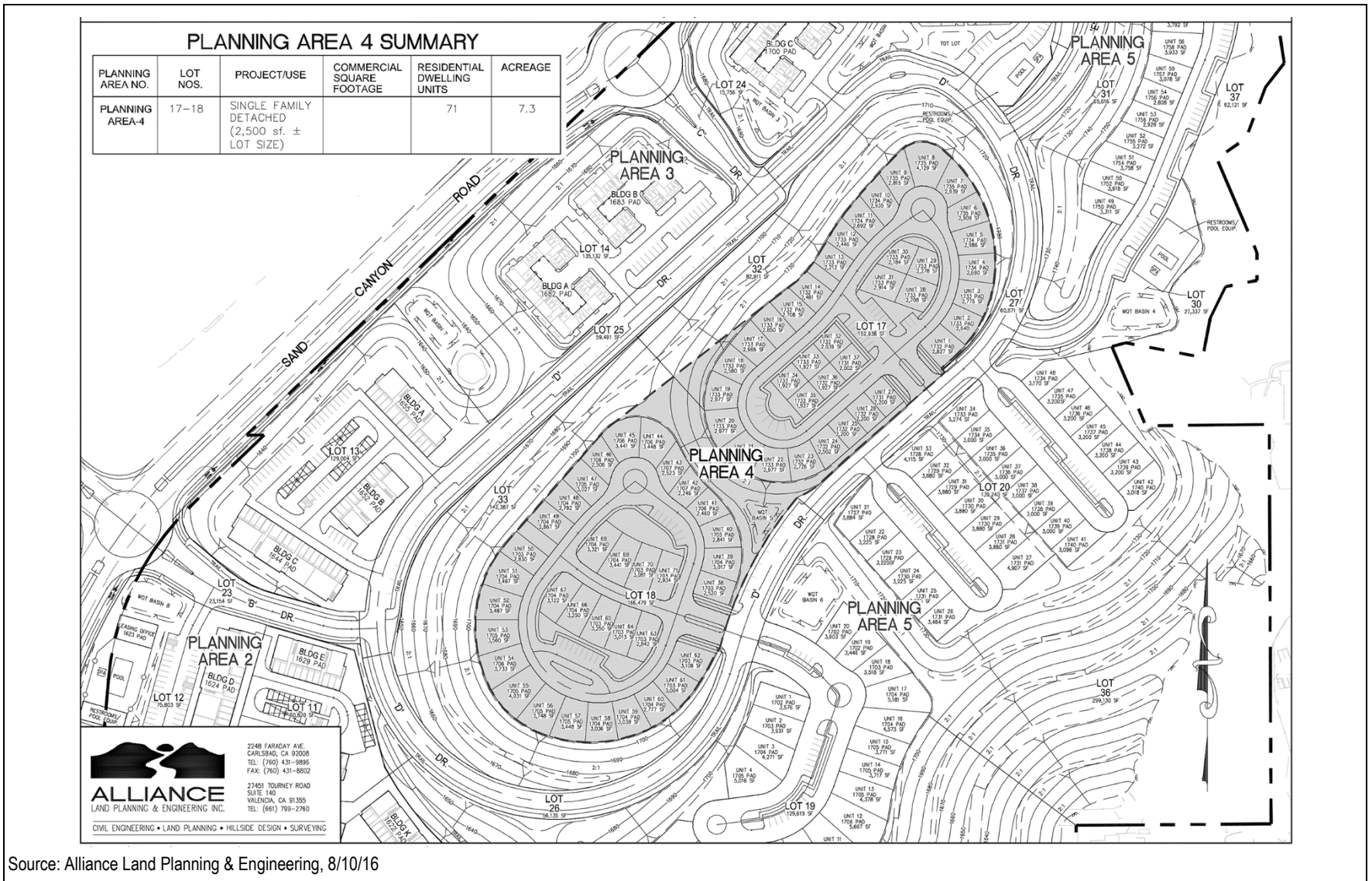


Figure 3-12 Planning Area 4

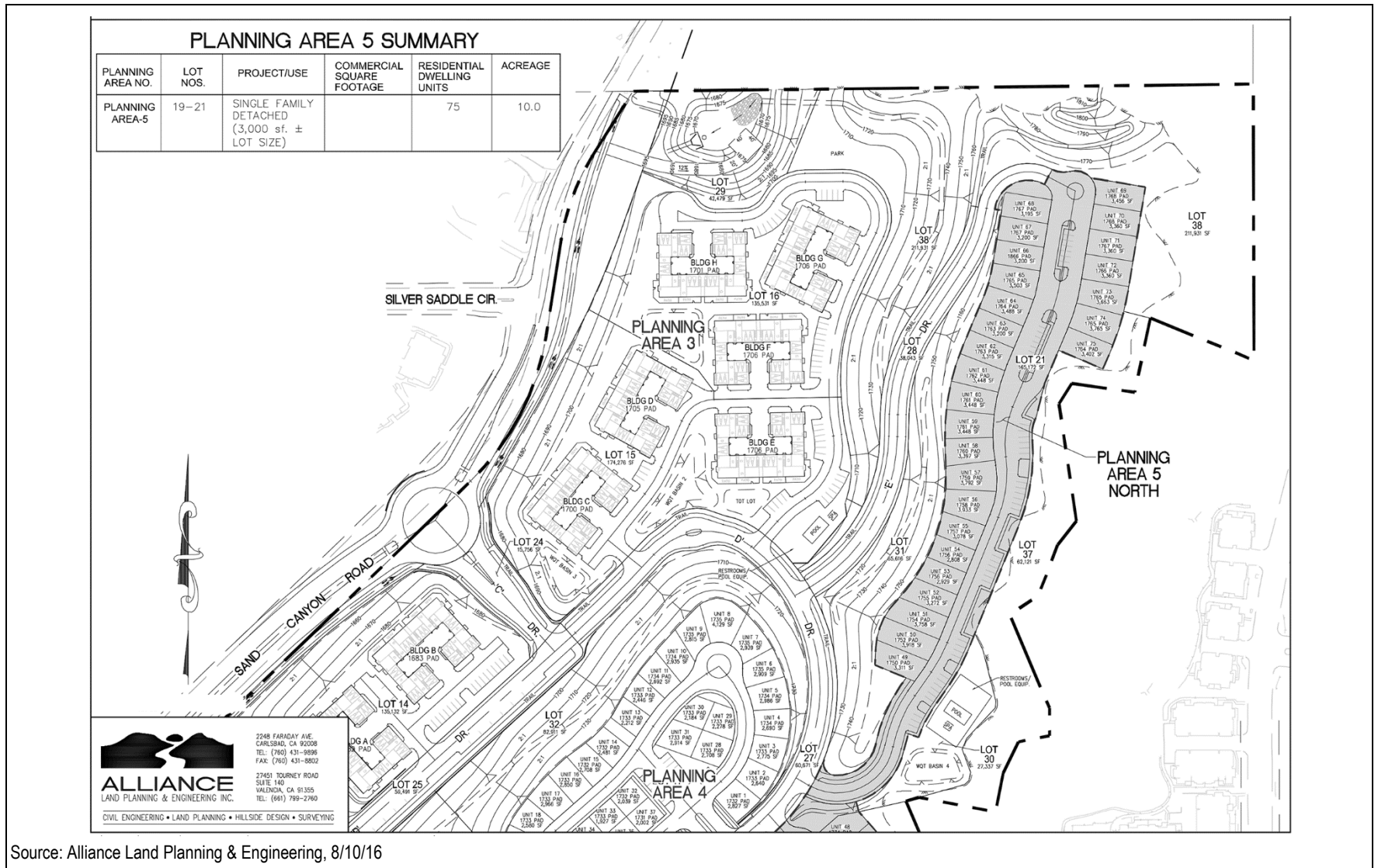
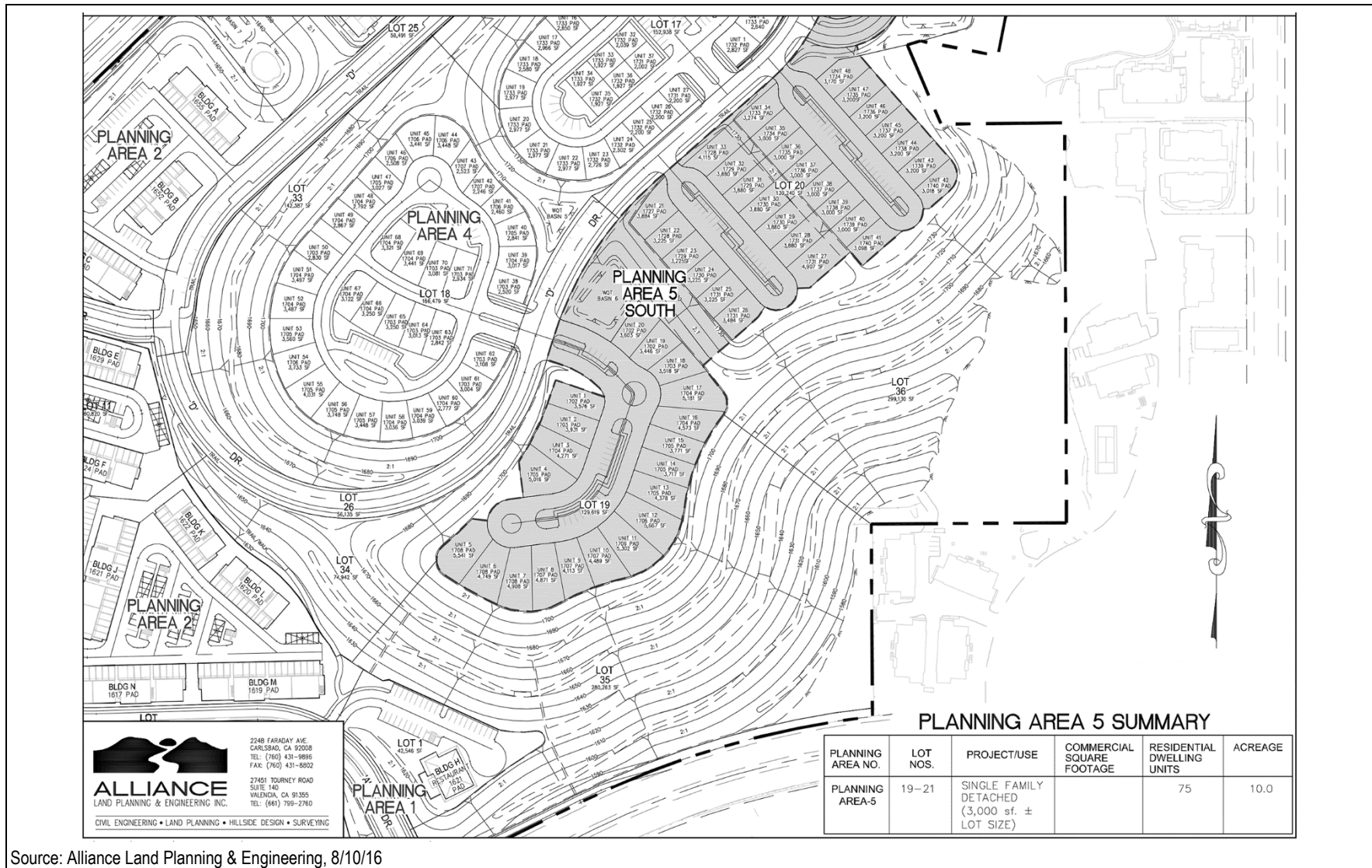


Figure 3-13 Planning Area 5, Sheet 1



Source: Alliance Land Planning & Engineering, 8/10/16

Figure 3-14 Planning Area 5, Sheet 2

3.14 Project Design Features

The following Project Design Features have been incorporated into the Project.

- PDF-1 Landscape irrigation plans shall include drought-tolerant and native plants (consistent with General Plan EIR Mitigation Measures 3.13-6 and 3.13-11).
- PDF-2 Landscape irrigation plans shall incorporate low-water-use devices (such as ET controllers and drip irrigation), to the extent feasible (consistent with General Plan EIR Mitigation Measures 3.13-6 and 3.13-11).
- PDF-3 Water conservation measures as required by the State of California shall be incorporated into all irrigation systems.
- PDF-4 The Project Applicant, or responsible party, shall require the installation of low-flow fixtures in all residential units, which may include but are not limited to water conserving shower heads, toilets, waterless urinals and motion-sensor faucets, and encourage use of such fixtures in building retrofits as appropriate (consistent with General Plan EIR Mitigation Measures 3.13-7 and 3.13-13).
- PDF-5 Prior to commencement of use, all uses of recycled water shall be reviewed and approved by the State of California Health and Welfare Agency, Department of Health Services.
- PDF-6 Prior to the issuance of building permits, the Project Applicant, or responsible party, shall finance the expansion costs of water service extension to the subdivision through the payment of connection fees to the appropriate water agency(ies).
- PDF-7 For sensitive uses within 500 feet of the SR-14 Freeway, incorporate air filtration systems with filters meeting or exceeding the ASHRAE 52.2 Minimum Efficiency Reporting Value (MERV) of 11. MERV 11 filters are effective in improving indoor air quality as compared to lower efficiency filters for PM₁₀ and PM_{2.5}.
- PDF-8 Locate open space areas associated with sensitive uses (e.g., courtyards, patios, balconies) as far from the freeway sources as possible.
- PDF-9 Plant vegetation between sensitive receptors and freeway sources.
- PDF-10 Utilize site plan design that minimizes operable windows and building entries along the freeway.
- PDF-11 For sensitive uses within 500 feet of the SR-14 Freeway, consider options for mechanical and ventilation systems (i.e., supply or exhaust based systems). If a supply-based system is proposed (i.e., actively bringing outside air through intake ducts), consider locating intakes as far from the freeway sources as possible.

PDF-12 The Applicant shall implement all control measures required and/or recommended by the SCAQMD (i.e., Rules 403, 1108, and 1113), including but not limited to the following:

- Use watering to control dust generation during demolition of structures or break-up of pavement;
- Water active grading areas and unpaved surfaces at least three times daily;
- Cover stockpiles with tarps or apply non-toxic chemical soil binders;
- Limit vehicle speed on unpaved roads to 15 miles per hour;
- Sweep daily (with water sweepers) all paved construction parking areas and staging areas;
- Provide daily clean-up of mud and dirt carried onto paved streets from the Project site;
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 15 miles per hour over a 30-minute period or more; and
- An information sign shall be posted at the entrance to the construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.

3.15 Grading

Demolition/Site Clearing

The Project would require demolition of the remaining mobile home units and site clearing. In addition to the removal of the mobile homes, demolition would include the removal of asphalt, concrete, other ancillary structures to the existing mobile home park, trees, fences, and other existing debris.

Grading/Foundation

The Project would include grading approximately 2.2 million cubic yards of cut and fill balanced on-site and is depicted on **Figure 3-15, Cut and Fill Map**. Additional remedial grading (approximately 850,000 cubic yards) would be necessary to accommodate site development.

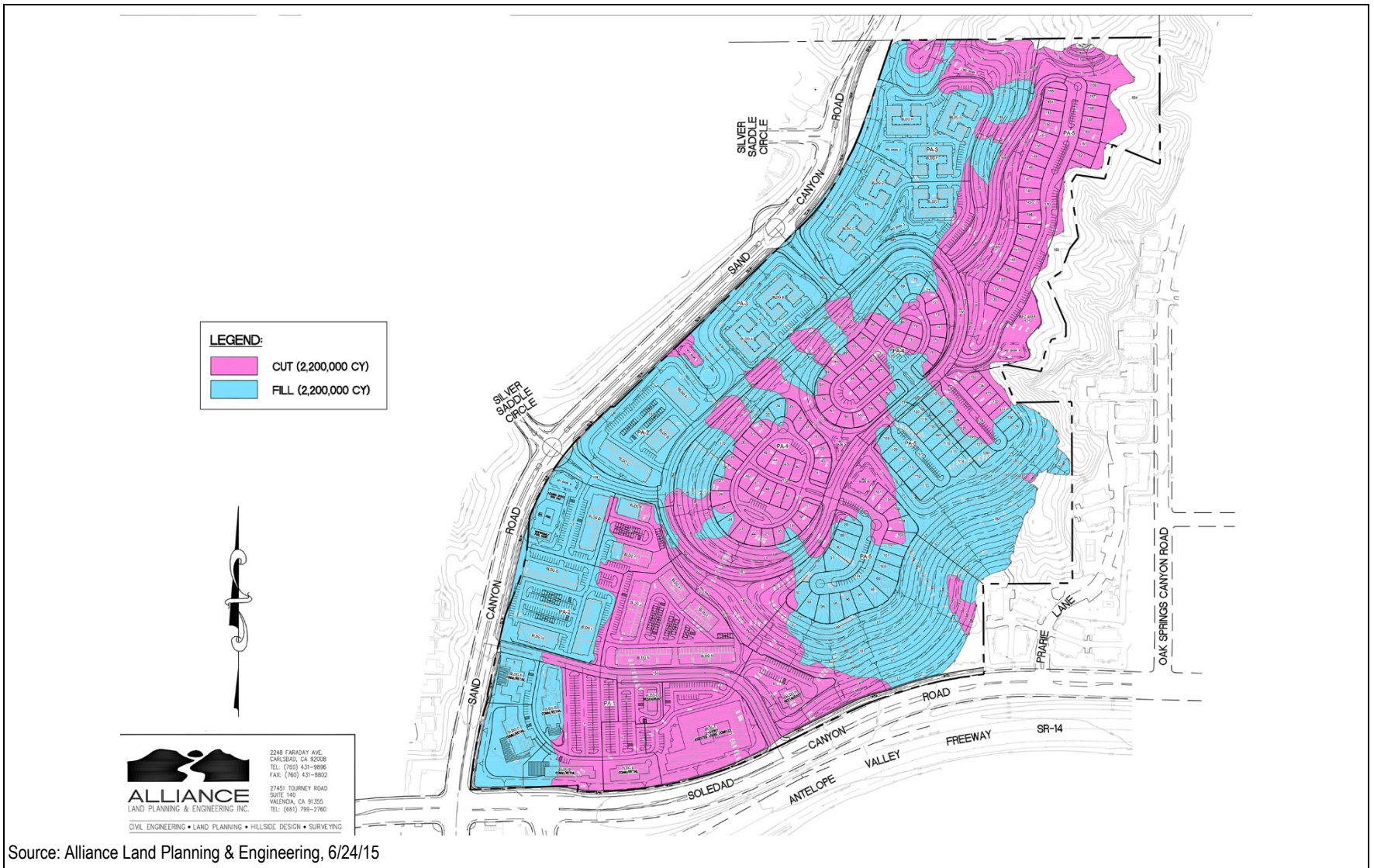


Figure 3-15 Cut and Fill Map

3.16 Mobility Plan

The Project provides for non-vehicular modes of transportation in a system of trails, sidewalks and pedestrian pathways commonly known as the Mobility Plan). The Mobility Plan achieves Project objectives by creating and enhancing opportunities for non-vehicular travel through encouraging pedestrian mobility from the Project's residential areas to the commercial uses. The Mobility Plan can be found in **Figure 4.19-3, Existing and Future Bicycle Facilities** (page [4.19-13](#)), and **Figure 4.14-2, City of Santa Clarita Trail System** (page [4.14-10](#)).

3.17 Drainage/Water Quality

The Drainage and Water Quality Plan incorporates methodologies to meet or exceed the ongoing National Pollution Discharge Elimination System (NPDES) permit requirements. The plan includes a comprehensive series of drainage, flood control and water quality improvements designed for the Project. Project Design Features (PDFs) incorporated into the Project include site design, source control, treatment control and infiltration. As currently planned, storm water runoff from all developed areas of the Project would be routed to bioretention areas, vegetated swales and infiltration treatment control devices. These water quality improvements would be designed to operate off-line, receiving dry weather flows, small storm flows and the initial portion of large storm flows.

3.18 Conceptual Landscape Plan

The Conceptual Landscape Plan is shown on **Figure 3-16**. The conceptual landscape plan for the Project focuses primarily on the use of native and drought tolerant trees and plant species to create a natural and vibrant environment. All plant species have been selected due to their ability to thrive in the Santa Clarita climate and their potential to add complexity and texture to the open space/landscaped areas within the Project. The use of turf shall be very limited and only used in locations where it would serve for passive or active recreation.

The irrigation systems would be designed, installed, operated and maintained in conformance with the State Water Efficient Landscape Ordinance and the City of Santa Clarita Landscaping Standards. The main objective for the irrigation design is to minimize water use and maximize efficiency. These objectives would be met using Smart ET Based controllers, hydro-zoning, moisture sensors, rain shut-off devices, and drip irrigation. Although portions of the native planting areas may receive temporary irrigation, a permanent irrigation system is important for a majority of the landscape areas to comply with the Los Angeles County Fire Department Fuel Modification Guidelines.

3.19 Existing Regional Circulation

The City of Santa Clarita is served by an existing network of highways, roadways, multi-use trails, commuter rail and transit service. Primary regional access in the Santa Clarita Valley is provided by the I-5 Freeway, located south and west of the Project site. SR-14, located south of the Project site, also provides a regional link between the Los Angeles basin and the high desert communities of Palmdale and Lancaster. Soledad Canyon Road, directly south of the Project site, provides secondary regional access extending north to Palmdale and Lancaster and south and west to Saugus and Valencia.

The Metrolink Antelope Valley line serves the region by connecting the Antelope Valley with points south, including Santa Clarita, to Union Station in downtown Los Angeles. The Sand Canyon Plaza Project would be located less than 1 mile away from the approved Vista Canyon Metrolink Station which is expected to open in 2019/2020. The City is also served by the City-owned and operated bus service. Santa Clarita Transit (SCT) provides local and regional bus service, operating local routes within the Santa Clarita Valley and regional routes to and from Los Angeles, Antelope Valley, Van Nuys and Warner Center.

3.20 Local Roadway Circulation and Access

The Project's roadway network is designed as an orderly extension of the regional circulation pattern in the Santa Clarita Valley. The network is designed to integrate modes of travel, accommodate anticipated traffic demands generated by the Project and surrounding development and provide roadway improvements that connect the Project to SR-14 and the rest of the Valley.

Vehicular access to and from the Project site is proposed from two existing roadways (Sand Canyon Road and Soledad Canyon Road). More specifically, access to the site would be from: 1) Soledad Canyon Road via "A" Drive; 2) Sand Canyon Road via "A" Drive; 3) Sand Canyon Road via "B" Drive; and, 4) Sand Canyon Road via "C" Drive. Sand Canyon Road is a north-south arterial with two lanes between Sierra Highway and Soledad Canyon Road, four lanes between Soledad Canyon Road and SR-14 northbound ramps, and back down to two lanes south of SR-14 northbound ramps. It is designated as a Major Highway between Soledad Canyon Road and Lost Canyon Road, a Secondary Highway between Sierra Highway and Soledad Canyon Road, and a Limited Secondary Highway south of Lost Canyon Road. Proposed roadway improvements are depicted in **Figure 3-17, Soledad Canyon Road and Sand Canyon Road Cross-Sections**.

The Project would complete various improvements to Soledad Canyon Road to include widening for roadway purposes. The Project would also widen Sand Canyon Road for roadway and trail purposes and construct two single lane roundabouts; one at "B" Drive and Sand Canyon Road and the other at "C" Drive and Sand Canyon Road. Most of Sand Canyon Road would remain at two lanes (one in each direction), with grading of the full right-of-way to potentially accommodate widening if needed in the future.

The interior of the Project would be served by private roadways. Private roadway right-of-way dimensions are provided in **Figure 3-18, Private Roadways Cross-Sections**.

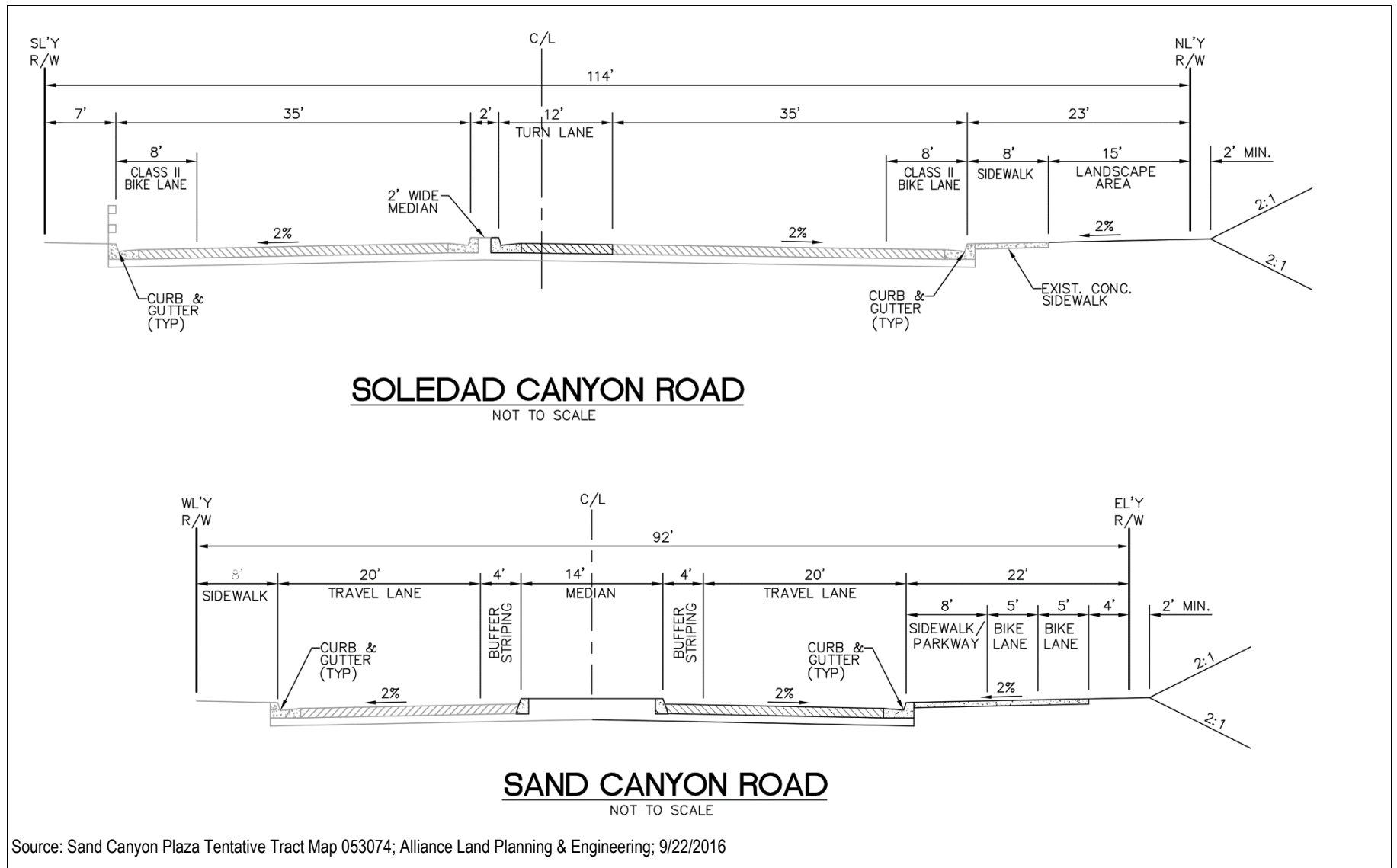
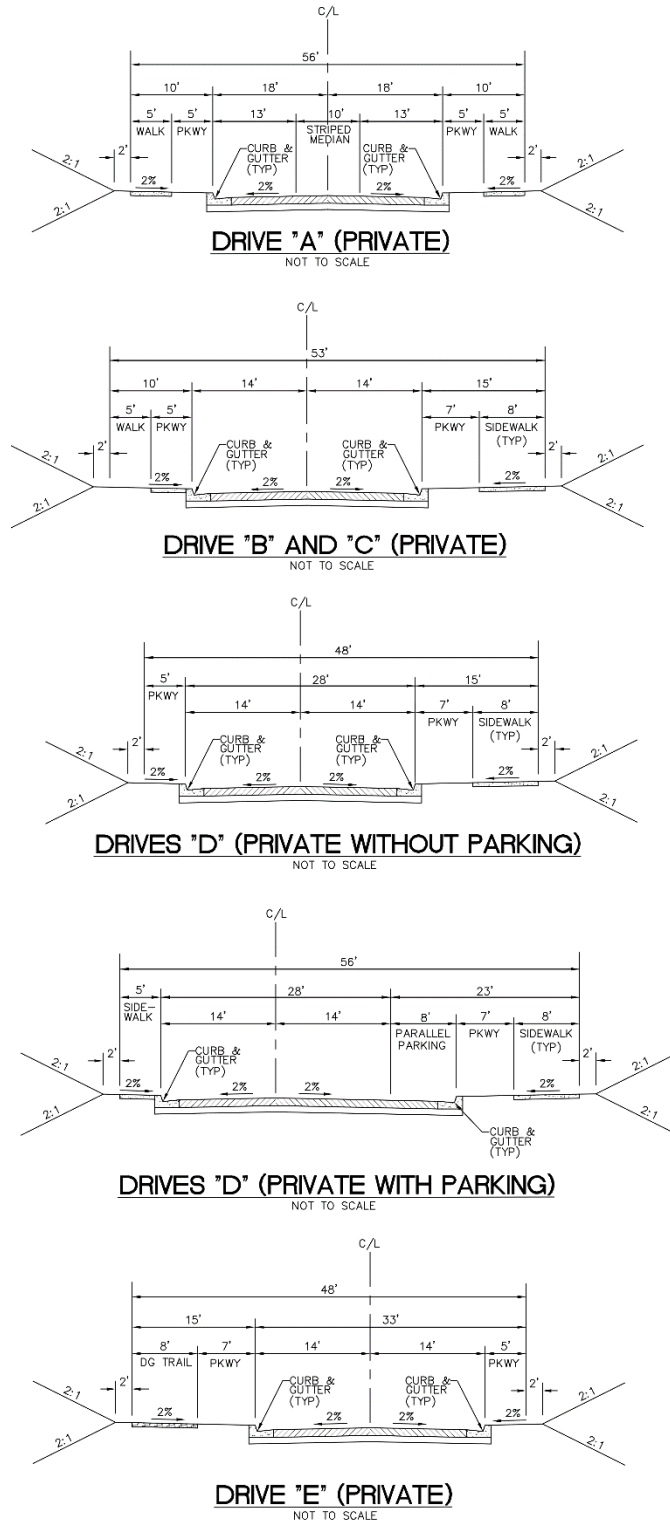


Figure 3-17 Soledad Canyon Road and Sand Canyon Road Cross-Sections



Source: Sand Canyon Plaza Tentative Tract Map 053074; Alliance Land Planning & Engineering; 9/22/2016

Figure 3-18 Private Roadways Cross-Sections

3.21 Recreation

As discussed previously, three private recreational areas are planned for the proposed Project. Each facility would contain a pool, a spa, a restroom facility, and a recreation building.

4. Environmental Impact Analysis

4.1 Aesthetics

4.1-1 Summary

The Project would alter existing short-range views; however, the Project would not obstruct long-range views of scenic resources. The Santa Clara River and background mountains of the Angeles National Forest and Santa Susan Mountains would continue to be visible from SR-14, Soledad Canyon Road, Sand Canyon Road, and surrounding off-site locations. Thus, impacts to scenic vistas and other viewsheds would be less than significant.

The Project site has been previously disturbed by human activity, including but not limited to illegal dumping and off-road vehicle usage, all of which significantly disturb the remaining vegetation communities and result in a complex mix of native and non-native species. However, the retention of approximately 28.6 acres of combined open space and proposed landscaping would enhance, as opposed to degrade, the existing visual quality of the Project site.

While the Project would result in an increase in urban development within the Project area, it would be consistent with the General Plan, the UDC, and Community Character and Design Guidelines and would be compatible with the character of the surrounding community. In addition, the proposed landscaping, pedestrian and bicycle circulation, and open space would provide for an aesthetically pleasing development that would not result in a degradation of the visual character or quality of the Project site and its surroundings or in a substantial alteration of existing views across the site. Therefore, long-term aesthetics and visual character impacts associated with the Project would be less than significant.

Urban development surrounds the Project site with commercial uses to the south, southwest, and west; residential uses to the west, northwest, north, and east; and SR-14 to the south. Existing residential uses to the west and north would experience a change in the amount of light spill or glare upon implementation of the Project. However, light and glare from the Project would not impact the residential uses that are located east of the site since they are located on the eastern side of the Significant Ridgeline and are at a lower higher elevation than the Project site, and as such would be less than significant.

In compliance with City standards and to minimize impacts to off-site residential uses, the Project would include a Lighting Plan that indicates the proposed locations of all outdoor lighting installations. The lighting must comply with UDC Chapter 17.15, Property Development Standards, which requires all light sources to be directed downward and shielded from streets or adjoining properties and would prevent light spillage towards adjacent residential uses.

Regardless, mitigation measures have been included to ensure lighting impacts to off-site uses would be less than significant. Therefore, implementation of Mitigation Measure **MM Aes-6** and compliance with the UDC would reduce long-term light and glare impacts to surrounding uses to a less than significant level.

Existing commercial development located to the south, west, and southwest and SR-14 to the south may result in impacts to proposed inhabitants of the proposed on-site residential units. Proposed residential units would be buffered from off-site commercial uses by the proposed on-site commercial uses in Planning Area 1. Thus, given the distance of such uses to the Project site, and existing and proposed buffers (i.e., landscaping and natural vegetation), impacts from such light sources on the proposed development would not be substantial. Streetlights and car headlights along SR-14 would not significantly impact the Project, as the proposed residential units would be located at a higher elevation than SR-14.

The Project would be consistent with the City's Hillside Development Ordinance and Ridgeline Preservation Overlay Zone with the application of mitigation measures, and the granting of a Hillside Development Review permit and a Ridgeline Alteration Permit. Therefore, the Project would have a less than significant impact.

In consideration of the existing built environment surrounding the site, existing and future buffers, and implementation of the recommended mitigation measures, Project implementation would not result in significant light and glare impacts to on-site uses, resulting in less than significant impact.

4.1-2 Introduction

This section describes the existing visual resources within the City, identifies the regulatory framework with respect to regulations that address visual resources, and evaluates the significance of the potential changes to visual resources that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.1-3 Existing Conditions

1. Definition of Terms

To provide context for the analysis presented below, a discussion of general definitions is necessary. Terms to be discussed include "viewsheds" and "visual quality," both key factors in addressing impacts to aesthetics and views. The environmental setting also generally describes those resources that are regionally significant and lists the designated scenic highways, byways, and vista points.

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 through, walking through, 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. These terms and criteria are described in detail below.

Viewshed. A viewshed is a geographic area composed of land, water, biotic, and/or cultural elements 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.

Visual Quality. Visual quality refers to the character of the landscape, which generally gives visual value to a setting. It is useful to think of scenic resources in terms of “typical views” seen throughout an area, because scenic resources are rarely encountered in isolation. A typical view may include several types of scenic resources, including natural and man-made elements. 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 experienced by the collective public. These include views of significant landscape features, as seen from public viewing spaces, not privately owned properties. CEQA (*California Public Resources Code* §21000 et seq.) case law has established that, in general, protection of public views is emphasized. For example, in *Association for Protection of Environmental Values in Ukiah v City of Ukiah* (1991) 2 Cal. App. 4th 720, 734, the court determined the following:

[W]e must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. As recognized by the court in *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal. App. 3d 188 [129 Cal.Rptr. 739]: “[A]ll government activity has some direct or indirect adverse effect on some persons. The issue is not whether [the project] will adversely affect particular persons but whether [the project] will adversely affect the environment of persons in general.

Therefore, for this analysis, only public views are considered in analyzing the visual impacts of the Project.

Obstruction of Views. The term “views” generally refers to visual access to, or the visibility of, a particular sight from a given vantage point or corridor. Focal views are those targeting a particular object, scene, setting, or feature of visual interest. Panoramic views or vistas, on the other hand, provide visual access to an expansive geographic area, for which the field of view is often wide and extends into the distance. Examples

of focal views include distinct natural landforms, public art, landmarks, and individual buildings. Examples of panoramic views might include an urban skyline, valley, mountain range, the ocean, and other bodies of water.

The City of Santa Clarita recognizes three primary types of viewsheds:

- Significant Regional Viewshed – A viewshed where a significant number of prominent visual features, unique to the Santa Clarita Valley, can be identified.
- Significant Local Viewshed – A viewshed where a significant number of prominent visual features, unique to the Santa Clarita Valley or the City of Santa Clarita, can be identified, but are secondary in quantity or nature to a Significant Regional Viewshed.
- Dark Sky Viewshed – A location away from artificial or urban light sources, which preserves the nighttime view of stars, planets, constellations, and other celestial bodies.

Viewsheds can be adversely affected by the urbanization of natural areas, including prominent slopes or woodlands. Viewsheds are also sensitive to adverse changes in air quality since smog obscures long-range visibility.

Light and Glare. For purpose of this analysis, “light” refers to light emission, or the degree of brightness, generated by a given source. Artificial lighting may be generated from point sources (i.e., focused points of origin representing unshielded light sources) or from indirectly illuminated sources of reflected light. Light may be directed downward to illuminate an area or surface, cast upward into the sky and refracted by atmospheric conditions (skyglow), or cast sideways and outwards onto off-site properties (overspill). Skyglow and overspill are considered forms of light pollution.

The effects of nighttime lighting are contextual and depend upon the light source’s intensity, its proximity to light-sensitive land uses (i.e., sensitive receptors such as residential units and schools), and the existing lighting environment in the vicinity of a project site. The primary sources of nighttime illumination include street lighting, security, and other types of outdoor lighting on commercial and residential properties, surface-parking illumination, and illuminated commercial signage. Nighttime lighting can impact views, alter the nature of community, or neighborhood character, or illuminates a sensitive land use. Nighttime illumination of sensitive receptors also may adversely affect certain land use functions, such as those of a residential or institutional nature, since such uses are typically occupied during evening hours and can be disturbed by bright lights.

“Glare” or “unwanted source luminance” is defined as focused, intense light directly emanated by a source or indirectly reflected by a surface from a source. Daytime glare typically is caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Reflective surfaces generally are associated with buildings clad with broad expanses of highly polished surfaces or with broad, light-colored areas of paving. Daytime glare generally is most pronounced during early morning and late afternoon hours when the sun is at a low angle and potential exists for intense reflected light to interfere with vision and driving conditions. Daytime glare also may hinder outdoor activities conducted in surrounding land uses, such as sports. Sunlight reflecting off a reflective surface can result in glare effects and unsafe visual conditions that may interfere with the vision of motorists operating vehicles in the proximity or that may otherwise generally degrade scenic views.

2. Regional Setting

The Project site is located in the City of Santa Clarita. The Santa Clarita Valley is characterized by flat areas and gently rolling hills that range in elevation from approximately 1,200 to 1,600 feet. The Valley is bounded on the south by the Santa Susana and San Gabriel Mountains and on the north by the Sierra Pelona Mountains. Whitaker Peak to the north of the Project site has an elevation of 4,148 feet, Oat Mountain to the south is 3,747 feet high, and Mt. Gleason to the east has an elevation of 6,502 feet. The Santa Clara River crosses the Valley floor from east to west. The portion of the river visible from the Project site is usually dry, maintaining surface water flow only during the rainy months after larger storm events. Other prominent topographic features of the Valley include the various canyons descending from the foothills.

3. Local Setting

The approximately 87-acre Project site is situated at the northeast corner of Sand Canyon Road and Soledad Canyon Road, and along the north side of the Antelope Valley Freeway (SR-14) in a developed area of the Santa Clarita Valley.

The Project site includes a Significant Ridgeline identified by the City of Santa Clarita General Plan.

The western portion of the site lies within the alluviated flood plain of Sand Canyon. The eastern portion of the site is dominated by a south-southwesterly trending bedrock ridge. The bedrock slopes are inclined at gradients of approximately 3:1 (horizontal:vertical) to $\frac{3}{4}$:1. Site elevations range from approximately 1,590 feet above mean sea level (msl) in the southwest portion of the site to approximately 1,830 feet msl in the northeast. A mobile home development currently occupies the southwest corner of the site.

Two main vegetation series dominate the Project site; California sagebrush–California buckwheat scrub and chamise chaparral–California buckwheat scrub, with annual grassland/ruderal

vegetation common along both sides of the dry wash of an unnamed drainage just east of Sand Canyon Road. The distribution and composition of vegetative cover types on the property have been influenced by previous disturbances, including the existing mobile homes, off-road vehicles, runoff from surrounding development, and fires. Several fires have occurred on the property, and the effects are evident in the comparatively low relative percent plant cover and low plant species diversity noted during the field surveys. The northern half of the site burned twice over a period of 10 years, and the southern half of the site burned in 1970, 1980, and 2007. The less-frequently burned areas have a greater proportion of chamise compared to the frequently burned areas dominated by California sagebrush, California buckwheat, and deerweed.

In the northwestern corner of the property in the unnamed wash parallel to Sand Canyon Road, riparian vegetation such as arroyo willow thickets is dominant, supported by runoff from off-site development and street drainage. Holly leaf cherry co-dominates the scrub vegetation. The undeveloped portion of the Project site has been disturbed by human activity. Trails and dirt roadways used by off-road vehicles, bicycles, and humans are common throughout the property, resulting in areas with zero plant cover and variable levels of erosion. The ongoing drought, coupled with impacts of the previous fires and ongoing disturbance, have reduced the overall plant species diversity, and have likely suppressed the quantity and diversity of annual plants. Many plants appear drought-stressed and/or senescent, with physical signs that indicate reduced health and vigor.

4. Surrounding Land Uses

The Project site is surrounded by urban development on all sides. The urban development includes commercial, single-family residential, multi-family residential, and recreational uses.

- **North:** Single-family homes including the Stetson Ranch development.
- **Northwest:** Single-family homes in the Canyon Collection gated development.
- **West:** Sand Canyon Ranch Apartments, single-family homes in the Sierra Hills development, and a small commercial center at the northwest corner of Sand Canyon and Soledad Canyon Roads.
- **Southwest:** Service station and the Sand Canyon Center (commercial center) on the southwest corner of Sand Canyon and Soledad Canyon Roads, and single-family homes in the Sierra Hills development, including the Swim and Racquet Clubs.
- **South:** Service station on southeast corner of Sand Canyon and Soledad Canyon Roads.
- **East:** Single-family homes and apartments located along Oak Springs Canyon Road, Oak Spring Canyon Park, single-family homes in the American Beauty Meadows development, and single-family homes and private recreational facilities in the Canyon Gardens development.

5. Existing Views

Scenic vistas are available along the Valley's major highways, particularly SR-14, Interstate 5 (I-5), and State Route 126 (SR-126). These highways provide mobile views of a wide variety of landforms, undisturbed mountains, ridgelines, and national forests (Angeles National Forest and Los Padres National Forest), and extensive, uninterrupted views of wide expanses of land, in addition to views of the developed Valley areas. Vistas from these highways are often the only aesthetic experience for visitors or passersby of the Valley. Both I-5 and SR-14, which run through the pass between the Los Angeles Basin and the Valley, also serve as natural gateways to the Valley, providing the first views of the Valley, its topography, and vegetation. The Project site is visible from the segment of the SR-14 that passes to the north of the Project site, and as noted earlier contains a City-designated Significant Ridgeline.

In addition to the major highways, scenic views and vistas can be found along roads through various canyons, including Soledad Canyon Road, Bouquet Canyon Road, Sand Canyon Road, Placerita Canyon Road, Sierra Highway, and Golden Valley Road. Many of these scenic drives traverse oak- and sycamore-studded canyons along winding streambeds. The Project site is located at the northeast corner of Sand Canyon Road and Soledad Canyon Road, and is visible from both canyon roads.

Scenic, panoramic vistas of the Valley floor are available from the various mountains surrounding the Valley, including the Santa Susana, San Gabriel, and Sierra Pelona Mountains. Like most of the area, the Project site is likely visible within one or more of the long-range vistas offered from these mountains. However, due to the distance from these vista points and intervening topography throughout the Valley floor, the Project site does represent a distinctive or otherwise appreciable component of any such field of view.

Although the Project site is visible from many locations, the most significant views occur in close proximity to the site. Six viewing locations, which are identified in **Figure 4.1-1, Viewing Locations**, were selected to represent views of the Project site from areas with a sizable existing or future viewing audience, such as residents of adjacent neighborhoods and users of recreational trails. These existing views are characterized below.

- **Viewing Location 1** is from a residential lot on the Macklin Drive cul-de-sac in the Sierra Hills residential community, west of the Project site. The view shown is oriented to the east, and represents views available to several residences in the Sierra Hills community. The foreground view consists of Sand Canyon Road, including views of residential and native landscaping. The middle-ground view consists of the mobile home units on the Project site and the ridgeline traversing the site. The background view consists of the mountains of the Angeles National Forest.

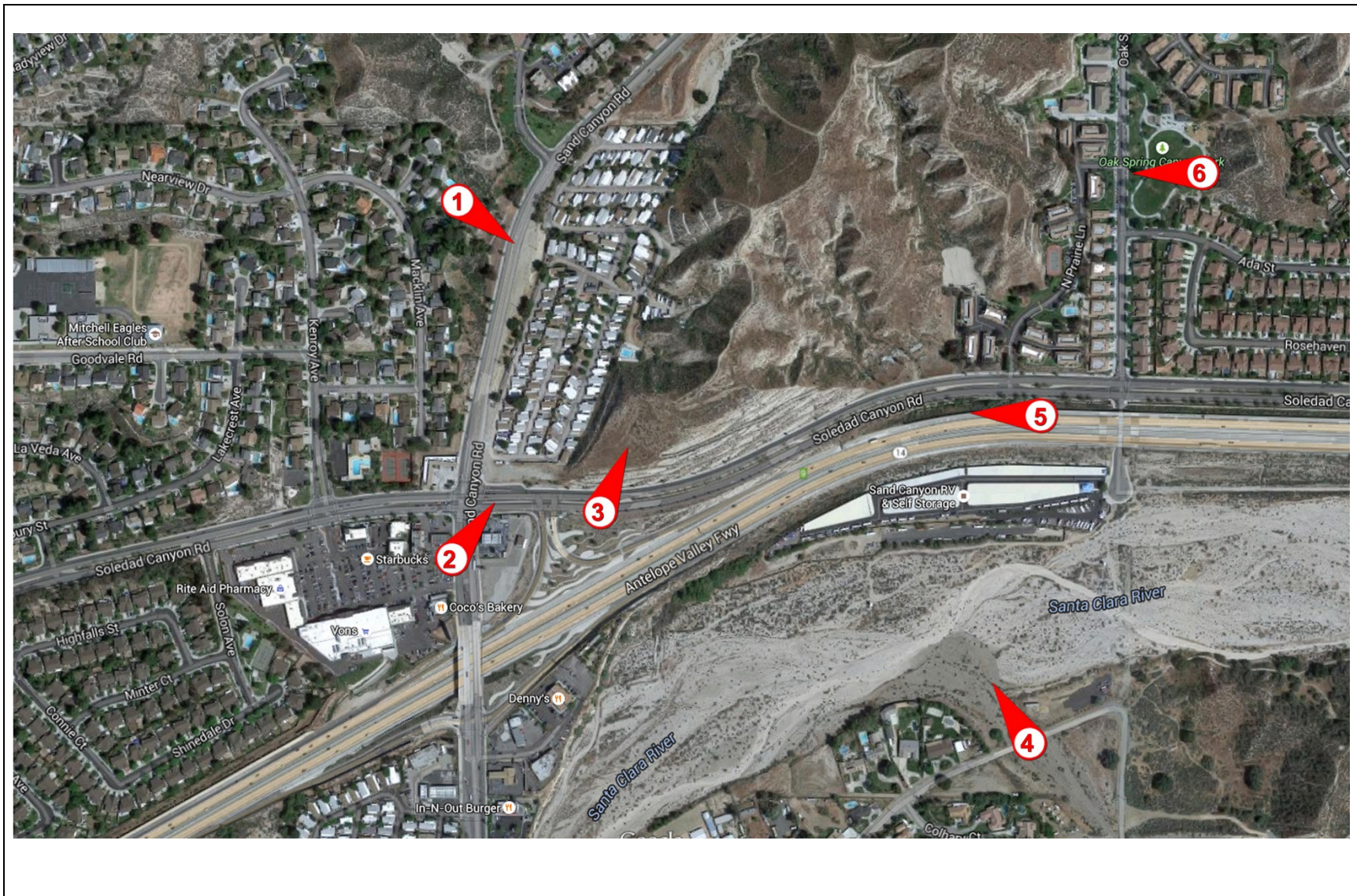


Figure 4.1-1 Viewing Locations

- **Viewing Location 2** is from the service station on the southwest corner of Sand Canyon Road and Soledad Canyon Road. The view shown is oriented to the northeast, and represents views of the Sand Canyon Road and Soledad Canyon Road intersection. The middle-ground view consists of mobile home units in the southwest portion of the Project site and a service station located on the southeast corner of the Sand Canyon Road and Soledad Canyon Road. The background view consists of the ridgeline on the eastern boundary of the Project site.
- **Viewing Location 3** is from vacant land immediately west of the SR-14 Sand Canyon Road westbound off-ramp. The view shown is oriented northeast and represents views from Soledad Canyon Road. The view shows existing site topography and slopes adjacent to Soledad Canyon Road.
- **Viewing Location 4** is from the Santa Clara River and Oak Springs, just north of Lost Canyon Road and south of SR-14. The view shown is oriented northwest and represents views from the Santa Clara River and the Sand Canyon Village Community. The foreground view consists of the Santa Clara River. The middle-ground view consists of SR-14 and the ridgeline on the eastern portion of the Project site. The background view consists of residential development west of the Project site and other prominent ridgelines in the City.
- **Viewing Location 5** is from westbound SR-14, slightly west of the Oak Springs Canyon Road overpass. The view shown is oriented west and represents views from the highway while traveling westbound. The foreground view consists of the highway and the soundwall. The middle-ground view consists of the Santa Clara River on the south side of SR-14, Soledad Canyon Road, and the ridgeline on the eastern boundary of the Project site. The background view consists of the Santa Susana Mountains west of the City.
- **Viewing Location 6** is from Oak Spring Canyon Park, east of the Project site. The view shown is oriented west and represents views from the residential neighborhood. The foreground view consists of the park and homes along the west side of Oak Canyon Springs Road. The background view consists of the eastern side of the ridgeline on the eastern boundary of the Project site.

6. Existing Light and Glare Generation

As is typical in urbanized environments with nighttime activity, the developed portion of the Santa Clarita Valley, such as the SR-14 corridor, is generally brightly illuminated at night, with the greatest concentration of light sources (e.g., commercial land uses and street lighting) found along major roadways and at intersections. Nighttime light levels are lower in the hillsides, which are generally less densely developed and contain fewer roadways.

The Project site generates daytime and nighttime light from the existing mobile home units. Also, a variety of urban land uses in the vicinity of the Project site generate light. The Project site and

surrounding area do not contain any highly reflective or light-colored surfaces that generate substantial glare.

7. State Scenic Highways

The California Department of Transportation (Caltrans) State Scenic Highway System includes a list of state designated scenic highways and highways that are eligible for the State Scenic Highway designation. Currently, there are no state scenic highways officially designated within the City of Santa Clarita. There are two eligible state scenic highways within the City of Santa Clarita: 1) Interstate 5 from Interstate 210 near Tunnel Station to State Route 126 near Castaic, and 2) State Route 126 from State Route 150 near Santa Paula to Interstate 5 near Castaic. Neither of these eligible routes are near the Project site.

4.1-4 Regulatory Setting

1. State of California

California Code of Regulations Title 24 Part 6

The California Energy Code (*California Code of Regulations*, Title 24, Part 6) creates standards in an effort to reduce energy consumption. The types of luminaries and the allowable wattage of certain outdoor lighting applications are regulated.

2. City of Santa Clarita

Santa Clarita General Plan

The General Plan Land Use and Conservation and Open Space Elements include several goals and policies relevant to aesthetic character and quality.

Land Use Element

Goal LU 1: An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.

Policy LU 1.1.4: Preserve community character by maintaining natural features that act as natural boundaries between developed areas, including significant ridgelines, canyons, rivers and drainage courses, riparian areas, topographical features, habitat preserves, or other similar features, where appropriate.

Policy LU 1.3.1: Encourage subdivision design techniques that reflect underlying physical topography or other unique physical features of the natural terrain.

Policy LU 1.3.2: Substantially retain the integrity and natural grade elevations of significant natural ridgelines and prominent landforms that form the Valley's skyline backdrop.

- Policy LU 1.3.3: Discourage development on ridgelines and lands containing 50% slopes so that these areas are maintained as natural open space.
- Goal LU 6: A scenic and beautiful urban environment that builds on the community’s history and natural setting.
- Policy LU 6.1.3: Ensure that new development in hillside areas is designed to protect the scenic backdrop of foothills and canyons enjoyed by Santa Clarita Valley communities, through requiring compatible hillside management techniques that may include but are not limited to clustering of development; contouring and landform grading; revegetation with native plants; limited site disturbance; avoidance of tall retaining and build-up walls; use of stepped pads; and other techniques as deemed appropriate.
- Policy LU 6.2.1: Promote the inclusion of plazas, courtyards, seating areas, public art, and similar features within commercial centers, business parks, and civic facilities visited by the general public.
- Policy LU 6.2.2: Provide and enhance trail heads where appropriate with landscaping, seating, trash receptacles and information kiosks.
- Policy LU 6.3.4: Require undergrounding of utility lines for new development where feasible, and plan for undergrounding of existing utility lines in conjunction with street improvement projects where economically feasible.
- Policy LU 6.5.1: Require use of high quality, durable, and natural-appearing building materials pursuant to applicable ordinances.
- Policy LU 6.5.2: Encourage the use of designs and architectural styles that incorporate classic and timeless architectural features.
- Policy LU 6.5.3: Require architectural enhancement and articulation on all sides of buildings (360-degree architecture), with special consideration at building entrances and corners, and along facades adjacent to major arterial streets.
- Policy LU 6.5.4: Evaluate new development in consideration of its context, to ensure that buildings create a coherent living environment, a cohesive urban fabric, and contribute to a sense of place consistent with the surrounding neighborhoods.

Conservation and Open Space Elements

- Goal CO 6: Preservation of scenic features that keep the Santa Clarita Valley beautiful and enhance quality of life, community identity, and property values.
- Policy CO 6.2.1: Where feasible, encourage development proposals to have varied building heights to maintain view corridor sight lines.
- Policy CO 6.4.1: Preserve scenic habitat areas within designated open space or parkland, wherever possible.

- Policy CO 6.4.2: Through the development review process, ensure that new development preserves scenic habitat areas to the extent feasible.
- Policy CO 6.5.1: In approving new development projects, consider scenic views at major entry points to the Santa Clarita Valley, including gateways located at the Newhall Pass along Lake Hughes Road, Route 126, Bouquet Canyon Road, Sierra Highway, State Route 14, and other locations as deemed appropriate by the reviewing authority.
- Policy CO 6.5.2: Establish scenic routes in appropriate locations as determined by the reviewing agency, and adopt guidelines for these routes to maintain their scenic character.
- Policy CO 6.6.1: Enhance views of the night sky by reducing light pollution through use of light screens, downward directed lights, minimized reflective paving surfaces, and reduced lighting levels, as deemed appropriate by the reviewing authority.
- Policy CO 6.6.2: Improve views of the Santa Clarita Valley through various policies to minimize air pollution and smog, as contained throughout the General Plan.
- Policy CO 6.6.3: Restrict establishment of billboards throughout the planning area, and continue abatement efforts to remove existing billboards that impact scenic views.
- Policy CO 6.6.4: Where appropriate, require new development to be sensitive to scenic viewpoints or viewsheds through building design, site layout and building heights.
- Policy CO 6.6.5: Encourage undergrounding of all new utility lines, and promote undergrounding of existing lines where feasible and practicable.

Community Character and Design Guidelines

The purpose of the Santa Clarita Community Character and Design Guidelines (CCDG) document is to guide the creation of new residential, commercial, mixed-use, and industrial developments and give clear direction for the renovation and redevelopment of built areas. The CCDG includes up-to-date planning trends and guidelines written to promote the high quality standards that the City and the community value. The intent of these guidelines is to retain and encourage architectural variety, promote quality development, and ensure that existing and new development:

- Is compatible in size, scale, and appearance with the character of Santa Clarita.
- Is attractive and an asset to the community.
- Preserves and enhances natural features of a site.
- Incorporates quality articulation, community character features, multiple building forms, desirable building details, and other elements that display excellence in design.
- Provides pedestrian-oriented design to enrich the pedestrian experience.

- Includes pedestrian friendly amenities such as pedestrian connections, plazas, seating, bike racks, fountains, and other similar features, for the enjoyment of the community and visitors.
- Promotes the use of high quality materials.
- Promotes well-landscaped parking lots with efficient pedestrian and vehicular circulation.
- Provides suggestions for ways to improve the environmental performance of projects through the strategic incorporation of green building components.

The CCDG include design guidelines specific to single-family residential developments. Considerations include site planning and design, site grading, parkways, project entry features, driveways/garages, open space and recreational features, landscaping, lighting, architecture, and utilitarian aspects.

Beautification Master Plan

In 2001, the City adopted the Santa Clarita Beautification Master Plan, which contains citywide design guidelines as well as specific guidelines tailored to maintain community character within Canyon Country, Newhall, Saugus, and Valencia. According to the document, “the Beautification Master Plan addresses concepts for streetscape design, landscape enhancement, gateways, and monumentation and signage, on both a regional and a community scale. The Master Plan strives to maintain the identity of individual communities while unifying the entire City through design.”

In its Beautification Plan, the City identified a goal of providing landscaped medians within major arterial roadways in order to provide aesthetic appeal, control vehicle circulation, calm traffic, and provide area for directional and traffic signs. Specifically, the following arterials are identified for landscape median enhancement:

- Via Princessa
- Santa Clarita Parkway
- Soledad Canyon Road
- Railroad Avenue
- Newhall Ranch Road
- Lyons Avenue
- Sierra Highway

Standardized, drought-tolerant plant palettes along with decorative concrete are desired in the medians, which will help to enhance and unify the community. Another area in which the City and County can coordinate beautification efforts is unified signs, especially for regional trails, trailheads, open space, and preserve areas. In addition, consistent street furniture such as bus shelters, benches, and trash cans can be used to unify streetscapes throughout the Valley.

Unified Development Code

The Unified Development Code (UDC), Title 16 (Subdivisions), identifies requirements for all subdivisions within the City, as required by the Subdivision Map Act. Title 17 (Zoning), identified permitted land uses according to the zoning category of particular parcels. Additionally, Title 18 (City Building Code) defines specific rules and regulations for construction, alteration, and building for structures within the City.

Ridgeline Preservation Overlay Zone

Unified Development Code Section 17.38.070 establishes requirements for development within the Ridgeline Preservation Overlay Zone. As indicated previously, the site contains a City-designated Significant Ridgeline.

Significant ridgelines are ridgelines that are highly visible to the community and dominate the landscape. The general locations of the City's designated significant ridgelines are identified on the adopted ridgeline map on file in the Planning Division. Any development, including but not limited to grading permits, building permits, and land use entitlements, in the vicinity of a generally designated significant ridgeline, shall submit an exhibit prepared by a licensed civil engineer utilizing site-specific topographic mapping to precisely locate the vertical and horizontal position of the ridgeline in relation to the proposed development. The ridgelines are defined as the line formed by the meeting of the tops of sloping surfaces of land.

Hillside Development and Grading

Hillside development is regulated through Unified Development Code Chapter 17.51. The purpose is to regulate the development and alteration of hillside areas, to minimize the adverse effects of hillside development, and to provide for the safety and welfare of the citizens of the City of Santa Clarita while allowing for the reasonable development of hillside areas through the following methods:

- Provide hillside development standards to maximize the positive impacts of site design, grading, landscape architecture and building architecture, and provide development consistent with the goals and policies of the City of Santa Clarita's General Plan.
- Maintain the essential natural characteristics of the area such as major landforms, vegetation and wildlife communities, hydrologic features, scenic qualities and open space that contribute to a sense of place.
- Retain the integrity of predominant off-site and on-site views in hillside areas in order to maintain the identity, image and environmental quality of the City.

The provisions of Unified Development Code Chapter 17.51 apply to parcels of land with average slopes of 10% or more. The provisions apply to all projects requiring grading permits, building permits, parcel maps, tentative tract maps, conditional use permits, and plans for development review. Such projects may be subject to specific development standards related to grading design,

density, setbacks, building height, architectural treatments, landscaping, and retaining walls. Hillside grading is regulated through Unified Development Code Chapter 17.86.

4.1-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to aesthetics are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse aesthetics use impacts if any of the following could occur:

Aes-1 Would the project have a substantial adverse effect on a scenic vista?

Aes-2 Would the project substantially damage scenic resources, including, but not limited to, identified ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?

Aes-3 Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Aes-4 Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

4.1-6 Impacts Analysis

Aes-1 Would the project have a substantial adverse effect on a scenic vista?

Scenic vistas within the City of Santa Clarita are both panoramic and focal. The ridgelines of the Sierra Pelona, San Gabriel, and Santa Susana Mountains provide panoramic views of the Santa Clarita Valley. Scenic vistas of these mountains are extensively offered from primary roadways and other vantage points throughout the Valley floor, as well as the City's trail system. Scenic drives through the canyons and the highways leading into the Valley offer more focused scenic vistas. The scenic resources that compose scenic vistas include major topographic features such as ridgelines and canyons, woodlands, biological resources, water bodies, open space, parkland, and historic resources.

The Project would be visible from many locations, including SR-14, Soledad Canyon Road, Sand Canyon Road, Lost Canyon Road, the Santa Clara River, and adjacent residential and commercial uses. While the Project would likely be visible within several distant scenic vistas offered from the mountains, the Project itself would not represent a distinct or otherwise appreciable component of any such field of view, given the extent of surrounding development and intervening topography on the Valley floor. However, short-range views of the Project site would be affected. To evaluate the impact to existing views, visual simulations of the Project were prepared from the six viewing locations previously described.

- *Viewing Location 1*, which is within the Sierra Hills community west of the Project site, would be altered. Middle-ground views would include the multi-family apartment

buildings in Planning Area 2, single-family detached homes in Planning Areas 4 and 5, and open space areas in Planning Area 5. Background views of the mountains would remain. Refer to **Figure 4.1-2, Viewing Location 1, Existing and Proposed Views.**

- **Viewing Location 2**, which is from the service station on the southwest corner of the Sand Canyon Road and Soledad Canyon Road, would be altered. Middle-ground views would include the commercial uses in Planning Area 1 and the multi-family apartment buildings in Planning Area 2. The background view would only be of the commercial uses in Planning Area 1, as the manufactured slope along Soledad Canyon Road would be regraded and laid back. Refer to **Figure 4.1-3, Viewing Location 2, Existing and Proposed Views.**
- **Viewing Location 3**, which is from vacant land immediately west of the SR-14 Sand Canyon Road westbound off-ramp, would be altered. The foreground and middle-ground view from Soledad Canyon Road would include the commercial uses and assisted living facility in Planning Area 1 and single-family detached homes in Planning Area 5. Refer to **Figure 4.1-4, Viewing Location 3, Existing and Proposed Views.**
- **Viewing Location 4**, which is from the Santa Clara River and Oak Springs, just north of Lost Canyon Road and south of SR-14, would be altered. The foreground view of the Santa Clara River would not be altered. The middle-ground view would be altered to show the single-family residential homes and open space area in Planning Area 5, the multi-family apartment buildings in Planning Area 2, and the commercial uses and assisted living facility in Planning Area 1. The existing manufactured slope along Soledad Canyon Road would be regraded and laid back to allow for landscaping. The background view consists of residential development west of the Project site and other prominent ridgelines in the City would remain. Refer to **Figure 4.1-5, Viewing Location 4, Existing and Proposed Views.**
- **Viewing Location 5** is from westbound SR-14, slightly west of the Oak Springs Canyon Road overpass. The foreground view of the highway and the soundwall would not be altered. The middle-ground view would be altered to show the commercial uses and assisted living facility in Planning Area 1 and the multi-family apartment buildings in Planning Area 2. The background view consists of the Santa Susana Mountains west of the City would remain. Refer to **Figure 4.1-6, Viewing Location 5, Existing and Proposed Views.**
- **Viewing Location 6**, which is from Oak Spring Canyon Park east of the Project site, would be partially altered. The foreground view consists of the park and homes along the west side of Oak Canyon Springs Road would not be altered. The background view of the ridgeline would be partially altered to show open space areas and single-family detached homes in Planning Area 5. Refer to **Figure 4.1-7, Viewing Location 6, Existing and Proposed Views.**



Existing View



Proposed View

Figure 4.1-2 Viewing Location 1, Existing and Proposed Views



Existing View



Proposed View

Figure 4.1-3 Viewing Location 2, Existing and Proposed Views



Existing View



Proposed View

Figure 4.1-4 Viewing Location 3, Existing and Proposed Views



Existing View



Proposed View

Figure 4.1-5 Viewing Location 4, Existing and Proposed Views



Existing View



Proposed View

Figure 4.1-6 Viewing Location 5, Existing and Proposed Views



Existing View



Proposed View

Figure 4.1-7 Viewing Location 6, Existing and Proposed Views

As shown **Figure 4.1-2** through **Figure 4.1-7**, the Project would alter existing short-range views; however, the Project would not obstruct long-range views of scenic resources. The Santa Clara River and background mountains of the Angeles National Forest and Santa Susan Mountains would continue to be visible from SR-14, Soledad Canyon Road, Sand Canyon Road, and surrounding off-site locations. Thus, impacts to scenic vistas and other viewsheds would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Aes-2 Would the project substantially damage scenic resources, including, but not limited to, identified ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?

Hillside Development

Consistency with Hillside Development Ordinance

The City of Santa Clarita Hillside Development Ordinance was established to implement the goals and policies of the General Plan in relation to land use, densities, open space, and community image. The intent of the Ordinance is to regulate the development and alteration of hillside areas, to minimize the adverse effects of hillside development, and to provide for the safety and welfare of the citizens of the City of Santa Clarita while allowing for the reasonable development. Hillside areas are those properties with an average cross slope of 10% or greater.

The Project is subject to the City's Hillside Development Ordinance as it exceeds 10% average cross slope. **Figure 4.1-8, Slope Analysis Map** depicts the average cross slope of the Project site. For purposes of density calculation, the Project site has been broken into three separate areas, each with a corresponding average cross slope.

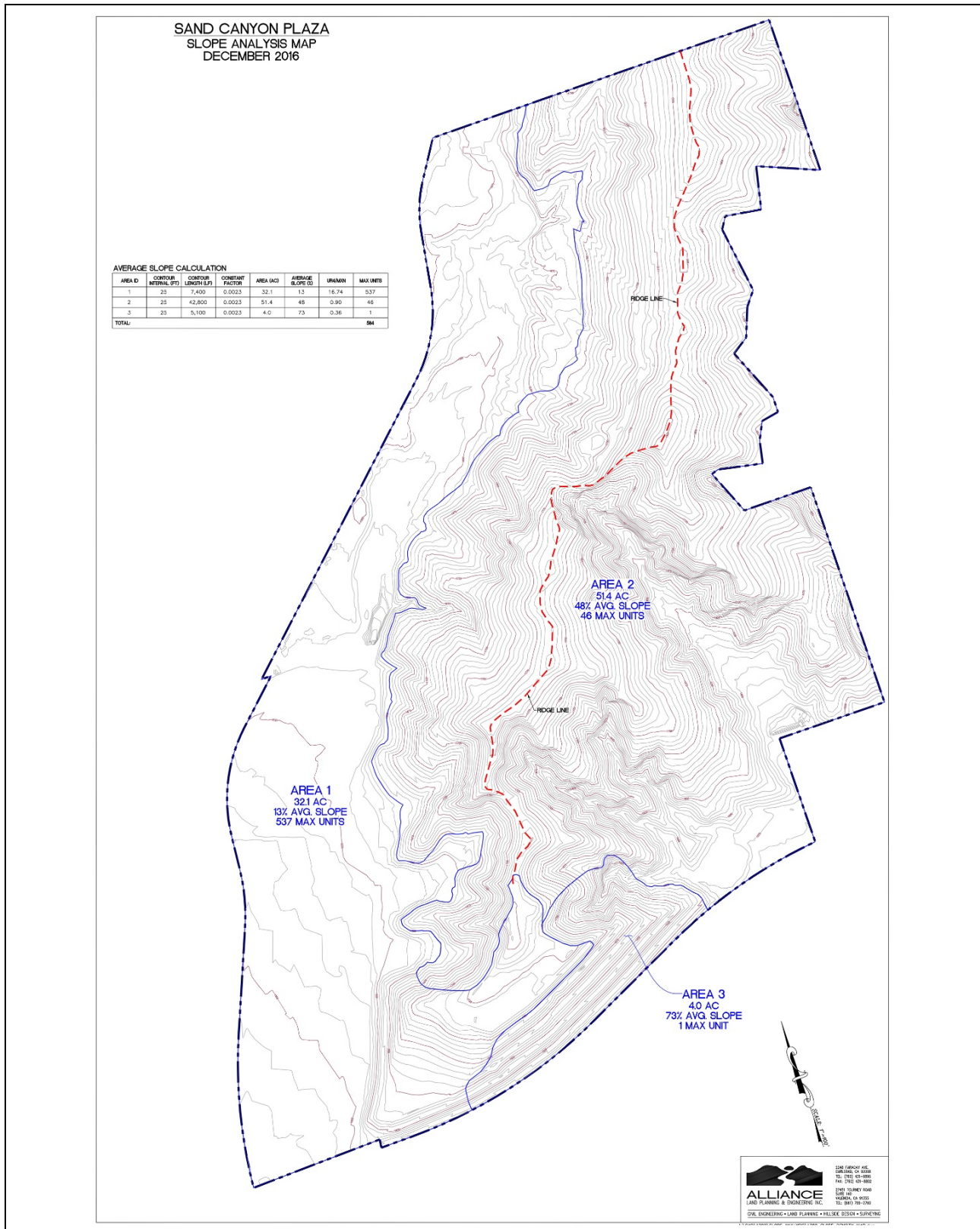


Figure 4.1-8 Slope Analysis Map

The Project site is zoned MXN (Mixed Use Neighborhood) and UR-3 (Urban Residential 3). Area 1, consisting of 32.1 acres, has an average cross slope of 13%, which would allow for up to 537 residential units. Area 2, consisting of 51.4 acres, has an average cross slope of 48%, which would allow for up to 46 residential units within the Project site. Area 3, consisting of 4 acres and including the existing manufactured slope along Soledad Canyon Road, has an average cross slope of 73%, which would allow for one residential unit. Based on this analysis, the Project would be permitted a maximum of 584 dwelling units under the Hillside Development Ordinance. The Project includes a total of 580 residential units, which would be consistent with the density provisions.

In addition to the density provisions above, a project subject to the Hillside Ordinance must meet the following conditions.

- a. **The hillside development plan shall be in substantial compliance with all applicable provisions of this section and the Hillside Development Guidelines.**

The Project has been designed consistent with the Hillside Development Ordinance and is consistent with the above provision. Portions of the Project site have been previously disturbed for development of existing mobile home units on the western portion of the Project site, as well as for the construction of adjacent roadways and utility infrastructure. Nearly all of the commercial development, and over one-half of the residential development proposed with the Project has been concentrated within the disturbed portions of the site.

The Project would utilize a variety of methods for reducing grading impacts, and, ultimately, create a development that would, to the greatest extent possible, blend in with the natural contours of the site. The Project would conserve natural topographic features and appearances by means of landform grading, blending any manufactured slopes or required drainage benches into the natural topography. By placing most of the residential and commercial development in previously disturbed areas and generally in areas with less than 25% grade, the Project would avoid the disruption of view corridors and scenic vistas. Changes in views from various vantage points adjacent to the Project site are shown on **Figure 4.1-2** through **Figure 4.1-7**.

In addition, the Project would utilize building setbacks, building heights, compatible structures, and building forms throughout the site to blend buildings and structures with the terrain and surrounding development as much as possible. Thus, the Project would be substantially consistent with the Hillside Development Ordinance requirements as the Project has been designed to blend with the surrounding terrain. Additionally, landscaping with natural vegetation would be used to protect slopes from slippage and soil erosion and to minimize the visual effects of grading and construction on hillside areas. The choice of landscaping plants would, to the extent possible, be

made based on the goal of reducing the maintenance cost to public and private owners. The Project would also incorporate curvilinear street design and improvements that would serve to minimize grading alterations and simulate the natural contours and character of the hillside.

The Project's proposed uses would be consistent in relation to adjacent uses and the development of the community as is evidenced by nearby existing residential and commercial developments. The Project's uses and development would not be materially detrimental to the visual character of the neighborhood or community, because the contour grading would limit visual impacts to hillside areas by helping them blend with the existing topography. Finally, the Project grading would "lay back" the existing manufactured slope along Soledad Canyon Road, which allow for this slope to be landscaped, and thus, further softening its appearance from SR-14, Soledad Canyon Road, and areas to the south.

- b. **The site plan shall be designed to locate or cluster development in slope areas of twenty-five percent (25%) or less; however, clustering of development in slope areas of twenty-five percent (25%) to fifty percent (50%) may be considered in limited locations and shall be in conformance with Section 17.68.020 (Cluster Developments).**

The majority of residential units (75%) and commercial land uses are within portions of the site that have been previously disturbed and are mostly in areas with less than 25% grade. Approximately 434 of the 580 residential units would be located in an area with an average cross slope of 13% or less. In areas of the site that are in excess of 25% grade, there are a total of 146 units proposed, or 25% of the total residential units.

Development in this area would conform to the City's requirements for cluster developments.

- c. **In no event shall the overall density exceed the density of the General Plan and Zoning or the density provided in Figure 17.51-1 (Density and Ratio Change with Percentage of Slope Density), whichever is greater.**

The maximum density for the site under the Hillside Ordinance provisions is 584 units. The Project proposes a total of 580 units. The total commercial square footage proposed by the Project would also meet the Hillside provisions.

- d. **The development shall not be located in an area containing the ridgeline preservation (RP) overlay zoning classification unless the project is in conformance with Section 17.38.070 (RP—Ridgeline Preservation Overlay Zone).**

The project site is located within the Ridgeline Preservation Overlay Zoning Classification. See the discussion later in this section on the Project's consistency with this overlay zoning classification.

In addition to the above conditions, a project must also adhere to the following findings for development on a hillside property.

1. **That the natural topographic features and appearances are conserved by means of landform grading to blend any manufactured slopes or required drainage benches into the natural topography.**

As shown in **Figure 4.1-2** through **Figure 4.1-7.**, the Project would conserve natural topographic features and appearances by means of landform grading, blending any manufactures slopes or required drainage benches into the natural topography.

2. **That natural, topographic prominent features are retained to the maximum extent possible.**

The Project would utilize a number of methods for reducing grading impacts, and, ultimately, create a development that would, to the greatest extent possible, blend in with the natural contours of the site. For example, the Project places most of the residential and commercial development in previously disturbed areas to avoid disruption of view corridors and scenic vistas.

The Project would also incorporate curvilinear street design and improvements that would serve to minimize grading alterations and simulate the natural contours and character of the hillside.

3. **That clustered sites and buildings are utilized where such techniques can be demonstrated to substantially reduce grading alterations of the terrain and to contribute to the preservation of trees, other natural vegetation and prominent landmark features and are compatible with existing neighborhood.**

As previously discussed above, the majority of residential units (75%) and commercial land uses are within portions of the site previously disturbed and mostly in areas with less than 25% grade. Approximately 434 of the 580 residential units would be located in an area of the site with an average cross slope of 13% or less. In areas of the site that are in excess of 25% grade, there are a total of 146 units proposed, which is 25% of the total residential units. Development in this area would conform to the City's requirements for cluster developments. Project clustering within disturbed, flatter portions of the Project site, would contribute to the preservation of trees and other natural areas on-site. Finally, the Project, including site grading, would be compatible with surrounding existing development.

4. **That building setbacks, building heights and compatible structures and building forms that would serve to blend buildings and structures with the terrain are utilized.**

The Project's uses and development would not be materially detrimental to the visual character of the neighborhood or the community as building setbacks, heights and structures would blend with the terrain. The project's proposed structures would be consistent in relation to adjacent uses and development as is evidenced by nearby existing residential and commercial development. Building heights and setbacks would conform to the requirements of the MXN and UR-3 zones.

5. **That plant materials are conserved and introduced so as to protect slopes from slippage and soil erosion and to minimize visual effects of grading and construction on hillside areas, including the consideration of the preservation of prominent trees and, to the extent possible, while meeting the standards of the Fire Department.**

Drought tolerant landscaping with natural vegetation would be used to protect slopes from slippage and soil erosion and to minimize the visual effects of grading and construction on hillside areas. The choice of landscaping plants would, to the extent possible, be made based on the goal of reducing the maintenance cost to public and private owners. Furthermore, all landscaping shall conform to the City and Fire Department requirements.

6. **That street design and improvements that serve to minimize grading alterations and emulate the natural contours and character of the hillsides are utilized.**

As indicated in Finding No. 2 above, the Project would incorporate curvilinear street design and improvements that would serve to minimize grading alterations and simulate the natural contours and character of the hillside.

7. **That grading designs that serve to avoid disruption to adjacent properties are utilized.**

Although the visual character of most of the Project site would be altered from its current condition, this impact would not be considered significant for the following reasons: 1) the Project site is located immediately adjacent to urbanized areas and is of similar scale and intensity, 2) approximately 40% of the site would be retained as landscaped or open space areas, 3) portions of the ridgeline that extends into the site have been disturbed by previous development and adjacent roadways, and 4) the Project grading would "lay back" the existing manufactured slope along Soledad Canyon Road which would allow for this slope to be landscaped further softening its appearance from SR-14, Soledad Canyon Road, and areas to the south.

8. **That site design and grading that provide the minimum disruption of view corridors and scenic vistas from and around any proposed development are utilized.**

By placing most of the residential and commercial development in previously disturbed areas and in areas with less than 25% grade, the Project would avoid the disruption of view corridors and scenic vistas. Changes in views from various vantage points adjacent to the Project site are shown on **Figure 4.1-2** through **Figure 4.1-7**. In addition, the Project would utilize building setbacks, building heights, compatible structures, and building forms throughout the site in order to blend buildings and structures with the terrain and surrounding development as much as possible.

Consistency with Ridgeline Preservation Overlay Zone

Municipal Code Section 17.38.070 defines the requirements associated with development in a Ridgeline Preservation Overlay Zone. In summary, the City has identified significant ridgelines which are highly visible to the community. Any development on or in the vicinity of these identified ridgelines are subject to property development standards listed in the code section.

These standards include requirements related to grading, buffers, setbacks, landscaping, and on-site placement of structures. Furthermore, any development within this overlay zone is required to obtain a ridgeline alteration permit. Refer to **Figure 4.1-9, Location of Ridgeline Overlay Zone on Project Site**. As detailed above in the Consistency with the Hillside Development Ordinance and below in the Ridgeline Preservation findings, the Project would be consistent with the overlay zone requirements with the approval of a ridgeline alteration permit.

The City must make the following findings to approve a Ridgeline Alteration Permit.

1. **The use or development will not be materially detrimental to the visual character of the neighborhood or community, nor will it endanger the public health, safety, or general welfare.**

The Project would not be materially detrimental to the visual character of the site as the proposed uses would be proper in relation to adjacent uses and the development of the community as is evidenced by nearby existing residential and commercial developments. Further, the Project's proposed uses and development would not be materially detrimental to the visual character of the neighborhood or community because the contour grading would limit visual impacts to hillside areas by helping them blend with the existing topography. Finally, the Project grading would "lay back" the existing manufactured slope along Soledad Canyon Road, which allows for this slope to be landscaped, further softening its appearance from SR-14, Soledad Canyon Road, and areas to the south. Mitigation measures recommended in this EIR ensure that the Project would not endanger the public health, safety, or general welfare.

2. **The appearance of the use or development will not be substantially different than the appearance of adjoining ridgeline areas so as to cause depreciation of the ridgeline appearance in the vicinity.**

Portions of the Project site have been previously disturbed for development of existing mobile home units on the western portion of the Project site, as well as for the construction of adjacent roadways and utility infrastructure. Nearly all of the commercial development, and over one-half of the residential development proposed with the Project has been concentrated within the disturbed portions of the site. The Project would also incorporate site design and grading techniques that would avoid disruption of view corridors and scenic vistas and blend the Project into the surrounding community.

3. **The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding properties, nor encourage inappropriate encroachments to the ridgeline area.**

Implementation of the Project would not impede the normal and orderly development and improvement of surrounding property nor encourage inappropriate future encroachments into the ridgeline areas. Overall, the Project would not violate the visual integrity of the ridgeline as the ridgeline on the Project site is indistinguishable from other hills in the surrounding area and the Project would not restrict views of more prominent ridgelines located off the project site. Development would be concentrated in the previously disturbed areas and would “lay back” the previously disturbed portions of the ridgeline to reduce visual impacts associated to areas south of the Project site.

4. **The proposed use or development demonstrates creative site design resulting in a project that will complement the community character and provide a direct benefit to current and future community residents of not only the proposed use or development, but the residents of the City as a whole.**

As discussed in Finding No. 3 above, the majority of residential units (75%) and commercial land uses are within portions of the site previously disturbed and mostly in areas with less than 25% grade. Approximately 434 of the 580 residential units would be located in an area of the site with an average cross slope of 13% or less. In areas of the site that are in excess of 25% grade, there are a total of 146 units proposed, or 25% of the total residential units. Development in this area would conform to the City’s requirements for cluster developments. Clustering within disturbed, flatter portions of the Project site, would contribute to the preservation of trees and other natural areas on-site. Finally, the Project, including grading, would be compatible with surrounding existing development.

5. **The use or development minimizes the effects of grading to the extent practicable to ensure that the natural character of the ridgeline is preserved.**

Although the visual character of most of the Project site would be altered from its current condition, this impact would not be considered significant. The Project site is located immediately adjacent to urbanized areas and is of similar scale and intensity and would utilize curvilinear street design and improvements that would serve to minimize grading alterations and simulate the natural contours and character of the hillside. The Project grading would “lay back” the existing manufactured slope along Soledad Canyon Road, which allows for this slope to be landscaped and further softening its appearance from SR-14, Soledad Canyon Road, and areas to the south.

6. **The proposed use or development is designed to mimic the existing topography to the greatest extent possible through the use of landform contour grading.**

As shown in **Figure 4.1-2** through **Figure 4.1-7**, the Project would conserve natural topographic features and appearances by means of landform grading so as to blend any manufactures slopes or required drainage benches into the natural topography.

7. **The proposed use or development does not alter natural landmarks and prominent natural features of the ridgelines.**

The Project site does not include any prominent natural features or landmarks. Furthermore, the Project would utilize a number of methods for reducing grading impacts, and, ultimately, create a development that would, to the greatest extent possible, blend in with the natural contours of the site. For example, the Project places most of the residential and commercial development in previously disturbed areas to avoid disruption of view corridors and scenic vistas. The Project would also incorporate curvilinear street design and improvements that would serve to minimize grading alterations and simulate the natural contours and character of the hillside.

As discussed, the Project site has been previously disturbed for the development of the existing mobile home park and neighboring roadways, including impacts to the existing ridgeline and hillsides on the site. However, impacts to the ridgeline could be significant without mitigation. Therefore, Mitigation Measures **MM Aes-1**, **MM Aes-2**, and **MM Aes-3** have been added to ensure the previously disturbed portions of the ridgelines will be blended into the neighboring topography and replanted to reduce potential impacts. With these mitigation measures, impacts to the significant ridgeline on the project site would be less than significant.

Level of Significance Before Mitigation – Hillside Development

Impacts would be potentially significant for hillside development.

Mitigation Measures – Hillside Development

- MM Aes-1 Prior to the issuance of a grading permit, the Project Applicant, or responsible party, shall submit a grading plan for review and approval by the City’s Director of Public Works and the Director of Community Development. This grading plan shall utilize methods to reduce grading impacts associated with the Project and, to the extent feasible, blend in with the natural contours of the site. Said grading methods shall include landform grading as well as the blending of any manufactured slopes or required drainage benches into the natural topography along with the use of curvilinear street design.
- MM Aes-2 The Project Applicant, or responsible party, shall submit a final site plan for review and approval by the City’s Director of Community Development. This site plan shall utilize building setbacks, building heights, and building forms throughout the site to blend buildings and structures with the terrain and surrounding development as much as possible. Additionally, landscaping with natural vegetation shall be used to minimize the visual effects of grading and construction on hillside areas.
- MM Aes-3 As part of any grading on the Project site, the Project Applicant, or responsible party, shall be required to “lay back” and regrade the manufactured slope along Soledad Canyon Road, which will allow for this slope to be landscaped, further softening its appearance from SR-14, Soledad Canyon Road, and areas to the south.

Level of Significance After Mitigation – Hillside Development

With implementation of Mitigation Measures **MM Aes-1**, **MM Aes-2**, and **MM Aes-3**, impacts would be less than significant for hillside development.

Scenic Highways

There are no designated state scenic highways in the City of Santa Clarita or elsewhere in the Santa Clarita Valley. State Route 126 is designated as an eligible state scenic highway, but is not officially designated. Los Angeles County designates State Route 126 as a “First Priority Scenic Route” which is proposed for further study, but has no regulatory restrictions placed on it.

The Project site is not within a state scenic highway and does not contain any unique rock outcroppings, historic buildings, or trees. Thus, implementation of the Project would not damage any impacts to scenic resources and no impacts would occur.

Level of Significance Before Mitigation – Scenic Highways

No impact for scenic highways.

Mitigation Measures – Scenic Highways

No mitigation is required for scenic highways.

Level of Significance After Mitigation – Scenic Highways

No impact for scenic highways.

Aes-3 Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Project Construction

During the construction phase of the Project, initially, each area would be cleared and graded with building pads and structures framed, and parking areas and streets paved. Residential structures would likely use wood framing, while commercial buildings would involve both steel and wood framing. The transition from graded lots to framed structures, to finished buildings with landscaped areas, would occur within each area. Such construction activity would change the existing visual character of the Project site and its surroundings. However, construction activity would be temporary, and the permanent visual character of the Project site would not be realized until completion of construction. Additionally, the Project site is located immediately adjacent to urbanized areas of similar scale and intensity, such as the Sand Canyon Ranch Apartments; Sierra Hills, Canyon Collection, and Stetson Ranch communities; and commercial uses to the south, southwest, and west. Therefore, the location of the Project site would lessen the degree of contrast between the construction sites and the surrounding area. For this reason, impacts during construction would be less than significant.

Project Operations

Buildout of the Project would change the visual character of the approximately 87-acre site, which currently includes 123 mobile home units with the remainder of the site being vacant and undeveloped. The Project would involve the development of 146 condominiums, 122 multi-family attached townhomes, 312 multi-family attached apartments, a 120-room assisted living facility, 55,600 square feet of retail and restaurant uses, and open space on approximately 87 acres. The architectural style would vary for the on-site buildings, but is assumed to generally follow a Rustic California theme consistent with the CCDG.

Planning Area 1 would include commercial uses, and would be immediately adjacent to existing commercial and single-family residential development to the west. Building heights would not exceed 35 feet for the commercial and restaurant buildings, or 55 feet for the assisted living facility. The proposed buildings would be compatible in size and scale with the existing commercial buildings located along Sand Canyon Road and Soledad Canyon Road.

Planning Area 2 would include 312 multi-family attached apartment units, and would be immediately adjacent to the Sierra Hills community to the west. The buildings in Planning Area 2 would have a maximum height of 55 feet. The closest apartment building would be located approximately 300 feet from the existing residents on Macklin Drive within the Sierra Hills

community to the west. In addition, the apartment units would be located approximately 25 to 35 feet below the single-family homes, which serves to buffer existing residences from the proposed structures.

Planning Area 3 would include 122 multi-family attached townhomes, and would lie immediately west of the Sand Canyon Ranch Apartments and the Canyon Collection community. The buildings in Planning Area 3 would be a maximum of 35 feet. The closest townhome building would be located approximately 250 feet east of the existing Sand Canyon Ranch Apartment buildings, approximately 325 feet southeast of the residents on Vista Pointe Lane in the Canyon Collection community, and approximately 600 feet south of the Stetson Ranch community. The townhomes would be located at an elevation that is approximately 150 feet below the homes on Vista Pointe Lane, 80 feet below the homes on Thompson Ranch Drive, and 30 to 40 feet below the Sand Canyon Ranch Apartments. The elevation difference and distance serve to buffer existing residences from the proposed structures.

Planning Area 4 would include 71 condominiums, and is centrally located on the site with Planning Areas 2 and 3 to the south, west, and north, and Planning Area 5 to the north, east, and south. The buildings in Planning Area 4 would be a maximum of 35 feet. The homes in Planning Area 4 would be buffered by the apartments and townhomes in Planning Areas 2 and 3 from the Sand Canyon Ranch Apartments and the Canyon Collection community.

Planning Area 5 would include 71 condominiums and open space, and is located in the eastern portion of the Project site. The buildings in Planning Area 5 would be a maximum of 35 feet high. The closest home in Planning Area 5 would be located approximately 300 to 350 feet west of the residents on Oak Springs Canyon Road and approximately 120 to 150 feet west of homes on Prairie Lane on the east side of the ridgeline. In addition, the homes in Planning Area 5 would be at an elevation ranging from 1,705 to 1,740 feet, which is above the homes along Prairie Lane and Oak Springs Canyon Road with elevations ranging from 1,580 to 1,600 feet. Also, open space areas are planned along the southern and eastern portions of Planning Area 5. Thus, the homes on Prairie Lane and Oak Springs Canyon Road are buffered from the homes in Planning Area 5 due to being located on the east side of the ridgeline, along with the proposed open space and elevation differences between the existing and proposed homes.

The Project site has been previously disturbed by human activity, including but not limited to illegal dumping and off-road vehicle usage, all of which significantly disturb the remaining vegetation communities and result in a complex mix of native and non-native species. However, the open space and landscaping proposed with the Project would enhance the existing visual quality of the Project site.

While the Project would result in an increase in urban development within the Project area, it would be consistent with the General Plan, the UDC, and CCDG and would be compatible with the character of the surrounding community. In addition, the proposed landscaping, pedestrian

and bicycle circulation, and open space would provide for an aesthetically pleasing development that would not result in a degradation of the visual character or quality of the Project site and its surroundings or in a substantial alteration of existing views across the site. Therefore, long-term aesthetics and visual character impacts associated with the Project would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Aes-4 Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Project Construction

During construction of the Project, nighttime lighting would be maintained on the Project site for security purposes. The Sierra Hills community and Sand Canyon Ranch Apartments to the west, Canyon Collection community to the northwest, and Stetson Ranch community to the north are considered light-sensitive uses nearest to the Project site. The ridgeline on the eastern boundary of the Project site would provide buffers between the construction areas and the light-sensitive uses to the east. Implementation of Mitigation Measures **MM Aes-4** and **MM Aes-5** would limit the use of construction security lighting to those planning areas requiring illumination, and would require all security lights to be properly shielded and projected downwards. Furthermore, construction lighting would be temporary and removed upon completion of construction activities.

Construction activities are not anticipated to create sources of glare that could affect visibility in the area, because construction is not expected to involve bright light sources that would be visible from off-site, or other materials that could directly or indirectly generate glare. Accordingly, with implementation of mitigation, impacts due to light and glare generation during construction are considered less than significant.

Project Operations

Development of the Project would result in increased utilization of the property for residential and commercial uses. The Project would not require components or building materials capable of producing substantial daytime glare. However, various sources of nighttime lighting would be required during long-term operations. Lighting would include outdoor sources such as lighting for entryways, walkways, security lighting surrounding structures, and vehicle headlights. Lighting

would also occur within the interior of on-site structures. These nighttime lighting sources could potentially result in impacts related to neighboring residential uses.

Urban development surrounds the Project with commercial uses to the south, southwest, and west; residential uses to the west, northwest, north, and east; and SR-14 to the south. Existing residential uses to the west and north would experience a change in the amount of light spill or glare upon implementation of the Project. However, light and glare from the Project would not impact the residential uses that are located east of the site since they are located on the eastern side of the ridgeline and are at a lower higher elevation than the Project site, and as such would be less than significant.

In compliance with City standards and to minimize impacts to off-site residential uses, the Project would include a Lighting Plan that indicates the proposed locations of all outdoor lighting installations. The lighting must comply with UDC Chapter 17.15, Property Development Standards, which requires all light sources to be directed downward and shielded from streets or adjoining properties and would prevent light spillover to adjacent residential uses. Regardless, mitigation measures have been included to ensure lighting impacts to off-site uses would be less than significant. Therefore, implementation of the Mitigation Measure **MM Aes-6** and compliance with the UDC would reduce long-term light and glare impacts to surrounding uses to a less than significant level.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM Aes-4	The Project Applicant, or responsible party, shall require that the use of nighttime lighting during project construction be limited to only those features on the construction site requiring illumination.
MM Aes-5	The Project Applicant, or designee, shall require that all security lights be properly shielded and projected downwards during construction, such that light is directed only onto the work site.
MM Aes-6	Prior to the issuance of building permits, the City of Santa Clarita Planning Division shall ensure that the following elements are included in project plans, as appropriate: <ul style="list-style-type: none"> • All exterior lighting shall be designed and located as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the Project site. Low-intensity street lighting and low-intensity exterior lighting shall be used throughout the development to the extent feasible. Lighting fixtures shall use shielding, if necessary, to prevent spill lighting on adjacent off-site uses. • Design and placement of site lighting shall minimize glare affecting adjacent properties, buildings, and roadways.

- Outdoor lighting along the Project site boundary shall consist of low-intensity downlights, or be equipped with louvers, shields, hoods or other screening devices.
- Fixtures and standards shall conform to state and local safety and illumination requirements.
- Buildings shall use low-reflective glass and building materials on building exteriors.
- Automatic timers on lighting shall be designed to maximize personal safety during nighttime use while saving energy.

Level of Significance after Mitigation

With implementation of Mitigation Measures **MM Aes-4** through **MM Aes-6**, impacts would be less than significant.

4.1-7 Cumulative Impacts

The Project, in combination with other related projects, would contribute to the continued alteration of the aesthetics character of the Santa Clarita Valley. The Project and other development in the City of Santa Clarita would transform the character of the area by intensifying land uses and adding urban uses in currently undeveloped areas. The aesthetics, light, and glare impacts of individual development projects can be mitigated through careful site design, avoidance of significant visual features, compliance with the local standards for lighting impacts, and appropriate building and landscape standards. Through the implementation of Project-specific mitigation measures and compliance with the General Plan, the UDC, and Community Character and Design Guidelines, cumulative long-term aesthetics, light, and glare impacts would be reduced to less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.1-8 Sources Cited

1. Santa Clarita General Plan, adopted June 14, 2011. Sources have been cited to determine consistency with goals and policies.

2. City of Santa Clarita, Unified Development Code, current through Ordinance 13-8, Section 4 (Exhibit A), June 11, 2013.

4.2 Agriculture and Forestry Resources

4.2-1 Summary

The Project site is not within an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation's California Important Farmland Finder (accessed March 14, 2016). Within the City of Santa Clarita, there are no agricultural preserve areas, no land under a Williamson Act contract, and no land zoned exclusively for agricultural use. The Project site is currently zoned Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3) and is not located within an area zoned as Open Space-National Forest (OS-NF). Therefore, no impacts to Agricultural Resources would occur.

4.2-2 Introduction

This section describes existing agricultural and forestry resources, identifies the regulatory framework with respect to regulations that address agricultural and forestry resources, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.2-3 Existing Conditions

The approximately 87-acre Project site is situated at the northeast corner of Sand Canyon Road and Soledad Canyon Road, and along the north side of the Antelope Valley Freeway (SR-14) in a developed area of the Santa Clarita Valley. The site is characterized by hillsides along the eastern boundary, with more gentle, down-gradient topography along the western extent of the property. A portion of the site is currently developed with 123 mobile home units. The remainder of the site is vacant and undeveloped with no signs of agricultural activity.

4.2-4 Regulatory Setting

1. Federal and State

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture Soil Conservation Service (USDA-SCS), now known as the Natural Resources Conservation Service (NRCS). The intent of the USDA-SCS was to produce agricultural resource maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; the suitability criteria addressed both the physical and chemical characteristics of soils and the actual

land use. Important Farmland maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted in the completion of agricultural resources mapping. The FMMP was created within the Department of Conservation (DOC) to carry on the mapping activity on a continuing basis, and with a greater level of detail through the modification of the LIM criteria for California-specific use. The California-specific LIM criteria use the Soil Capability Classification and the Storie Index Rating Systems, but also consider other physical conditions such as water supply, soil temperature range, depth of groundwater, flooding potential, rock fragment content, and rooting depth.

Important Farmland maps for California are compiled using the modified LIM criteria (as described above) and current land use information. The minimum mapping unit is 10 acres, unless otherwise specified. Units of land smaller than 10 acres are incorporated into the surrounding classification. The Important Farmland maps identify five agriculture-related categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. Each is summarized below, based on “A Guide to the Farmland Mapping and Monitoring Program” (1998), prepared by the DOC. Additionally, three categories are described below that are not agriculturally related, but are mapped by the FMMP, including Urban and Built-Up Land, Other Land, and Land Committed to Nonagricultural Use.

The State of California Department of Conservation California Important Farmland Finder (CIFF) designates the Project site as Urban and Built-Up Land and Other Land.

2. State of California

Williamson Act Contracted Lands

Agricultural activities in the State of California can be protected through a variety of legislative means, including the California Land Conservation Act and local Right-To-Farm Ordinances and Greenbelt Agreements. The California Land Conservation Act (CLA), also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the state’s agricultural lands and to prevent their premature conversion to urban uses. To preserve these uses, the CLA established an agricultural preserve contract procedure by which any county or city within the state taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes as opposed to its unrestricted market value. In return, the owners guarantee that these properties will remain under agricultural production for 10 years. The contract is renewed automatically unless the owner files a Notice of Non-Renewal.

The Project site is not under a Williamson Act contract.

Forestland Resources

According to *California Public Resources Code* §12220(g), a Forestland is defined as “land that can support 10 percent native tree cover of any species, including hardwoods, under natural

conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” The California Department of Forestry and Fire Protection (CAL FIRE), in collaboration with the United States Forest Service (USDA Forest Service), develops Land Cover Maps that depict the different types of land cover that exist within the State of California, which includes the following classifications: conifer-forest; conifer-woodland; hardwood-woodland; hardwood-forest; shrub; herbaceous; wetland; desert-shrub, desert-woodland; agriculture; urban, barren/other; water; and not mapped.

According to the CAL FIRE/USDA Forest Service Land Cover Maps, the Project site is classified as urban land.

3. City of Santa Clarita

General Plan

Applicable goals and policies from the General Plan Land Use and Conservation and Open Space Elements are listed below.

Goal LU 1: An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.

Policy LU 1.1.7: Preserve and protect important agricultural resources, including farmland and grazing land, through designating these areas as Open Space and Non-Urban on the Land Use Map, where appropriate.

Goal CO 10: Preservation of open space to meet the community’s multiple objectives for resource preservation.

Policy CO 10.1.9: Preserve forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, groundwater recharge areas, and other open space that provides natural carbon sequestration benefits.

4.2-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to agriculture and forestry resources are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to agriculture and forestry resources if any of the following could occur.

Ag-1 Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

-
- Ag-2** Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Ag-3** Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
- Ag-4** Would the project result in the loss of forest land or conversion of forest land to non-forest use?
- Ag-5** Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forestland to non-forest use?
-

4.2-6 Impacts Analysis

- Ag-1** Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

The Project site is not within an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation's California Important Farmland Finder (accessed March 14, 2016). Therefore, the Project would have no impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

-
- Ag-2** Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Within the City of Santa Clarita, there are no agricultural preserve areas, no land under a Williamson Act contract, and no land zoned exclusively for agricultural use. Horticulture for commercial sale is permitted in the City's Business Park (BP) and Industrial (I) zones, and conditionally permitted in the City's Non-Urban zones and Urban Residential 1 and 2 zones. The Project is zoned Mixed Use Neighborhood (MXN) and Urban Residential (UR-3), which do not allow horticulture for commercial sale. Therefore, the Project would not conflict with zoning for agricultural use or Williamson Act contracts. No impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

Ag-3 Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Ag-4 Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The Project site is currently zoned Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3) and is not located within an area zoned as Open Space-National Forest (OS-NF). Therefore, implementation of the Project would not conflict with the existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned as Timberland Production. In addition, the Project site does not contain any forestland. Therefore, implementation of the Project would not result in the loss of forestland or conversion of forestland to non-forest use. No impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

Ag-5 Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forestland to non-forest use?

No agricultural operations are currently being conducted on the Project site, and the site is not zoned for agricultural uses. In addition, there is no forest land located on the Project site or in the vicinity of the site, as the area is highly urbanized. No farmland or forest land would be converted to other uses under the Project, and therefore, no impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

4.2-7 Cumulative Impacts

Conversion of agricultural land to urban uses has a long history in the Santa Clarita Valley. The Santa Clarita Valley General Plan EIRs concluded that implementation of the Land Use Policy Map would have a significant impact on agricultural land because it would convert some of the Important Farmland under the California Department of Conservation (CDC) Farmland Mapping and Monitoring Program, to urbanized land uses. However, as stated previously, none of the “Important Farmland” is located within the City, which is where this Project is located.

Given that implementation of the Project would not eliminate any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as designated by the California Department of Conservation, the Project’s contribution to cumulative impacts to agricultural resources in the region is not significant.

The USDA Forest Service and CAL FIRE identifies Land Cover Changes in the State of California based on the California Land Cover Mapping and Monitoring Program (LCMMP). The LCMMP provides data for four regions in California, including the Southern Sierra, Northeastern area, South Coast area, and North Coast area. The South Coast area (where the Sand Canyon Plaza Mixed-Use Project site is located) covers 19.9 million acres. The area covers some or most of Imperial, Kern, Los Angeles, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties. The South Coast area also encompasses four national forests (Angeles, Cleveland, Los Padres, and San Bernardino) and other federal, state, and privately owned land.

As discussed above, the development of the Sand Canyon Plaza Mixed-Use Project site would not result in the permanent loss or conversion of forestland resources. Therefore, the Project would not contribute to a cumulatively considerable impact to forest resources.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.2-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to discuss the goals and policies consistency with General Plan policies.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

State of California Department of Conservation, California Important Farmland Finder; <http://maps.conservation.ca.gov/ciff/ciff.html>, accessed March 14, 2016. This source is used to determine important farmland locations.

4.3 Air Quality

4.3-1 Summary

The Sand Canyon Plaza Mixed-Use Project site is located within the South Coast Air Basin (SoCAB), which is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Project is a mixed-use development on approximately 87 acres of land located at the northeast intersection of Sand Canyon Road and Soledad Canyon Road, north of SR-14 (see **Figure 3-2, Project Area Vicinity Map**, page 3-5). The Project includes a mixture of residential and commercial development, recreational facilities, trails, and open space. Construction of the Project would result in the emission of volatile organic compounds (VOCs), nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter 10 microns or less in diameter (PM₁₀), and particulate matter 2.5 microns or less in diameter (PM_{2.5}) from heavy-duty construction equipment exhaust, fugitive dust (PM₁₀ and PM_{2.5}) from earth-moving activities, and VOCs from asphalt paving and architectural coating. Off-site emissions during construction normally consist of exhaust emissions and entrained paved road dust (PM₁₀ and PM_{2.5}) from construction equipment delivery, material delivery, and construction worker commute trips. Construction of the Project is expected to begin in mid-2017 and last until the end of 2019.²

Operational emissions would be generated by stationary and mobile sources as a result of normal day-to-day activity on the Project site. Stationary emissions would be generated by the consumption of natural gas for space-heating and water-heating devices, the operation of landscape maintenance equipment, and from the use of consumer products. Mobile emissions would be generated by motor vehicles (e.g., passenger vehicles, trucks, buses, motorcycles) traveling to and from the Project site. On-site operation emissions would be generated from the periodic operation of standby generators and natural gas combustion for building and water heating.

Significant and avoidable impacts would occur for regional operational emissions and cumulative operational emissions. All other impacts would be less than significant.

A portion of the Project site is located within 500 feet of the SR-14 Freeway. Under the Project, most of the Project site within 500 feet of the SR-14 Freeway would be commercial uses, replacing

2 The Air Quality Technical Report (December 2015) estimated that the Project would be constructed in approximately 2.5 years (30 months) with construction beginning in mid-2016 and Project operations commencing by the end of 2018. Given the difficulty in estimating the timing of the planning phase for development projects, the most recent estimate assumes construction of the Project would begin in mid-2017 and last until the end of 2019 with the same construction phasing and durations. Compared to what was estimated in the Air Quality Technical Report, this slight modification would result in minor reductions of air quality emissions, because emission factors for off-road and on-road sources gradually improve each calendar year into the future (i.e., emissions would not have the potential to be greater than those disclosed in the Air Quality Technical Report). As such, this analysis presents a conservative and worst-case analysis.

existing residential uses in that portion of the site. However, an assisted living facility is proposed to be located within 500 feet of the SR-14 Freeway. Recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high-traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California.³ As such, the California Air Resources Board (CARB) recommends that lead agencies avoid locating new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. In addition, General Plan Conservation and Open Space Element Policy CO 7.2.1 states: *Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.* A Freeway Adjacent Health Risk Assessment (HRA) was prepared by Pomeroy Environmental Services in January 2016 in compliance with Uniform Development Code, Title 17, §17.53.020.L and §17.57.020.I, and has been included as **Appendix 2-3**. The HRA is provided for informational purposes only, and is intended to identify ambient air quality and health conditions for locations on the Project site. Figure 1 of the HRA illustrates the portions of the Project site within 500 feet of the SR-14 Freeway. Because this is a policy issue, refer to **Section 4.10, Land Use** for a policy consistency analysis relative to this topic.

4.3-2 Introduction

The purpose of this section is to examine the degree to which the Project may result in significant environmental impacts with respect to air quality. The analysis and conclusions reached in this section are based on the Air Quality Technical Report (Pomeroy Environmental Services, December 2015) included in **Appendix 2-1** to this EIR. Short-term construction emissions occurring from activities such as demolition, site grading, and truck trips, and long-term effects related to the ongoing operation of the Project are discussed in the Air Quality Technical Report. The potential for the Project to conflict with or obstruct implementation of the applicable air quality plan, to violate an adopted air quality standard or contribute substantially to an existing or projected air quality violation, to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is designated to be in non-attainment, to expose sensitive receptors to substantial pollutant concentrations, or to create objectionable odors affecting a substantial number of people are discussed herein.

3 For a detailed discussion of the various air pollution studies being referenced, see Air Quality and Land Use Handbook: A Community Health Perspective, California Air Resources Board, 2005.
<http://www.arb.ca.gov/ch/handbook.pdf>

4.3-3 Existing Conditions

The Project site is located within the Los Angeles County portion of 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. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by meteorological conditions and a wide range of emissions sources such as dense population centers, heavy vehicular traffic, and industry. The South Coast Air Quality Management District (SCAQMD) divides the Basin into source receptor areas (SRAs) in which monitoring stations record the various concentrations of air pollutants in the region. As shown in **Figure 4.3-1, Source Receptor Area Location Map**, the Project site is located within SRA 13, which covers the Santa Clarita Valley area.

In 2004, the SCAQMD provided an expanded air quality analysis of the Santa Clarita Valley subregion. The Santa Clarita Subregional Analysis⁴ indicated that the Santa Clarita Valley is a relatively small contributor to the total emissions of the key pollutants in both Los Angeles County and the Basin. Emissions occurring in the Santa Clarita Valley typically comprise less than 3% of the County and 2% of the Basin, based on 2002 emissions inventory data. While the Santa Clarita Valley contributes a small amount of pollutants to the region, it experiences disproportionately high concentrations of ozone and particulate matter. The subregional analysis stated that the overwhelming contribution of pollution transport to the Santa Clarita Valley comes from the San Fernando Valley and metropolitan Los Angeles.

This is evidenced by meteorological monitoring data for the Santa Clarita Valley that show the primary daytime wind vectors are from the southern and upwind emission source areas. The subregional analysis also indicated that, in general, average transport, which is characterized by a moderate-to-strong sea breeze through the Newhall Pass, occurs two-thirds of all days and that, in contrast, Santa Clarita is mostly impacted from local emissions under calm winds and weak offshore flow, which occurs less than 10% of all days. Therefore, the disproportionate impact of air pollutants in the Santa Clarita Valley is caused by the regional and local climate.

4 The SCAQMD's 2004 Santa Clarita Subregional Analysis can be found at http://www.santa-clarita.com/filecenter/external/planning/via-princessa/appendices/Apx4_1c_SubregionalAnalysis.pdf

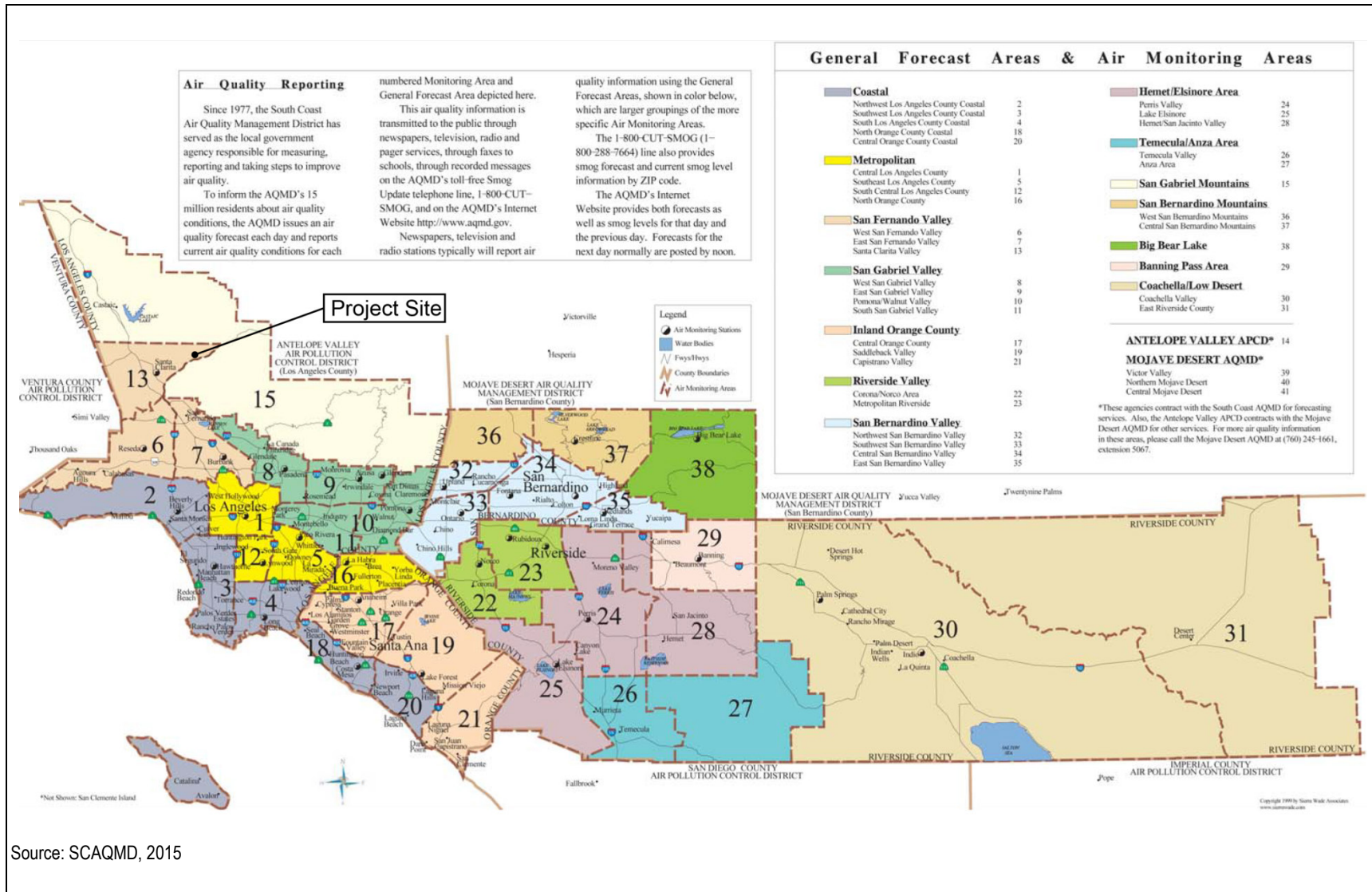


Figure 4.3-1 Source Receptor Area Location Map

1. Air Pollutants

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples of point sources include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as lighter fluid and hair spray. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

To protect public health and welfare, the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants. These pollutants are referred to as “criteria air pollutants” as a result of the specific standards, or criteria, that have been adopted for them. The national and state standards have been set at levels considered safe to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The criteria air pollutants that are most relevant to current air quality planning and regulation in the Basin include ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). In addition, toxic air contaminants (TACs) are of concern in the Basin. The characteristics of each of these pollutants are briefly described below.

- O₃ is a highly reactive and unstable gas that is formed when reactive organic gases (ROGs) and nitrogen oxides (NO_x), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O₃ 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.
- CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike O₃, motor vehicles operating at slow speeds are the primary source of

CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- PM₁₀ and PM_{2.5} consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- NO₂ is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of NO_x compounds, NO₂ is the most abundant in the atmosphere. As ambient concentrations of NO₂ are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO₂ than those indicated by regional monitors.
- SO₂ 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 SO₂ oxidizes in the atmosphere, it forms sulfates (SO₄). Collectively, these pollutants are referred to as sulfur oxides (SO_x).
- Pb occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne Pb in the Basin. The use of leaded gasoline is no longer permitted for on road motor vehicles, so the majority of such combustion emissions are associated with off-road vehicles such as racecars. However, because leaded gasoline was emitted in large amounts from vehicles when leaded gasoline was used for on-road motor vehicles, Pb is present in many urban soils and can be re-suspended in the air. Other sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.
- TACs refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than “criteria” pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be felt on a local scale rather than on a regional basis.

2. Health Effects of Criteria Pollutants

The health effects of the criteria pollutants (i.e., O₃, CO, PM₁₀ and PM_{2.5}, NO₂, SO₂, and Pb) and TACs are described in this section.⁵ In addition, a list of the harmful effects of each criteria pollutant is provided in **Table 4.3-1**.

Table 4.3-1 Summary of Health Effects of Criteria Pollutants

Pollutants	Primary Health and Welfare Effects
Ozone (O ₃)	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases • Reduced lung function • Increased cough and chest discomfort
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Aggravation of some heart disease (angina) • Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure
Particulate Matter (PM ₁₀ and PM _{2.5})	<ul style="list-style-type: none"> • Reduced lung function • Aggravation of respiratory and cardio-respiratory diseases • Increases in mortality rate • Reduced lung function growth in children
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Aggravation of respiratory illness
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function
Lead (Pb)	<ul style="list-style-type: none"> • Behavioral and hearing disabilities in children • Nervous system impairment

Source: SCAQMD, Guidance Document for Air Quality Issues in General Plans and Local Planning, 2005.

O₃ (Ozone)

Individuals exercising outdoors, children and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are also associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants that include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance

⁵ The descriptions of the health effects of the criteria pollutants are taken from Appendix C (Health Effects of Ambient Air Pollutants) of SCAQMD's "Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning" document.

changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes. Reduction in birth weight and impaired neurobehavioral development has been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities. Additional research is needed to confirm these results.

Particulate Matter

A consistent correlation between elevated ambient particulate matter (PM₁₀ and PM_{2.5}) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and lung cancer. Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show that lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of PM₁₀ and PM_{2.5}.

Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy individuals. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis,

emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO₂ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of O₃ and NO₂.

Sulfur Dioxide

A few minutes of exposure to low levels of SO₂ can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂. Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or whether one pollutant alone is the predominant factor.

Sulfates

Most of the health effects associated with fine particles and SO₂ at ambient levels are also associated with SO₄. Thus, both mortality and morbidity effects have been observed with an increase in ambient SO₄ concentrations. However, efforts to separate the effects of SO₄ from the effects of other pollutants generally have not been successful. Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

Lead

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence levels. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to the breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid

gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

Toxic Air Contaminants (TACs)

TACs are a broad class of compounds known to cause or contribute to cancer or non-cancer health effects such as birth defects, genetic damage, and other adverse health effects. As discussed previously, effects from TACs may be both chronic and acute on human health. Acute health effects are attributable to sudden exposure to high quantities of air toxics. These effects include nausea, skin irritation, respiratory illness, and, in some cases, death. Chronic health effects can result from low-dose, long-term exposure from routine releases of air toxics. The effect of major concern for this type of exposure is cancer, which typically requires a period of 10 to 30 years after exposure to develop. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified by the CARB as TACs, and are listed as carcinogens either under California's Proposition 65 or under the federal Hazardous Air Pollutants programs. The United States Environmental Protection Agency (U.S. EPA) has adopted Ultra Low Sulfur Diesel (ULSD) fuel standards to reduce diesel particulate matter. As of June 1, 2006, refiners and importers nationwide have been required by the U.S. EPA to ensure that at least 80% of the volume of the highway diesel fuel they produce or import would be ULSD-compliant. As of December 10, 2010, only ULSD fuel is available for highway use nationwide. In California, which was an early adopter of ULSD fuel and engine technologies, 100% of the diesel fuel sold – downstream from refineries, up to and including fuel terminals that store diesel fuel – has been ULSD fuel since July 15, 2006. Since September 1, 2006, all diesel fuel offered for sale at retail outlets in California has been ULSD fuel.

3. Ambient Air Quality Conditions

Local Air Quality

As stated previously, the Project site is located within SRA 13 which covers the Santa Clarita Valley area. SCAQMD Station No. 090 collects ambient air quality data for SRA 13. This station currently monitors for O₃, CO, NO₂, and PM₁₀. **Table 4.3-2** below identifies the ambient pollutant

concentrations that were measured at SCAQMD Station No. 090 from 2012 to 2014 (2014 is the latest year of available data).

Table 4.3-2 Summary of Ambient Air Quality in the Project Vicinity

Air Pollutants Monitored Within SRA 13 Santa Clarita Valley (SCAQMD Station No. 090)	Year		
	2012	2013	2014
O₃			
Maximum 1-hour concentration measured	0.134 ppm	0.134 ppm	0.137 ppm
Number of days exceeding national 0.12 ppm 1-hour standard	6	2	2
Number of days exceeding state 0.09 ppm 1-hour standard	45	30	32
Maximum 8-hour concentration measured	0.112 ppm	0.104 ppm	0.110 ppm
Number of days exceeding national 0.075 ppm 8-hour standard	57	40	45
Number of days exceeding state 0.07 ppm 8-hour standard	81	58	65
CO			
Maximum 1-hour concentration measured	N/A	N/A	3.0 ppm
Maximum 8-hour concentration measured	1.1 ppm	0.8 ppm	1.2 ppm
NO₂			
Maximum 1-hour concentration measured	0.0661 ppm	0.0654 ppm	0.0577 ppm
Annual average	0.0136 ppm	0.0144 ppm	0.0127 ppm
Does measured annual average exceed national 0.0534 ppm annual average standard?	No	No	No
Does measured annual average exceed State 0.030 ppm annual average standard?	No	No	No
PM₁₀			
Maximum 24-hour concentration measured	37 µg/m ³	43 µg/m ³	47 µg/m ³
Number of days exceeding national 150 µg/m ³ 24-hour standard	0	0	0
Number of days exceeding state 50 µg/m ³ 24-hour standard	0	0	0
Annual Arithmetic Mean (AAM)	19.6	21.6	23.2
Does measured AAM exceed state 20 µg/m ³ AAM standard?	No	Yes	Yes

Notes: ppm = parts by volume per million of air; µg/m³=micrograms per cubic meter.

SCAQMD, Historical Data by Year, website: <http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year>, accessed October 2015.

In addition to the pollutants outlined in **Table 4.3-2** above, the Project site vicinity is also subject to elevated TACs due to mobile and other TAC sources. As disclosed in the Multiple Air Toxics Exposure Study IV (MATES IV), Carcinogenic Risk Interactive Map, the existing carcinogenic risk for the Project area is approximately 150 incidents per 1 million.⁶ By comparison, the estimated population-weighted risk across the Basin for the MATES IV Study is 367 per 1 million with the OEHHA 2003 calculation methodology. Applying the revised OEHHA (February 2015) methodology to the modeled air toxics levels, the MATES IV estimated population weighed risk across the Basin is 897 per 1 million.

⁶ MATES IV Draft Final Report, April 1, 2015. Website: <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>

Ambient Air Quality Conditions Associated With SR-14 Freeway

A portion of the Project site is located within 500 feet of the SR-14 Freeway mainline. Most of the proposed uses for the Project that would be located within 500 feet of the SR-14 Freeway are commercial uses that are replacing existing residential uses in that portion of the site. However, an assisted-living facility is also proposed to be located within 500 feet of the SR-14 Freeway.

Recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. As such, the California Air Resources Board (CARB) recommends that lead agencies carefully consider siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.

A Freeway Adjacent Health Risk Assessment (HRA) was prepared for the Project consistent with the CARB's recommendation and the City's Unified Development Code, Title 17, Sections 17.53.020.L and 17.57.020.I. The HRA is included in its entirety in **Appendix 2-3** to this EIR. The HRA has been prepared for informational purposes consistent with city and state policies, and the HRA focuses on the potential exposure and health risks associated with locating sensitive land uses within 500 feet of the SR-14 Freeway. In addition, and consistent with the policies identified, the HRA recommends site design features to minimize these risks. Refer to Section **4.10, Land Use**. The following provides a summary of the existing air quality and health conditions at the Project site.

Modeled Criteria Pollutant Results

HRA Table 5 presents the estimated concentration at the Project site's worst-case ground level location for each criteria pollutant and averaging time. As shown in HRA Table 5, concentrations at the worst-case location due to freeway emissions for CO (1-hour and 8-hour) and PM_{2.5} (24-hour) would be below the ambient air quality standards. The concentration of PM₁₀ would be under the state and federal standards for PM₁₀ 24-hour (50 µg/m³) and annual (20 µg/m³).

Carcinogenic Risk Results

HRA Table 6 summarizes carcinogenic risk from all primary mobile source air toxics (MSAT), which include diesel particulate matter (DPM), formaldehyde, 1,3 butadiene, benzene, acrolein, acetaldehyde, and naphthalene, for the worst-case ground level location at the Project site, which totaled a carcinogenic risk of 43.1 per 1 million for the 9-year residential scenario, 60.3 per 1 million for the 30-year residential scenario, 71.0 per 1 million for the 70-year residential scenario, and 4.0 per 1 million for the 25-year worker scenario.

The Project site's worst-case ground level location would be exposed to cancer risks in excess of 10 per 1 million for the 9-year, 30-year, and 70-year residential scenarios, and cancer risks would be

below 10 per 1 million for the 25-year worker scenario. The carcinogenic risks due to the freeway under all scenarios would be less than the existing carcinogenic risk of 150 incidents per 1 million for the Project area as disclosed in the Multiple Air Toxics Exposure Study IV (MATES IV).⁷ HRA Figure 3, Freeway DPM Contours, has been provided to illustrate the DPM contours from dispersion modeling for the Project site and surrounding area.

Non-Carcinogenic Health Risk Results

To quantify non-carcinogenic health risks at the Project site, the hazard index approach was used. This approach assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). To calculate the hazard index, each chemical's concentration or dose is divided by the appropriate toxicity value. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total is equal to or exceeds 1, a health hazard is presumed to exist. A maximum chronic hazard index of 0.03 would occur for the Project site's worst-case location, which is below the SCAQMD recommended threshold. For acute exposures, the maximum hazard indices for 1- and 8-hour averaging times totaled 0.45 and 0.03, respectively. These indices would also be under the SCAQMD recommended threshold.

Existing Project Site Air Quality Emissions

The Project site currently consists of 123 mobile home units. Air pollutant emissions are generated by the existing operations of the Project site due to area sources (e.g., landscaping, paints, consumer products), energy demand, and motor vehicles traveling to and from the Project site. The average daily emissions generated by the existing uses of the Project site have been estimated utilizing the California Emissions Estimator Model (CalEEMod) Version 2013.2.2⁸ recommended by the SCAQMD. As shown in **Table 4.3-3** below, motor vehicles are the primary source of air pollutant emissions associated with existing uses at the Project site.

7 MATES IV Draft Final Report, April 1, 2015. Website: <http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv>

8 CalEEMod Version 2016.3.1 was released in October 2016, after the technical analyses for the Project's Draft EIR commenced. For informational purposes, a supplemental model run was conducted with CalEEMod 2016.3.1 for construction and operational air quality emissions. Although emissions varied, the impact conclusions in this analysis are the same with the use of either model. See **Appendix 2-2** to this EIR for the CalEEMod Version 2016.3.1 data.

Table 4.3-3 Existing Daily Operational Emissions of the Project Site

Emissions Source	Emissions in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summertime (Smog Season) Emissions						
Area Sources	3.78	0.12	10.35	<0.01	0.20	0.20
Energy Demand	0.01	0.13	0.05	<0.01	0.01	0.01
Mobile (Motor Vehicles)	2.63	7.64	31.54	0.07	4.58	1.30
Total Existing Emissions	6.43	7.89	41.94	0.07	4.79	1.51
Wintertime (Non-Smog Season) Emissions						
Area Sources	3.78	0.12	10.35	<0.01	0.20	0.20
Energy Demand	0.01	0.13	0.05	<0.01	0.01	0.01
Mobile (Motor Vehicles)	2.76	8.07	31.35	0.06	4.58	1.30
Total Existing Emissions	6.56	8.31	41.75	0.07	4.79	1.51

Note: Column totals may not add due to model rounding.

CalEEMod data provided in the Air Quality Technical Report (PES, December 2015) included in **Appendix 2-1** to this EIR.

Sensitive Receptors

Land uses that are considered more sensitive to changes in air quality than others are referred to as “sensitive receptors.” Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on human respiratory function. The nearest sensitive receptors to the Project site include residential uses to the east, north, and west of the Project site, and a recreational facility with swimming and tennis to the west of the site (the Sierra Hills Swim and Racquet Club). Specifically, the residences to the east (the Pinetree community) are located as close as approximately 20 feet from the site, the single-family residence to the north is approximately 120 feet from the site, the single-family homes to the northwest (along Vista Point Lane) are located as close as approximately 330 feet from the site, the apartments to the west (along N. Silver Saddle Circle) are located as close as approximately 140 feet from the site, the single-family residences to the west (along Macklin Avenue) are located as close as approximately 140 feet from the site, and the tennis courts associated with the Sierra Hills Swim and Racquet Club are located approximately 260 feet from the site.

4.3-4 Regulatory Setting

Air quality in the United States is governed by the federal Clean Air Act (CAA). In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, the CAA is administered by the United States Environmental Protection Agency (U.S. EPA). In California, the CCAA is administered by the California Air Resources Board (CARB) at the state level and by the Air Quality Management Districts at the regional and local levels. Air quality within the Basin is

addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Basin are discussed below.

1. Federal

United States Environmental Protection Agency

The U.S. EPA is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf) and establishes various emissions standards for vehicles sold in states other than California. As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP). The SIP for each state identifies how that state will attain and/or maintain the primary and secondary National Ambient Air Quality Standards (NAAQS) set forth in section 109 of the CAA. These SIPs are developed through a public process, formally adopted by the state, and submitted by the Governor's designee to the U.S. EPA. The CAA requires the U.S. EPA to review each plan and any plan revisions and to approve the plan or plan revisions if consistent with the CAA.

2. State of California

California Air Resources Board

The CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets California Ambient Air Quality Standards, compiles emissions inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. In some cases, the state standards are more restrictive than the federal standards established under the CAA.

Off-road diesel vehicles, which include construction equipment, are regulated by CARB for in-use (existing) and new engines. Four sets of standards are implemented by the CARB for new off-road diesel engines, known as Tiers. Tier 1 standards began in 1996. Tier 2 and Tier 3 were adopted in 2000 and were more stringent than the Tier 1 standards. Tier 2 and Tier 3 standards were completely phased in by 2006 and 2008, respectively. Tier 4 standards became effective in 2011. Tier 4 emission standards will reduce particulate matter and NO_x emissions of late model cars to 90% below current levels. Since off-road vehicles that are used in construction and other related

industries can last 30 years or longer, most of those that are in service today are still part of an older fleet that do not have emissions controls. On July 26, 2007, CARB approved a regulation to reduce emissions from existing (in-use) off-road diesel vehicles that are used in construction and other industries. This regulation became effective on June 15, 2008, and sets an anti-idling limit of 5 minutes for all off-road vehicles 25 horsepower and up. It also establishes emissions rate targets for off-road vehicles that decline over time to accelerate turnover to newer, cleaner engines and require exhaust retrofits to meet these targets. The regulation on the larger fleets started in 2010, while medium and small fleet requirements targeted compliance in 2013 and 2015, respectively.

The U.S. EPA and the CARB use different standards for determining whether the Basin is in attainment. Federal and state standards are summarized in **Table 4.3-4** below. The attainment status for the Los Angeles portion of the Basin with regard to the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) is also shown in **Table 4.3-3** (page [4.3-14](#) above). The CCAA designates air basins as either in attainment or nonattainment for each state air quality standard. The South Coast Air Basin (Los Angeles County portion) is designated as a state and federal nonattainment area for O₃ and PM_{2.5}.

Table 4.3-4 Ambient Air Quality Standards and Attainment Status for the South Coast Air Basin (Los Angeles County Portion)

Air Pollutant	Averaging Time	State Standard	Federal Standard	SCAQMD Attainment Status	
				California Standard	Federal Primary Standard
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Revoked	Non-attainment	Non-attainment
	8 Hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)		
Carbon Monoxide (CO)	1 Hour	20.0 ppm (23,000 µg/m ³)	35.0 ppm (40,000 µg/m ³)	Attainment	Attainment
	8 Hour	9.0 ppm (10,000 µg/m ³)	9.0 ppm (10,000 µg/m ³)		
Nitrogen Dioxide (NO ₂)	1 Hour	0.18 ppm (339 µg/m ³)	0.10 ppm (188 µg/m ³)	Attainment	Unclassified/ Attainment
	Annual	0.03 ppm (57 µg/m ³)	0.0534 ppm (100 µg/m ³)	Attainment	Unclassified/ Attainment
Lead (Pb)	30 Day Avg.	1.5 µg/m ³	--	Attainment	Non-attainment
	Calendar Qtr.	--	1.5 µg/m ³		
Sulfur Dioxide (SO ₂)	1 Hour	0.25 ppm	0.075 ppm	Attainment	Attainment
	24 Hour	0.04 ppm	--		
Particulate Matter 10 (PM ₁₀)	24 Hour	50.0 µg/m ³	150.0 µg/m ³	Non-attainment	Attainment
	Annual	20.0 µg/m ³	Revoked		
Particulate Matter 2.5 (PM _{2.5})	24 Hour	--	35.0 µg/m ³	Non-attainment	Non-attainment
	Annual	µg/m ³	12.0 µg/m ³		

Notes: ppm = parts by volume per million of air; µg/m³=micrograms per cubic meter

Sources: California Air Resources Board, Ambient Air Quality Standards website: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> and California Air Resources Board, State Area Designation Maps website: <http://www.arb.ca.gov/desig/adm/adm.htm>. All data accessed October 2015.

In addition, the South Coast Air Basin (Los Angeles County portion) is designated as a state nonattainment area for PM₁₀, and federal nonattainment for lead.

3. Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a Joint Powers Authority under California state law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. Under federal law, SCAG is designated as a Metropolitan Planning Organization (MPO) and under state law as a Regional Transportation Planning Agency and a Council of Governments. The SCAG region encompasses 6 counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. The agency develops long-range regional transportation plans including sustainable communities strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations, and a portion of the South Coast Air Quality management plans. SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted on April 4, 2012, identifies growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD.

South Coast Air Quality Management District

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet federal and state ambient air quality standards. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs). The most recent of these was adopted by the Governing Board of the SCAQMD on December 7, 2012. This AQMP, referred to as the 2012 AQMP, was prepared to comply with the federal and state Clean Air Acts and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and state air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The 2012 AQMP identifies the control measures that will be implemented to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population's exposure to unhealthy levels of pollutants, even while substantial population growth has occurred within the Basin. The future air quality levels projected in the 2012 AQMP are based on several assumptions. For example, the SCAQMD assumes that general new development within the Basin will occur in accordance with population growth and transportation projections identified by SCAG in its most current version of the RTP/SCS. The 2012 AQMP also assumes that general development projects will include strategies (mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations, which are designed to address air quality impacts and pollution control measures.

The SCAQMD has also prepared the CEQA Air Quality Handbook (1993) to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Basin. The AQMD is in the process of developing an “Air Quality Analysis Guidance Handbook” to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993.

4. City of Santa Clarita

Local governments, such as the City of Santa Clarita, share the responsibility to implement or facilitate some of the control measures of the AQMP. These governments have the authority to reduce air pollution through local policies and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the AQMP. The AQMP assigns local governments certain responsibilities to assist the Basin in meeting air quality goals and policies. In general, the first step towards assigning a local government’s responsibility is accomplished by identifying the air quality goals, policies, and implementation measures in its General Plan.

General Plan

Applicable goals and policies from the General Plan Land Use and Conservation and Open Space Elements are listed below.

- Goal CO 7: Clean air to protect human health and support healthy ecosystems.
 - Objective CO 7.1: Reduce air pollution from mobile sources.
 - Policy CO 7.1.1: Through the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Elements, limit air pollution from transportation sources.
 - Policy CO 7.1.2: Support the use of alternative fuel vehicles.
 - Policy CO 7.1.3: Support alternative travel modes and new technologies, including infrastructure to support alternative fuel vehicles, as they become commercially available.
 - Objective CO 7.2: Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the CARB, where appropriate.
 - Policy CO 7.2.1: Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.
 - Objective CO 7.3: Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.

Policy CO 7.3.1: Coordinate with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs.

4.3-5 Thresholds of Significance

1. Appendix G of the CEQA Guidelines

The following thresholds for determining the significance of impacts related to air quality are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to air quality if any of the following could occur.

-
- AQ-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?**
 - AQ-2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**
 - AQ-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 release in emissions which exceed quantitative thresholds for ozone precursors)?**
 - AQ-4 Would the project expose sensitive receptors to substantial pollutant concentrations?**
 - AQ-5 Would the project create objectionable odors affecting a substantial number of people?**
-

2. SCAQMD Thresholds

Consistency with the Applicable AQMP

The SCAQMD has adopted criteria for consistency with regional plans and the regional AQMP in its CEQA Air Quality Handbook. Specifically, the indicators of consistency are: 1) whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations; and 2) whether the project would exceed the assumptions utilized in preparing the AQMP.

Violation of Standards or Substantial Contribution to Air Quality Violations

As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA Air Quality Handbook. These thresholds were developed by the SCAQMD to provide quantifiable levels to which projects can be compared. The most current significance thresholds, shown in **Table 4.3-5** below, are used in this analysis.

Table 4.3-5 SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction	Operation
NO _x	100 pounds/day	55 pounds/day
VOC ^b	75 pounds/day	55 pounds/day
PM ₁₀	150 pounds/day	150 pounds/day
PM _{2.5}	55 pounds/day	55 pounds/day
SO _x	150 pounds/day	150 pounds/day
CO	550 pounds/day	550 pounds/day
Lead	3 pounds/day	3 pounds/day
Toxic Air Contaminants and Odor Thresholds		
Toxic Air Contaminants (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas \geq 1 in 1 million) Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO _{2e} for industrial facilities	
Ambient Air Quality for Criteria Pollutants ^c		
NO ₂	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 1-hour average: 0.10 ppm (federal) ^d Annual arithmetic mean: 0.03 ppm (state)	
PM ₁₀	24-hour average: 10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) Annual average: 1.0 $\mu\text{g}/\text{m}^3$	
PM _{2.5}	24-hour average: 10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e and 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate	24-hour average: 25 $\mu\text{g}/\text{m}^3$ (state)	
CO	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 1-hour average: 20 ppm (state) and 25 ppm (federal) 8-hour average: 9.0 ppm (state/federal)	

Notes: ppm = parts per million by volume; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

a Source: SCAQMD CEQA Handbook (SCAQMD, 1993).

b The definition of VOC includes ROG compounds and additional organic compounds not included in the definition of ROG. However, for the purposes of this evaluation, VOC and ROG will be considered synonymous.

c Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, table A-2 unless otherwise stated.

d In January 2010, the U.S. EPA proposed a new 1-hour national air quality standard of 0.10 ppm for NO₂, which is more stringent than the state's current 1-hour threshold of 0.18 ppm. For the purposes of conducting a conservative analysis, the more stringent national one-hour standard for NO₂ is used as a threshold in the evaluation of the Project's air quality impacts.

e Ambient air quality threshold based on SCAQMD Rule 403.

Source: SCAQMD CEQA Handbook (SCAQMD, 1993), SCAQMD Air Quality Significance Thresholds, website: <http://aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>, revised March 2015 and accessed October 2015.

Cumulatively Considerable Increase of Criteria Pollutants

The SCAQMD's CEQA Air Quality Handbook identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable). However, the SCAQMD no longer recommends the use of these methodologies. Instead, the SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.⁹ The

⁹ White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

The SCAQMD currently recommends that impacts to sensitive receptors be considered significant when a project generates localized pollutant concentrations of NO₂, CO, PM₁₀, or PM_{2.5} at sensitive receptors near a project site that exceed the localized pollutant concentration thresholds listed above or when a project's traffic causes CO concentrations at sensitive receptors located near congested intersections to exceed the national or state ambient air quality standards. The roadway CO thresholds would also apply to the contribution of emissions associated with cumulative development.

Exposure to Objectionable Odors

A significant impact may occur if objectionable odors occur that would adversely impact sensitive receptors. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

4.3-6 Impacts Analysis

AQ-1	Would the project conflict with or obstruct implementation of the applicable air quality plan?
AQ-2	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
AQ-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 release in emissions which exceed quantitative thresholds for ozone precursors)?
AQ-4	Would the project expose sensitive receptors to substantial pollutant concentrations?
AQ-5	Would the project create objectionable odors affecting a substantial number of people?

1. Regional Construction Emissions

The regional construction emissions associated with the Project were calculated using the California Emissions Estimator Model (CalEEMod 2013.2.2)¹⁰ recommended by the SCAQMD. CalEEMod was developed in collaboration with the air districts of California as a statewide land use emissions computer model designed to provide a uniform platform for government agencies,

¹⁰ CalEEMod Version 2016.3.1 was released in October 2016, after the technical analyses for the Project's EIR commenced. For information purposes, a supplemental model run was conducted with CalEEMod 2016.3.1 for construction and operational air quality emissions. Although emissions varied, the impact conclusions in this analysis are the same with the use of either model. See **Appendix 2-2** to this EIR for the CalEEMod Version 2016.3.1 data.

land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with construction and operations from a variety of land use projects. CalEEMod provides several improvements compared to Urban Emissions (URBEMIS) 2007, including but not limited to the latest factors, survey data, and calculation methodologies for criteria pollutants and GHGs. While both models are supported by the SCAQMD, the impact analysis and conclusions for the Project have been based on the results from CalEEMod as recommended by SCAQMD.

Construction activities associated with demolition, site preparation, grading, and building construction would generate pollutant emissions. Specifically, these construction activities would temporarily create emissions of dusts, fumes, equipment exhaust, and other air contaminants. These construction emissions were compared to the thresholds established by the SCAQMD (see **Table 4.3-6, Estimated Peak Daily Construction Emissions**, page [4.3-24](#) below).

For purposes of this analysis, it is estimated that the Project would be constructed in approximately 2.5 years (30 months) with construction beginning in mid-2017 and lasting until the end of 2019.¹¹ While construction may take place over a longer period, the assumption of a 30-month construction period would assume the fastest build-out potential resulting in a worst-case daily impact scenario for purposes of this analysis. This analysis assumes construction would be undertaken with the following primary construction phases: 1) Demolition/Site Clearing, 2) Site Preparation, Grading, and Foundations, and 3) Structural Building, Finishing and Paving. Each primary construction phase has been further detailed below.

1. **Demolition/Site Clearing** – The Project would require demolition of permanent structures, site clearing, and removal of 123 mobile homes. The existing mobile home units would be hauled off site and would not require extensive demolition work, and the existing 3,120 square feet of permanent structures would be demolished and hauled off-site. In addition, demolition/site clearing activities would include the removal of trees, fences, and other existing debris. This analysis estimates that demolition and site clearing would occur for approximately 1 month. The daily on-site demolition activities would require three excavators, two rubber-tired dozers, and one concrete/industrial saw.

¹¹ The Air Quality Technical Report (December 2015) estimated that the Project would be constructed in approximately 2.5 years (30 months) with construction beginning in mid-2016 and Project operations commencing by the end of 2018. Given the difficulty in estimating the timing of the planning phase for development projects, the most recent estimate assumes construction of the Project would begin in mid-2017 and last until the end of 2019 with the same construction phasing and durations. Compared to what was estimated in the Air Quality Technical Report, this slight modification would result in minor reductions of air quality emissions as emission factors for off-road and on-road sources gradually improve each calendar year into the future (i.e., emissions would not have the potential to be greater than those disclosed in the Air Quality Technical Report). As such, this analysis presents a conservative and worst-case analysis.

2. **Site Preparation, Grading, and Foundations** – After completion of demolition/site clearing, site preparation, grading, and foundation preparation activities would occur for approximately 6 months and would involve the cut and fill of land to ensure the proper base and slope for the entire site, including building pads and foundations. Specifically, it is estimated that approximately 2.2 million cubic yards (cy) of cut/fill work along with remedial grading would be required to balance the site. At this time, no soil import or export activities are anticipated. This analysis assumes that daily grading activities would require two excavators, one grader, one rubber-tired dozer, two scrapers, and two tractors/loaders/backhoes.
3. **Structural Building, Finishing, and Paving** – The Project would include the construction and operation of 55,600 square feet of commercial/retail/restaurant uses, 75,000 square feet of assisted living facilities, and 580 residential units. In total, structural building, finishing, and paving activities are expected to occur for approximately 23 months. Upon completion of the building shells, finishing (coatings) and paving of parking areas and streets would follow. It is estimated that architectural coatings and paving/stripping of roadways and parking lots would occur over the final 6 months of this phase. This analysis assumes that the maximum daily construction building activities would require one crane, three forklifts, one generator set, three tractors/loaders/backhoes, one welder, one air compressor, two pavers, two pieces of paving equipment, and two rollers. The analysis of regional daily construction emissions has been prepared utilizing the CalEEMod computer model recommended by the SCAQMD. **Table 4.3-6** below identifies daily emissions that are estimated to occur on the peak construction day for each construction phase, although construction time frames and day-to-day construction activities may vary. Regulatory compliance would ensure required reduction in the Project's fugitive dust emissions. These calculations assume that appropriate dust control measures would be implemented as part of the Project during each phase of development, as specified by SCAQMD Rule 403 (Fugitive Dust). Rule 403 control requirements include, but are not limited to: applying water in sufficient quantities to prevent the generation of visible dust plumes (three times per day); applying soil binders to uncovered areas; re-establishing ground cover as quickly as possible; utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project site; and maintaining effective cover over exposed areas. As shown in **Table 4.3-6** below, the peak daily emissions generated during the construction of the Project would not exceed any of the regional emission thresholds recommended by the SCAQMD. Therefore, construction related regional air quality impacts would be less than significant.

Table 4.3-6 Estimated Peak Daily Construction Emissions

Emissions Source	Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Demolition/Site Clearing Phase						
Fugitive Dust	--	--	--	--	0.05	0.01
Off-Road Diesel Equipment	4.29	45.66	35.03	0.04	2.29	2.14
On-Road Diesel (Hauling)	0.01	0.18	0.15	0.01	0.01	0.01
Worker Trips	0.07	0.09	0.98	0.01	0.17	0.05
Total Emissions	4.37	45.93	36.16	0.06	2.52	2.21
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
Site Preparation/Grading/Foundations Phase						
Fugitive Dust	--	--	--	--	2.62	1.32
Off-Road Diesel Equipment	6.48	74.81	49.14	0.06	3.58	3.30
Worker Trips	0.09	0.12	1.30	0.01	0.23	0.06
Total Emissions	6.57	74.93	50.44	0.07	6.43	4.68
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
Building Construction Phase						
Building Construction Off-Road Diesel Equipment	3.10	26.41	18.13	0.03	1.78	1.67
Building Construction Vendor Trips	1.71	16.51	23.72	0.04	1.51	0.59
Building Construction Worker Trips	3.21	4.34	45.34	0.11	8.71	2.36
Architectural Coatings	39.95	--	--	--	--	--
Architectural Coating Off-Road Diesel Equipment	0.30	2.01	1.85	0.01	0.15	0.13
Architectural Coatings Worker Trips	0.57	0.79	8.19	0.02	1.74	0.47
Paving Off-Road Diesel Equipment	1.61	17.16	14.49	0.02	0.94	0.86
Paving Off-Gas	0.31	--	--	--	--	--
Paving Worker Trips	0.06	0.08	0.80	0.01	0.17	0.05
Total Emissions	50.82	67.30	112.52	0.24	15.00	6.13
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust.

CalEEMod data provided in Air Quality Technical Report (PES, December 2015) included in **Appendix 2-1** to this EIR.

2. Localized Construction Emissions

In addition to the SCAQMD's regional significance thresholds, the SCAQMD has established localized significance criteria in the form of ambient air quality standards for criteria pollutants (see **Table 4.3-3**, page [4.3-14](#) above). To minimize the need for detailed air quality modeling to assess localized impacts, SCAQMD developed mass-based localized significance thresholds (LSTs) that are the number of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These localized thresholds, which are found in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD,¹² apply to daily construction areas that are less than or equal to 5 acres in size and are only applicable to the following criteria pollutants: NO_x, CO, PM₁₀, and PM_{2.5}. LSTs represent the maximum emissions from a project that are not expected to cause or

¹² SCAQMD, Final Localized Significance Threshold Methodology, June 2003, Revised July 2008.

contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each SRA. In terms of NO_x emissions, the two principal species of NO_x are nitric oxide (NO) and NO₂, with the vast majority (95%) of the NO_x emissions being composed of NO. However, because adverse health effects are associated with NO₂, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO₂ levels. NO is converted to NO₂ by several processes, the two most important of which are: 1) the reaction of NO with ozone, and 2) the photochemical reaction of NO with hydrocarbons. When modeling NO₂ emissions from combustion sources, the SCAQMD assumes that the conversion of NO to NO₂ is complete at a distance of 5,000 meters from the source. For PM₁₀ LSTs, the thresholds were derived based on requirements in SCAQMD Rule 403 – Fugitive Dust. For PM_{2.5} LSTs, the thresholds were derived based on a general ratio of PM_{2.5} to PM₁₀ for both fugitive dust and combustion emissions. As described in more detail below, the resulting on-site construction emissions generated for each construction phase were analyzed against the applicable LST for each phase.

For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours. Thus, according to the SCAQMD, the LSTs for PM₁₀ and PM_{2.5}, which are based on a 24-hour averaging period, would be appropriate to evaluate the localized air quality impacts of a project on nearby sensitive receptors. Additionally, since a sensitive receptor is considered to be present on-site for 24 hours, LSTs based on shorter averaging times, such as the 1-hour NO₂ or the 1-hour and 8-hour CO ambient air quality standards, would also apply when evaluating localized air quality impacts on sensitive receptors. However, LSTs based on shorter averaging periods, such as the NO₂ and CO LSTs, are applied to receptors such as industrial or commercial facilities, because it is reasonable to assume that workers at these sites could be present for periods of 1 to 8 hours.¹³ Therefore, this analysis evaluates localized air quality impacts from construction activities associated with the Project on sensitive receptors for NO₂, CO, PM₁₀, and PM_{2.5}, and on “non-sensitive” receptors (e.g., industrial or commercial facilities) for NO₂ and CO.

As described previously, the nearest sensitive receptors to the Project site include residential uses to the east, north, and west of the Project site, and a recreational facility with swimming and tennis to the west of the site (the Sierra Hills Swim and Racquet Club). Specifically, the residences to the east (the Pinetree community) are located as close as approximately 20 feet from the site, the single-family residence to the north is located approximately 120 feet from the site, the single-family homes to the northwest (along Vista Point Lane) are located as close as approximately 330 feet from the site, the apartments to the west (along North Silver Saddle Circle) are located as close

13 CalEEMod Version 2016.3.1 was released in October 2016, after the technical analyses for the Project’s EIR commenced. For informational purposes, a supplemental model run was conducted with CalEEMod 2016.3.1 for construction and operational air quality emissions. Although emissions varied, the impact conclusions in this analysis are the same with the use of either model. See **Appendix 2-2** to this EIR for the CalEEMod Version 2016.3.1 data.

as approximately 140 feet from the site, the single-family residences to the west (along Macklin Avenue) are located as close as approximately 140 feet from the site, and the tennis courts associated with the Sierra Hills Swim and Racquet Club are located approximately 260 feet from the site.

The SCAQMD has developed localized significance thresholds (LST) for construction areas that are one, two, and five acres in size to simplify the evaluation of localized emissions. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the applicable federal or state ambient air quality standard. LSTs are provided for each source receptor area (SRA) and various distances from the source of emissions.

In the case of this analysis, the Project site is located within SRA 13 – Santa Clarita Valley with sensitive receptors located within 25 meters. The closest receptor distance in the SCAQMD's mass rate look-up tables is 25 meters. Projects that are located closer than 25 meters to the nearest receptor are directed to use the LSTs for receptors located within 25 meters. The CalEEMod User's Guide (Appendix A: Calculation Details for CalEEMod) states the applicable LST should be based on the equipment list for each construction phase and calculated according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday.

Based on the Project's construction assumptions outlined previously, approximately 1.0 acre per day would be disturbed for demolition activities, and approximately 4.0 acres per day would be disturbed during the site preparation/grading/foundations phase. With respect to building construction, architectural coatings, and paving activities, the 5.0-acre LST in SRA 13 with sensitive receptors located within 25 meters has conservatively been utilized to address the potential localized NO_x, CO, PM₁₀, and PM_{2.5} impacts. The application of a 5.0-acre threshold for building construction activities on an approximately 87-acre site would be conservative as physical building construction emissions would likely be spread out more evenly on the approximately 87-acre site compared to the condensed 5-acre threshold applied in this analysis. The LSTs for a 4.0-acre site in SRA 13 with sensitive receptors located within 25 meters were calculated per SCAQMD Linear Regression Methodology. See Appendix B to the Air Quality Technical Report included in **Appendix 2-1** to this EIR for more details. As shown in **Table 4.3-7** below, the Project would not exceed any of the identified localized thresholds of significance during construction and these impacts would be less than significant. Regulatory compliance would ensure required reduction in the Project's fugitive dust emissions.

Table 4.3-7 Localized On-Site Peak Daily Construction Emissions

Construction Phase ^a	Total On-Site Emissions (Pounds Per Day)			
	NO _x ^b	CO	PM ₁₀	PM _{2.5}
Demolition/Site Clearing	45.66	35.03	2.34	2.15
SCAQMD Localized Thresholds	114.00	590.00	4.00	3.00
Significant Impact?	No	No	No	No
Site Preparation/Grading/Foundations	74.81	49.14	6.20	4.62
SCAQMD Localized Thresholds	216.69	1,385.92	10.00	5.31
Significant Impact?	No	No	No	No
Building Construction Emissions	45.58	34.47	2.87	2.66
SCAQMD Localized Thresholds	246.00	1,644.00	12.00	6.00
Significant Impact?	No	No	No	No

Note: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust.

- a Based on the Project's construction assumptions outlined previously, the applicable LST for demolition is 1.0 acre, grading is 4.0 acres, and building construction is 5.0 acres. The localized thresholds for each phase are based on a receptor distance of 25 meters (82 feet) in SCAQMD's SRA 13. Where necessary, LST calculated per SCAQMD Linear Regression Methodology.
- b The localized thresholds listed for NO_x in this table takes into consideration the gradual conversion of NO_x to NO₂, and are provided in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD. The analysis of localized air quality impacts associated with NO_x emissions is focused on NO₂ levels as they are associated with adverse health effects.
- c The building construction emission total includes architectural coating and paving emissions.

CalEEMod data provided in the Air Quality Technical Report (PES, December 2015) included in **Appendix 2-1** to this EIR.

Project Design Features

The following project design feature has been incorporated into the Project.

PDF-12 The Applicant shall implement all control measures required and/or recommended by the SCAQMD (i.e., Rules 403, 1108, and 1113), including but not limited to the following:

- Use watering to control dust generation during demolition of structures or break-up of pavement;
- Water active grading areas and unpaved surfaces at least three times daily;
- Cover stockpiles with tarps or apply non-toxic chemical soil binders;
- Limit vehicle speed on unpaved roads to 15 miles per hour;
- Sweep daily (with water sweepers) all paved construction parking areas and staging areas;
- Provide daily clean-up of mud and dirt carried onto paved streets from the Project site;
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 15 miles per hour over a 30-minute period or more; and
- An information sign shall be posted at the entrance to the construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.

3. Operational Emissions

Operational emissions associated with the Project were also calculated using CalEEMod 2013.2.2 and the information provided in the traffic study prepared for the Project. Operational emissions associated with the Project would be comprised of mobile source emissions, energy demand, and other area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the Project site associated with operation of the Project. Area source emissions are generated by natural gas consumption for space and water heating, and landscape maintenance equipment. To determine if a regional air quality impact would occur, the increase in emissions is compared with the SCAQMD's recommended regional thresholds for operational emissions (see **Table 4.3-5, SCAQMD Air Quality Significance Thresholds**, page [4.3-20](#) above).

As discussed above, the SCAQMD has developed LSTs that are based on the number of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. However, because the LST methodology is applicable to projects where emission sources occupy a fixed location, LST methodology would typically not apply to the operational phase of the Project because emissions are primarily generated by mobile sources traveling on local roadways over potentially large distances or areas. LSTs would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities.¹⁴ As the Project would include a mixed-use development with residential, retail, and restaurant uses, an operational analysis against the LST methodology is not applicable and thus has not been included in this analysis.

Regional Operational

The Project's operational regional air quality emissions associated with area sources, energy demand, and mobile sources (motor vehicles) have been calculated with CalEEMod. These results are presented in **Table 4.3-8** below. As shown, the net increase in operational emissions generated by the Project would exceed the regional thresholds of significance set by the SCAQMD for ROG and NO_x during the summertime and the wintertime.

Table 4.3-8 Daily Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summertime (Smog Season) Emissions						
Area Sources	36.08	0.68	58.42	<0.01	1.16	1.15
Energy Demand	0.28	2.39	1.02	0.02	0.19	0.19
Mobile (Motor Vehicles)	26.99	72.31	294.56	0.78	52.14	14.66
Total Project Emissions	63.35	75.37	354.00	0.80	53.50	16.01
<i>Less Existing Project Site Emissions</i>	6.43	7.89	41.94	0.07	4.79	1.51
Total Net Increase in Project Emissions	56.92	67.48	312.06	0.73	48.71	14.50
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Potentially Significant Impact?	Yes	Yes	No	No	No	No

¹⁴ SCAQMD, Sample Construction Scenarios for Projects Less than Five Acres in Size, February 2005, pages 1-3.

Emissions Source	Emissions in Pounds per Day					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Wintertime (Non-Smog Season) Emissions						
Area Sources	36.08	0.68	58.42	<0.01	1.16	1.15
Energy Demand	0.28	2.39	1.02	0.02	0.19	0.19
Mobile (Motor Vehicles)	28.35	76.09	298.07	0.75	52.15	14.67
Total Project Emissions	64.71	79.14	357.52	0.77	53.50	16.02
<i>Less Existing Project Site Emissions</i>	<i>6.56</i>	<i>8.31</i>	<i>41.75</i>	<i>0.07</i>	<i>4.79</i>	<i>1.51</i>
Total Net Increase in Project Emissions	58.15	70.83	315.77	0.70	48.71	14.51
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Potentially Significant Impact?	Yes	Yes	No	No	No	No

Notes: Assumes all hearth would be natural gas. Column totals may not add due to model rounding.

CalEEMod data provided in Air Quality Technical Report (PES, December 2015) included in **Appendix 2-1** to this EIR.

These emissions are primarily due to motor vehicles and area source emissions associated with the operation of the residential uses. Therefore, impacts associated with regional operational air quality emissions would be considered potentially significant.

Localized Operational

As discussed previously, because the LST methodology is applicable to projects where emissions sources occupy a fixed location, LST methodology would typically not apply to the operational phase of a mixed-use commercial and residential Project, because emissions for these projects are primarily generated by mobile sources traveling on local roadways over generally large distances or areas. LSTs would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities.¹⁵ Because the Project would include a mixed-use commercial and residential development, an operational analysis against the LST methodology is not appropriate, and these impacts would be considered less than significant.

The Project would not result in potentially significant CO “hot spots,” and a Project-specific CO hotspot analysis is not required to reach this conclusion. It has long been recognized that CO exceedances (“hot spots”) are caused by vehicular emissions, primarily when idling at intersections. Vehicle emissions standards have become increasingly more stringent in the last 20 years. With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations for the Project vicinity have historically met state and federal attainment status for the air quality standards. As noted previously in **Table 4.3-2, Summary of Ambient Air Quality in the Project Vicinity** (page [4.3-11](#)), in SRA 13 (Santa Clarita Valley) the maximum 8-hour CO concentration over the past 3 years was 1.2 ppm in 2014, and the 1-hour CO concentration was 3.0 ppm in 2014. Based on these measured concentrations, CO concentrations in SRA 13 are substantially below the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively. Accordingly, with the steadily decreasing CO

¹⁵ SCAQMD, Sample Construction Scenarios for Projects Less than Five Acres in Size, February 2005, page 1-3.

emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. Therefore, the Project would not have the potential to cause or contribute to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively. Impacts with respect to localized CO concentrations would be less than significant.

Toxic Air Contaminants

The Project would not include the operations of any land uses routinely involving the use, storage of, or processing of carcinogenic or non-carcinogenic toxic air contaminants (TAC). Thus, no appreciable operational-related toxic airborne emissions would result from Project implementation. With respect to construction, the construction activities associated with the Project would be typical of other similar land use development projects in the City, and would be subject to the regulations and laws relating to toxic air pollutants at the regional, state, and federal level that would protect sensitive receptors from substantial concentrations of these emissions. Therefore, impacts associated with the release of toxic air contaminants would be less than significant.

Odors

The Project does not include any of the uses identified by the SCAQMD as being associated with odors (such as agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, or fiberglass molding). In addition, SCAQMD Rule 402 (Nuisance), and SCAQMD Best Available Control Technology Guidelines would limit potential objectionable odor impacts during the Project's long-term operations phase.

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents as well as asphalt paving. SCAQMD Rules 1108 and 1113 limit the amount of volatile organic compounds from cutback asphalt and architectural coatings and solvents, respectively. Based on mandatory compliance with SCAQMD Rules, no construction activities or materials that would create a significant level of objectionable odors are proposed. As such, the Project would not create objectionable odors affecting a substantial number of people during construction or long-term operation. Therefore, a less than significant impact would occur with respect to the creation of objectionable odors.

4. Impacts Conclusion

The net increase in regional operational emissions generated by the Project would exceed the regional thresholds of significance set by the SCAQMD for ROG and NO_x during the summertime and the wintertime. These emissions are primarily due to motor vehicles and area source emissions associated with the operation of a relatively high number of proposed residential uses. These emissions are typical for a mixed-use commercial and residential project of this size, and there is no feasible mitigation to reduce these emissions to a less-than-significant level. As such, regional operational air quality impacts would be considered significant and unavoidable.

Localized operational air quality emissions would not exceed the SCAQMD thresholds of significance, and these impacts would be considered less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant for regional and localized construction emissions, localized operational emissions, toxic air contaminants, and odors.

Impacts would be potentially significant for regional operational emissions.

Mitigation Measures

No mitigation is required for regional and localized construction emissions, localized operational emissions, toxic air contaminants, and odors.

There is no feasible mitigation to reduce regional operational emissions.

Level of Significance After Mitigation

Impacts would be less than significant for regional and localized construction emissions, localized operational emissions, toxic air contaminants, and odors.

Impacts would be significant and unavoidable for regional operational emissions.

AQMP Consistency

This analysis evaluates the two criteria for consistency with regional plans and the regional AQMP adopted by the SCAQMD.

AQ-6 Will the Project increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

AQ-7 Will the Project exceed the assumptions utilized in preparing the AQMP?

With respect to the first criterion, area air quality planning, including the AQMP, assumes that there will be emissions from new growth, but that such emissions may not impede the attainment and may actually contribute to the attainment of applicable air quality standards within the Basin. As discussed previously, the Project would not result in construction air quality emissions that exceed the SCAQMD thresholds of significance, and the Project would exceed the regional thresholds of significance set by the SCAQMD for ROG and NO_x primarily due to motor vehicles and area source emissions associated with the operation of a relatively high number of proposed residential uses. Construction-related emissions would be temporary in nature, lasting only for the duration of the construction period, and would not have a long-term impact on the region's ability to meet state and federal air quality standards. Furthermore, the Project will be required to comply with applicable SCAQMD rules and regulations for new or modified sources. For example, the Project must comply with SCAQMD Rule 403 for the control of fugitive dust during construction.

By meeting SCAQMD rules and regulations, Project construction activities will be consistent with the goals and objectives of the AQMP to improve air quality in the Basin. With respect to operations, because the Project is a relatively large mixed-use development project on an approximately 87-acre site, the Project would exceed regional thresholds of significance primarily related to motor vehicle travel. However, the thresholds of significance developed by the SCAQMD are not sensitive to property or project size, or the type of use proposed by a project. As discussed in more detail below, projects, land uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not necessarily jeopardize attainment of the air quality levels identified in the AQMP if they exceed the SCAQMD's recommended daily emissions thresholds.

With respect to the second criterion, the AQMP was prepared to achieve national and state air pollution standards within the region. A project that is considered to be consistent with the AQMP would not interfere with attainment of AQMP goals, because the growth from the Project is included in the regional projections used to formulate the AQMP. Therefore, projects, land uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP (i.e., the RTP/SCS) would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's project-level daily emissions thresholds. The Project is a mixed-use commercial and residential development that would increase the City's population, housing, and employment. However, the Project is consistent with City's 2011 General Plan and the zoning designations of MXN (Mixed Use Neighborhood) and Urban Residential 3 (UR-3), and the Project would be consistent with the site's maximum allowable density of 18 dwelling units per acre planned for the site. Because the Project would be consistent with the planned buildout of the City's 2011 General Plan, the Project's population, housing, and employment increases would not have the potential to conflict with regional growth projections identified in SCAG's RTP/SCS and the AQMP. Furthermore, the Project would be consistent with primary goals of the RTP/SCS including, but not limited to, mixed-use design and the promotion of active transportation (i.e., non-motorized transportation such as walking and bicycling). Specifically, the Project's traffic analysis indicates the Project's mixed-use nature reduces motor vehicle trips by approximately 9% due to internal capture. As presented in more detail in the Project's Greenhouse Gas Emissions Technical Report, this design feature would result in a reduction of approximately 2,378,560 vehicle miles traveled (VMT) compared to a project without similar design features. Therefore, the Project's design would be consistent with the regional VMT reduction strategies identified in the RTP/SCS and AQMP. Based on the information presented above, the Project would not exceed the assumptions utilized in preparing the AQMP and would not have the potential to impair implementation of the AQMP. Therefore, impacts with respect to regional plans and AQMP consistency would be less than significant.

General Plan Consistency

Local jurisdictions, including the City, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City has done this through identifying goals, objectives and policies in the Conservation and Open Space Element in its 2011 General Plan. **Table 4.3-9** below illustrates that the Project would be consistent with the City’s General Plan, and these impacts would be less than significant.

Table 4.3-9 Project Consistency with Applicable Air Quality Policies of the General Plan

Objective/Policy	Consistency Analysis
Objective CO 7.1: Reduce air pollution from mobile sources.	
Policy CO 7.1.1: Through the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Elements, limit air pollution from transportation sources.	Consistent. The Project’s mixed-use nature and urban location would serve to reduce trips by approximately 9% compared to a project without those features. This reduction in trips would serve to reduce vehicles mile traveled (VMT), congestion and associated air quality emissions.
Policy CO 7.1.2: Support the use of alternative fuel vehicles.	Consistent. The Project would provide on-site electric vehicle (EV) charging stations, supporting and promoting the use of electric vehicles.
Policy CO 7.1.3: Support alternative travel modes and new technologies, including infrastructure to support alternative fuel vehicles, as they become commercially available.	Consistent. The Project would provide on-site electric vehicle (EV) charging stations, supporting and promoting the use of electric vehicles.
Objective CO 7.2: Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the CARB, where appropriate.	
Policy CO 7.2.1: Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.	Consistent. The Project would introduce commercial and residential uses in a manner consistent with City’s 2011 General Plan and Zoning designations of MXN and UR-3 for the site. While the Project would exceed regional operational air quality thresholds, the Project would not exceed localized thresholds of significance upon sensitive receptors and the Project would be consistent with CARB’s recommendations regarding the siting of sensitive receptors.
Objective CO 7.3: Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.	
Policy CO 7.3.1: Coordinate with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs.	Consistent. As discussed previously, the Project would be consistent with projections identified in SCAG’s RTP/SCS and the AQMP. And, the Project’s design would be consistent with the regional VMT reduction strategies identified in the RTP/SCS and AQMP.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.3-7 Cumulative Impacts

Construction Impacts

Because the Los Angeles County portion of the Basin is currently in non-attainment for O₃, PM₁₀, and PM_{2.5}, cumulative development could violate an air quality standard or contribute to an existing or projected air quality violation. This would be considered a significant cumulative impact. According to the SCAQMD, individual construction projects that exceed the SCAQMD recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. As discussed previously, construction emissions associated with the Project would not exceed the SCAQMD's regional thresholds of significance. Therefore, the cumulative impact of the Project's construction emissions would be considered less than significant.

With respect to TACs, the greatest potential for TAC emissions at related projects would involve diesel particulate emissions associated with trucks and heavy equipment. The construction activities associated with the Project and related projects would be similar to other development projects in the City, and would be subject to the regulations and laws relating to toxic air pollutants at the regional, state, and federal level that would protect sensitive receptors from substantial concentrations of these emissions. In addition, and similar to the Project, related projects construction activity would not result in long-term substantial sources of TAC emissions (i.e., 30 or 70 years) and would not combine with the Project to generate ongoing TAC emissions. Thus, cumulative TAC emissions from the Project and related projects would be considered less than significant.

With respect to cumulative odor impacts, potential sources that may emit odors during construction activities at each related project include the use of architectural coatings, solvents, and asphalt paving. SCAQMD Rules 1108 and 1113 limit the amount of volatile organic compounds from cutback asphalt and architectural coatings and solvents, respectively. Based on mandatory compliance with SCAQMD Rules, it is anticipated that construction activities and materials used in the construction of the Project and related projects would not combine to create objectionable odors. Thus, cumulative odor impacts are considered less than significant.

Operational Impacts

Due to the non-attainment status of O₃, PM₁₀, and PM_{2.5}, the generation of daily operational emissions associated with cumulative development would result in a cumulative significant impact associated with the cumulative net increase of any criteria pollutant for which the region is in non-attainment. With respect to operational emissions, the SCAQMD has indicated that if an individual project results in air emissions of criteria pollutants (CO, ROG, NO_x, SO_x, PM₁₀, and PM_{2.5}) that exceed the SCAQMD-recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the Project region is in non-attainment under an applicable federal or state ambient air

quality standard. As discussed previously, the operational emissions associated with the Project would exceed the established SCAQMD thresholds for ROG and NO_x during the operation of the Project. Because ROG and NO_x are considered O₃ precursors, and given the region's non-attainment status of O₃, the cumulative impact of the Project's operational emissions would be significant.

Plan Consistency

Cumulative development can affect implementation of the AQMP. The AQMP was prepared to accommodate growth, reduce pollutants within the areas under SCAQMD jurisdiction, improve the overall air quality of the region, and minimize the impact on the economy. Growth considered to be consistent with the AQMP would not interfere with attainment, because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified by SCAG, implementation of the AQMP will not be obstructed by such growth, and cumulative impacts would be less than significant. Since the Project would not conflict with growth projections, it would not have a cumulatively considerable conflict with, or obstruction of, the implementation of the applicable air quality plan. Thus, cumulative impacts related to plan consistency would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant for cumulative construction emissions and plan consistency.

Impacts would be potentially significant for cumulative operational emissions.

Mitigation Measures

No mitigation is required for construction impacts or plan consistency impacts.

There is no feasible mitigation to reduce cumulative operational emissions.

Level of Significance After Mitigation

Impacts would be less than significant for cumulative construction emissions and plan consistency.

Impacts would be significant and unavoidable for cumulative operational emissions.

4.3-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to determine consistency with Goals and Policies.

Pomeroy Environmental Services, Air Quality Technical Report for the Sand Canyon Plaza Project, City of Santa Clarita, California, dated December 2015.

4.4 Biological Resources

4.4-1 Summary

No special status plant species have been reported to occur on the Project site, and none were observed during focused rare plant surveys conducted in April, May, and June of 2014 and 2015.

While the surveys of the Project site were conducted following relatively dry winters, and therefore not ideal conditions for detecting rare plants, habitat quality for rare plants is generally poor. However, slender mariposa lily has a moderate potential to occur on the property.

No special-status amphibians were found or are likely to occur, due to lack of habitat. One special-status reptile has been observed on-site, and one other has a moderate occurrence potential.

Seven bird species included on the CDFW Special Animals List were observed or detected during field surveys on the subject property. Three species of bats and two other special-status mammals could also occur on the property. There is undeveloped property immediately north of the property, but that is also bordered by residential land uses that continue to the north and east. There is currently no linkage to nearby natural habitat areas, or corridors to facilitate movement between such areas and the subject property.

Implementation of mitigation measures would result in less than significant impacts.

4.4-2 Introduction

This section identifies plant and animal resources within and adjacent to the Sand Canyon Plaza Mixed-Use Project site and evaluates the significance of the potential changes in these factors that could result from implementation of the Project.

1. Investigative Methods

A Biological Assessment (Biological Assessment – Sand Canyon Plaza, November 2015) was prepared for the Project by Impact Sciences, Inc. (**Appendix 3**). The investigative methods used to prepare the Biological Assessment are summarized below.

Literature Search

The California Natural Diversity Database (CNDDDB)¹⁶ and the California Native Plant Society database (CNPS)¹⁷ were queried prior to the site survey to identify previously reported special-status plants and wildlife. The CNDDDB search included the areas within the USGS 7.5-minute Mint Canyon Quadrangle, which contains the site and the surrounding eight quadrangles: Agua Dulce,

16 California Department of Fish and Wildlife (CDFW). California Department of Fish and Game Natural Diversity Data Base. Commercial Version.

17 California Native Plant Society. Inventory of Rare, Threatened, and Endangered Plants of California. Online database available at: <http://www.rareplants.cnps.org/>, accessed 2015.

Green Valley, Newhall, Oat Mountain, San Fernando, Sleepy Valley, Sunland, and Warm Springs Mountain. Fire history maps from the County of Los Angeles were also reviewed, as was the Natural Resources Conservation Service soil map.

Biological Assessment Appendix A, Special-Status Flora, and Appendix B, Special-Status Fauna, list species previously reported as occurring in the Project vicinity and discuss occurrence potential. The potential for each recorded special-status plant and animal species to occur on the subject property was analyzed based on site-specific information such as vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, known habitat preferences, and geographic ranges.

Vegetation was classified based on the species-dominance approach used by the 2009 Manual of California Vegetation.¹⁸ Where necessary, new names for vegetation alliances were developed because they represent the dominant and co-dominant species observed on the site but are not described by the current manual.

For the jurisdictional determination, the National Wetlands Inventory maps and the USGS topographic map were reviewed to identify potentially jurisdictional features. Federal and state guidelines were reviewed for delineation protocols. These are reviewed and summarized in Biological Assessment Appendix C, Jurisdictional Delineation. Delineation criteria defined by the California Department of Fish and Wildlife¹⁹ (CDFW) and the U.S. Code of Federal Regulations²⁰ were followed to determine the amount and location of jurisdictional waters.

Field Surveys

Transects of opportunity were used to provide thorough visual coverage of the entire property, using unaided and binocular-aided vision to access all habitat types. Biological conditions were noted during field surveys conducted in 2014 and 2015 for special-status flora and fauna. Previous mapping and characterizations of the dominant plant communities were field truthed to check for substantial changes since the 2006-2008 surveys. Plant species found during these surveys are listed in Biological Assessment Appendix D, Observed Flora. Wildlife species identified or detected during field surveys are listed in Biological Assessment Appendix E, Observed Fauna.

Focused Studies

Several focused biological studies were conducted for this report and are summarized herein, with the full reports provided in **Appendix 3** to this EIR.

18 Sawyer, J.T. Keeler-Wolf and J. Evens. A Manual of California Vegetation. 7th Edition. California Native Plant Society, Sacramento, CA. July 2013.

19 *California Fish & Game Code* §§1600-1616.

20 Clean Water Act of 1972 §404. See also 33 U.S.C. §1341

Special-Status Flora

Focused rare plant surveys were conducted in April, May, and June 2015 by Impact Sciences biologists. Similar studies were also conducted in 2014 by Edith Read, PhD on behalf of Impact Sciences.²¹ Surveys were timed to coincide with the blooming periods of potentially occurring special-status flora, and followed the survey protocols of the California Native Plant Society.

Jurisdictional Delineation

The jurisdictional delineation was prepared by Edith Read, Ph.D. based on the field determination conducted on September 9, 2014 and September 29, 2015 (Appendix C of the Biological Assessment, **Appendix 3** to EIR).²² Site features were assessed for indicators of stream, riparian, or wetland functions. Soils were evaluated at one location near the north site boundary where hydrology and vegetation indicated potential wetland conditions. Determination of hydrophyte rating of plant species was based on the 2012 ratings for the Arid West Regional Supplement.²³

Special-Status Fauna

Protocol surveys for the federally listed threatened coastal California gnatcatcher (*Poliioptila californica*) were conducted by Ron Francis, Jr. of Impact Sciences in 2014 and 2015 (Appendix F of the Biological Assessment, **Appendix 3** to this EIR).²⁴ Six surveys were conducted each year over roughly 50 acres of marginally suitable scrub and buffer habitat between March and June 2014 and 2015. Appendix F of the Biological Assessment (**Appendix 3** to this EIR) contains details of both focused CAGN surveys conducted on the site.

4.4-3 Existing Conditions

Elevations on the Project site vary from approximately 1,620 feet up to 1,825 feet. Hillsides with exposed bedrock dominate the ravines in the eastern half of the property, while the dry wash of an unnamed drainage parallel to Sand Canyon Road occupies the western portion.

1. Flora

Two main vegetation series dominate the Project site: California sagebrush (California buckwheat scrub) and chamise chaparral (California buckwheat scrub), with annual grassland/ruderal vegetation common along both sides of the dry wash just east of Sand Canyon Road. **Table 4.4-1**

21 Edith Read, PhD. Report of Surveys for Special Status Plants Proposed Residential Development at Sand/Soledad Canyon Roads, Santa Clarita, California. September 25, 2014. E. Read and Associates, Inc.

22 Edith Read, PhD. Assessment of Federal and State Jurisdictional Waters and Wetlands, Proposed Residential Development at Sand/Soledad Canyon Roads, Santa Clarita, California. October 20, 2015. E. Read and Associates, Inc.

23 U.S. Army Corps of Engineers (USACE). September 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Wetlands Regulatory Assistance Program.

24 Impact Sciences, Inc. September 2014 and June 2015. Results of Focused Coastal California Gnatcatcher Surveys, Sand-Soledad Project, Santa Clarita, California.

below provides the approximate areal extent of each major cover type and other important land features, while **Figure 4.4-1, Site Vegetation** illustrates their distribution.

Table 4.4-1 Vegetation Alliances and Land Features Acreages

Community Type	Acreage
Arroyo Willow Thickets	0.55
California Sagebrush – California Buckwheat Scrub	34.80
California Sagebrush – California Buckwheat Scrub (roadcut)	3.25
California Buckwheat – Acton Encelia Scrub	0.93
Chamise Chaparral – California Buckwheat Scrub	25.03
Disturbed Chamise Chaparral – California Buckwheat Scrub	4.16
Holly Leaf Cherry – Buckwheat Scrub	1.31
Holly Leaf Cherry Chaparral	0.35
Thick Leaf Yerba Santa Scrub	0.40
Cleared	1.42
Developed	14.16
Detention Basin	0.54
Total	86.90

Source: Impact Sciences, Inc., November 2015

The distribution and composition of vegetative cover types on the property have been influenced by previous disturbances, including off-road vehicles, runoff from surrounding development, and fires. Several fires have occurred on the property, and the effects are evident in the comparatively low relative percent plant cover and low plant species diversity noted during the field surveys. The northern half of the site burned twice over a period of 10 years, and the southern half of the site burned in 1970, 1980, and 2007.²⁵ The less-frequently burned areas have a greater proportion of chamise (*Adenostoma fasciculatum*) compared to the frequently burned areas dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), and deerweed (*Acmispon glaber*).

In the northwestern corner of the property in the unnamed wash parallel to Sand Canyon Road, riparian vegetation such as arroyo willow thickets is dominant, supported by runoff from off-site development and street drainage. Holly leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*) co-dominates the scrub vegetation.

Trails and dirt roadways used by off-road vehicles, bicycles, and humans are common throughout the property, resulting in areas with zero plant cover and variable levels of erosion. Soils outside of the dry wash were primarily Saugus loam, a soil not known to have a high proportion of carbonates or other unique constituents associated with certain rare plant species.

²⁵ <http://egis3.lacounty.gov/dataportal/2014/04/28/fire-perimeters-1965-2013/>, accessed April 2016

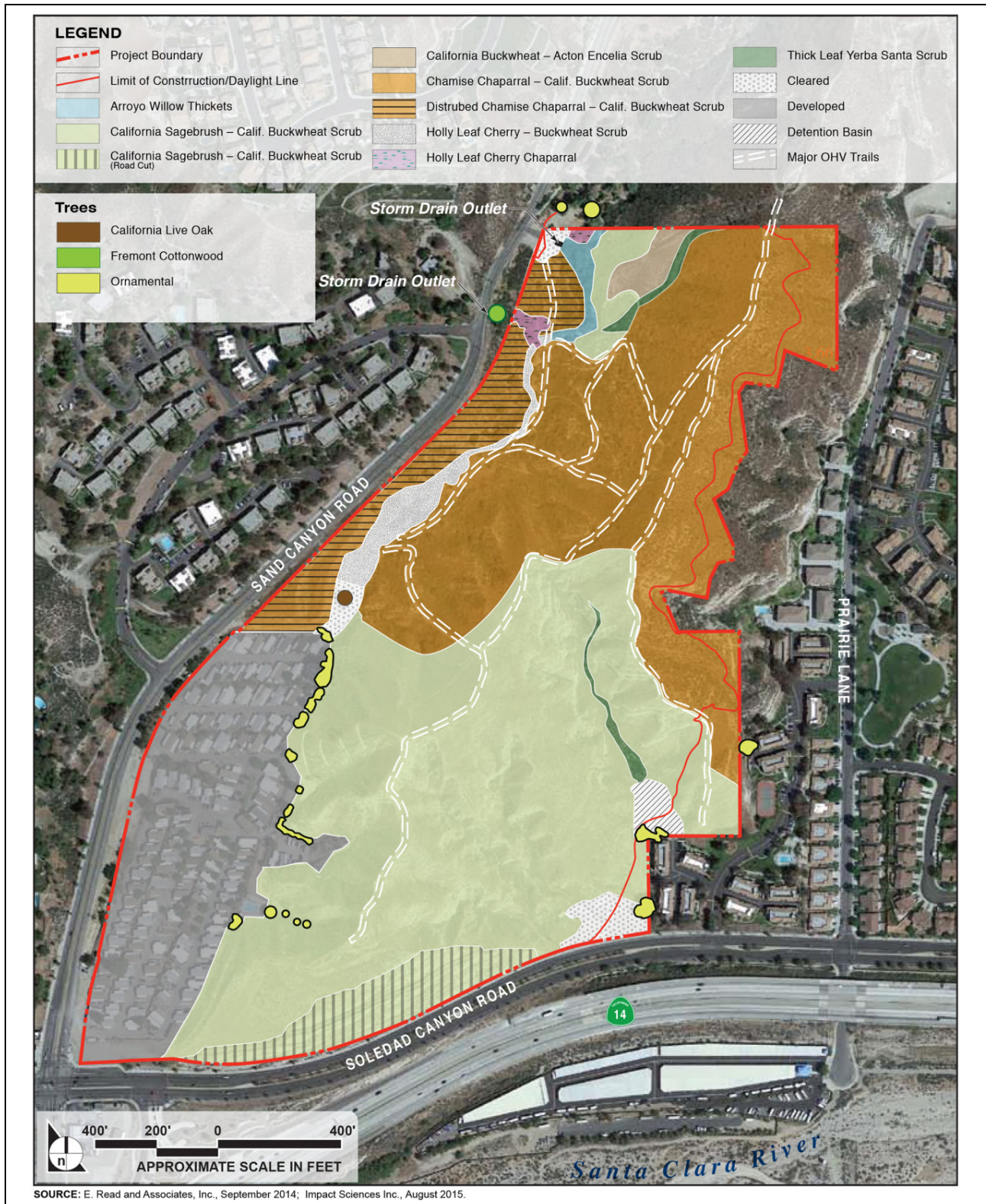


Figure 4.4-1 Site Vegetation

The ongoing drought coupled with impacts of the previous fires and ongoing disturbance have reduced the overall plant species diversity, and have likely suppressed the quantity and diversity of annual plants. Many plants appear drought-stressed and/or senescent, with physical signs that indicate reduced health and vigor.

The following provides a description of each of the vegetation alliances present on-site. The numbers in parentheses following each alliance type provides the global and state rank for each. These codes are as follows.

Global Rank ¹	State Rank ²
G3: Either very rare and local throughout its range, or found locally in a restricted range, or because of some other factor(s) making it vulnerable to extinction throughout its range.	S3: Rare to uncommon; S3 ranked species are not yet susceptible to becoming extirpated in the state, but may be if additional populations are destroyed.
G4: Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.	S4: Common, apparently secure under present conditions; usually not susceptible to immediate threats.
G5: Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.	S5: Very common; demonstrably secure under present conditions.

- ¹ Global Rank: Indicates the overall condition (rarity and endangerment) of an element throughout its range. Some global ranks for endemic species are assigned by the CNDDDB biological staff following review of all available information; other global ranks are assigned by other states, other heritage programs or by NatureServe. Source: California Department of Fish and Game, California Natural Diversity Database (CNDDDB).
- ² State Rank: The state rank is a reflection of the condition (rarity and endangerment) of an element within the state. The state rank is assigned by the CNDDDB staff. Source: California Department of Fish and Game, California Natural Diversity Database (CNDDDB).

- California Sagebrush-California Buckwheat Scrub – 34.8 Acres (G4 S4)** – This plant community is co-dominated by California sagebrush (*Artemisia californica*), California buckwheat, and deerweed. Less abundant perennial species include chaparral yucca (*Hesperoyucca whipplei*), chamise, black sage (*Salvia mellifera*), Acton encelia (*Encelia actoni*), and beavertail cactus (*Opuntia basilaris*). Shrub density differs significantly between the northwest and southeast sides of a high ridge, with denser vegetation of 80% to 100% cover on the northwest side and less than 30% cover on near-vertical southeast slopes. Mariposa lily (*Calochortus* sp.) and wild hyacinth (*Dichelostemma capitatum*) were found within openings in the California buckwheat series.
- California Sagebrush-California Buckwheat Scrub (disturbed – roadcut) – 3.25 Acres** – A smaller, disturbed area of this cover type is found on the roadcut above Soledad Canyon Road. Plant diversity is low and cover is sparse, made up of sagebrush, buckwheat, and non-native grasses.
- Chamise Chaparral-California Buckwheat Scrub – 25.03 Acres (G5 S5)** – Chamise Chaparral-buckwheat scrub is the second-most common native cover type on the property – primarily the north half of the site, which has experienced a lower frequency of fires. This alliance is co-dominated by chamise (*Adenostoma fasciculatum*) and California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), with various non-native weeds such as red-stemmed filaree (*Erodium cicutarium*), Mediterranean grass (*Schismus barbatus*), and mustard (*Hirschfeldia incana*). Native herbs that favor open sandy soil,

such as sun-cups (*Camissonia bistorta*) and chia (*Salvia columbariae*), are also present in this community.

- **Disturbed Chamise Chaparral – Buckwheat Scrub** is a transitional vegetation type that occurs on the terrace adjacent to Sand Canyon Road, generally parallel to and between Sand Canyon Road and the dry wash, occupying approximately 4.16 acres. It is sparsely vegetated with the indicator species of chamise and California buckwheat, along with non-native weedy species such as mustard, Russian thistle (*Salsola tragus*), red-stem filaree, and various annual grasses. Litter, broken glass, and other debris are common, apparently originating from the adjacent roadway.
- **California Buckwheat–Acton Encelia Scrub – 0.93 Acres (G5 S5)** – This alliance is typical of the Santa Clarita Valley, and is characterized by the co-dominance of California buckwheat and Acton encelia (*Encelia actoni*). One stand occurs in the northern portion of the property.
- **Holly Leaf Cherry Alliances – 1.66 Acres (G3 S3)** – Two distinct holly leaf cherry alliances occur on the property: holly leaf cherry-buckwheat scrub (1.31 acres) and holly leaf cherry chaparral (0.35 acre). The latter is confined to a narrow gully below a storm drain outlet in the northwest area of the property. Canopy cover is 100% and includes a mature Fremont cottonwood (*Populus fremontii*) as well as a group of non-native palms (*Washingtonia* sp.). The holly leaf cherry chaparral–California buckwheat scrub alliances occupy 1.31 acres in the wash adjacent to Sand Canyon Road. This community is more open-canopied and diverse than holly leaf cherry chaparral. In addition to holly leaf cherry and California buckwheat, perennial species in this community include scalebroom (*Lepidospartum squamatum*), skunkbrush (*Rhus aromatica*), thick leaf yerba santa (*Eriodictyon crassifolium*), chaparral yucca, and blue elderberry (*Sambucus nigra* ssp. *caerulea*).
- **Arroyo Willow Thickets - 0.55 Acre (G4 S4)** – Arroyo willows (*Salix lasiolepis*) occupy the northern section of the wash near Sand Canyon Road, where runoff enters the property from off-site. Fremont cottonwoods are also present but not abundant.

Examination of historical aerial photographs indicates that this riparian vegetation matured sometime after 1978 and coincided with extensive development on the west side of Sand Canyon Road. Runoff is directed from this development into the wash by a large storm drain. Based on presence of holly leaf cherry adjacent to this community and elsewhere in the wash, it appears that the riparian vegetation replaced a more xeric, historical community of holly leaf cherry-buckwheat scrub. Holly leaf cherry occupies relatively mesic sites within chaparral alliances²⁶ but is not known to be associated with riparian zones or wetlands.

26 Sawyer, J.T. Keeler-Wolf and J. Evens. A Manual of California Vegetation. 7th edition. California Native Plant Society, Sacramento, CA. 2009.

- **Thick Leaf Yerba Santa Scrub - 0.40 Acre (G4 S4)** – A stand of thick leaf yerba santa scrub occurs in an ephemeral drainage on the east side of the site. Deerweed is also present but not dominant. This drainage terminates at a detention basin, where storm flows are conveyed through an inlet and buried off-site culvert to the Santa Clara River.

Ornamental Trees/Landscaping

Non-native (ornamental) trees are not abundant on the site but include Peruvian pepper (*Schinus molle*), pines (*Pinus sp.*), tamarisk (*Tamarix sp.*), and gum (*Eucalyptus spp.*). Tall, mature tamarisk trees are abundant in the wash off site to the north. Landscape trees and shrubs occur in the interior and along the perimeter of the mobile home park, but these plants were not surveyed.

Special-Status Flora

No special status plant species have been reported to occur on the Project site, and none was observed during focused rare plant surveys conducted in April, May, and June of 2014 and 2015.

While the surveys of the Project site were conducted following relatively dry winters, and therefore not ideal conditions for detecting rare plants, habitat quality for rare plants is generally poor. However, slender mariposa lily has a moderate potential to occur on the property.

- **Slender mariposa lily (*Calochortus clavatus var. gracilis*) - CNPS List 1B.2** – Slender mariposa lily is a summer-deciduous herb that grows from a perennial bulb. Yellow flowers, club-shaped hairs on the petals, and a dark band above the nectary generally distinguish the subspecies. Populations of this lily have been found nearby on property south of the Santa Clara River, and it is known to occur throughout the Santa Clarita Valley. These adjacent populations were in flower at the same time field surveys were being conducted on the subject property, indicating that the drought did not prevent flowering in the region. Mariposa lily plants were found in seed on the property but could not be identified to the species level without flowers.

Oak Trees

The Oak Tree Report prepared by Arbor Essence (February 2016, Addendum January 2017) (**Appendix 3-2**) identified three coast live oak (*Quercus agrifolia*) trees on the Project site. Two non-heritage oak trees are proposed to be removed, while the other (a heritage oak) will be retained with the Project.

2. Fauna

All vertebrate wildlife detected during the course of field surveys conducted in 2014 and 2015 are listed in Appendix F of the Biological Assessment (**Appendix 3** to this EIR). Based on the site surveys, wildlife use of the site appears to be limited by the low habitat quality and the apparent high human activity levels. Most birds recorded on site were seen near the upper reaches of the wash adjacent to Sand Canyon Road, where storm drain runoff from off-site periodically provides

surface water. Wildlife use over the majority of the subject property is also reflective of the overall low botanic habitat availability and ongoing disturbance levels.

Special-Status Fauna

Wildlife species included on the CDFW July 2015 Special Animals list considered to have at least a moderate occurrence potential on-site, and those that were observed or detected during site surveys are discussed in this section.²⁷ Appendix B of the Biological Assessment (**Appendix 3** to this EIR) provides the list of all special-status wildlife recorded in the Project nine-quad region.

Special-Status Herpetofauna

No special-status amphibians were found or are likely to occur, due to lack of habitat. One special-status reptile has been observed on-site, and one other has a moderate occurrence potential. Each is discussed below.

- **San Diego tiger [coastal] whiptail (*Aspidoscelis tigris stejnegeri*)** – CDFW Special Animal: A relatively long and slender lizard, San Diego tiger whiptails occur in a variety of semiarid grassland and scrub habitats, usually where there are some open areas to forage in adjacent to dense scrub that they can escape to for cover. Suitable habitat is present on the subject property, and several whiptails were seen.
- **Coast horned Lizard (*Phrynosoma blainvillii*)** – CDFW Species of Special Concern: Coast horned lizard habitat includes areas with friable, rocky, or shallow sandy soils in scrub and chaparral habitat, in arid or semiarid climates where native harvester ants (*Pogonomyrmex* spp.) are present. Although not found during the field surveys, suitable habitat is present on the property, where loose sandy soils occur. Native ants were also observed.

Special-Status Birds

Seven bird species included on the CDFW Special Animals List were observed or detected during field surveys on the subject property.²⁸ Two additional species were previously reported as occurring in the Project area.

- **Copper's hawk (*Accipiter cooperii*)** – **Watch List, nesting.** Cooper's hawks typically hunt other bird species on the wing and nest in dense stands of live oaks and riparian woodlands with dense canopies and sparse ground cover, typically in trees taller than 20 feet. Cooper's hawks were observed twice flying over the property. However, there is no suitable nesting habitat on the site, and there was no indication of nesting.

27 California Department of Fish and Wildlife. Special animals. July 2015. California Department of Fish and Wildlife Natural Diversity Data Base.

28 California Department of Fish and Wildlife. Special animals. July 2015. California Department of Fish and Wildlife Natural Diversity Data Base.

- **Costa’s hummingbird (*Calypte costae*) – California special animal when nesting.** Costa’s hummingbirds normally inhabit dry arid brushy scrubland, chaparral, desert and semi-desert arid habitats, with breeding occurring in February through April in desert habitats. This species was observed twice during the 2015 surveys and four times during the 2014 surveys. CDFW is primarily interested in tracking nest locations of this species. Although no Costa’s hummingbird nesting was observed, there is suitable habitat on the property and in the vicinity.
- **Allen’s hummingbird (*Selasphorus sasin*) – California special animal when nesting.** Allen’s humming- birds were seen during several of the spring surveys. This hummingbird locates its nest in shrubs and trees with dense vegetation (such as vines and thickets) anywhere from 0.5 to 15 meters off the ground. CDFW is primarily interested in tracking nest locations of this species. There is little dense vegetation suitable for nesting on the property; however, given the dates this species was sighted (May and early June), it is assumed it is nesting on or adjacent to the site.
- **Nuttall’s woodpecker (*Picoides nuttallii*) – California special animal when nesting.** Nuttall’s woodpeckers primarily occur in oak or riparian woodlands, where they feed mostly on insects and arthropods. Nests are built in tree cavities. As with many of the other avian species included on the CDFW Special Animals List, the nesting locations is what CDFW is interested in tracking. Nuttall’s woodpeckers were observed or detected during three of the 2015 surveys, indicating they are likely residents of the oak trees occurring adjacent to the site. There is very little suitable nesting habitat on the property.
- **Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) – CDFW Watch List.** Four subspecies of rufous-crowned sparrows are recognized in California. The Southern California subspecies, *canescens*, is on the CDFW Watch List as populations have been declining as a result of development and agriculture.²⁹ This sparrow was observed several times during surveys conducted in 2014 and 2015 and is assumed to be nesting in the Project vicinity. Nests are built on the ground, typically under shrubs or on overhanging rocks. No nests were found during field surveys.
- **Loggerhead shrike (*Lanius ludovicianus*) – California Species of Special Concern when nesting.** This shrike forages in grasslands and ecotones with scattered shrubs, trees, fences, or other perches. Preferred nest sites are in thorny trees or shrubs, but loggerhead shrike may also nest in brush piles or tumbleweed. Suitable habitat appears to be present, but this species has not been found; however, it was seen in July 2015 nearby in the Santa Clara River, less than 1,000 feet to the south.

29 California Partners in Flight. Coastal Scrub and Chaparral Bird Conservation Plan. http://www.prbo.org/calpif/htmldocs/species/scrub/rufous_crowned_sparrow.htm (accessed April 2016).

- **California horned lark (*Eremophila alpestris actia*) – California special animal.** Horned lark occur in grasslands, disturbed areas, agriculture fields, and beach areas. Suitable habitat is present on the property, but species has not been seen on-site.
- **Bell’s sage sparrow (*Amphispiza belli belli*) – California Watch List.** Bell’s sage sparrow uses coastal sage scrub and chamise chaparral. Pairs were seen during spring 2015 field surveys, and this sparrow is assumed to be nesting on or near the property; however, no nests were seen.
- **Lawrence’s goldfinch (*Spinus [Carduelis] lawrencei*) – California special animal when nesting.** This uncommon species is known to inhabit arid woodlands, chaparral, and open grasslands where they feed on seeds. Lawrence’s goldfinch may nest in oaks, conifers or deciduous trees, though nests are consistently located within about 0.3 mile of a stream or other water source. Suitable nesting habitat is extremely limited on the subject property and although this species was seen on the property, it is unlikely to be nesting on the site.
- **Coastal California gnatcatcher (*Polioptila californica ssp. californica*) – Federal Threatened; California Species of Special Concern.** Protocol surveys were conducted in 2014 and 2015 and no California gnatcatchers were recorded (Appendix G). Coastal sage scrub dominated by California sagebrush is the preferred habitat of California gnatcatcher, though they may also use adjacent chaparral, grassland, riparian, or even disturbed habitats along the margins (ecotones) of the favored coastal sage scrub plant community. Coastal sage scrub is characterized by the prevalence of California sagebrush as dominant, with perennial sages such as black or purple sage (*Salvia mellifera*; *S. leucophylla*) and California buckwheat (*Eriogonum fasciculatum*). There are contiguous stands of coastal sage scrub on the site; however, most of it occurs on steep slopes and is disturbed, with sparse relative cover. Such slopes are typically avoided by nesting California gnatcatchers; therefore, the habitat quality of the property is considered marginal for this species. Further, because none was detected during focused surveys, they are considered absent from the site. Designated Critical Habitat is located approximately two miles to the southwest, in the Placerita Canyon area.

Special-Status Mammals

Three species of bats and two other special-status mammals could occur on the property and are discussed below.

- **Townsend’s big-eared bat (*Corynorhinus townsendii*) – California threatened (candidate); CDFW Species of Special Concern.** This bat utilizes a variety of habitats, including conifer and oak woodlands and forests, arid grasslands and deserts, active agricultural areas, coastal areas, and high-elevation forests and meadows. Their distribution is strongly correlated with the availability of caves and abandoned mines, with population centers in areas dominated by exposed cavity or cave-forming rock

and historic mining districts. Townsend's big-eared bats have been documented traveling large distances while foraging (>93 miles). There is a moderate potential for this species to occur on the property, based on the presence of potentially suitable day-roost habitat, and its wide-ranging foraging habits. However, no deep caves are present.

- **Pallid bat (*Antrozous pallidus*) - CDFW Species of Special Concern.** Arid habitats, including grasslands, shrublands, woodlands, and forests; prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings; night roosts may be in porches and open buildings; hibernation probably occurs in rock crevices. There is a high potential for pallid bats to occur on the property, because it is a locally common species and foraging and roosting habitat are present on-site.
- **Western mastiff bat (*Eumops perotis ssp. californicus*) - CDFW Species of Special Concern.** Western mastiff bats primarily forage in areas with broad open arid lowlands, washes, flood plains, chaparral, oak woodland, grassland and agricultural areas where abundant roost locations are available. This bat generally roosts under exfoliating rock slabs, but may also use crevices and buildings. Roost sites must provide sufficient vertical drop from roost sites, typically a minimum of about 10 feet above the ground. Western mastiff bats have a moderate potential of occurring on-site and may periodically forage over the site. Although exfoliating rock slabs are absent, there may be some suitable roost sites on the Project site.
- **San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) - CDFW Species of Special Concern.** This large jackrabbit uses coastal sage scrub of intermediate cover with components of open shrub, herbaceous and tree elements, and herbaceous edges. This subspecies has a moderate potential of occurring on the site. Although suitable habitat is present on-site and this rabbit has been seen in the vicinity, ongoing human activities may explain why it has not been found on the property.
- **San Diego desert woodrat (*Neotoma lepida intermedia*) – CDFW Species of Special Concern.** This subspecies of woodrat is most commonly associated with chaparral and coastal sage scrub. They often are found where rock outcrops or other rocky areas are present, but will also occur where rocks are not present. Suitable habitat is present for this subspecies. Two middens were found in the northwest corner of the site near the small riparian area, habitat more typical of the common big-eared woodrat species (*N. macrotis*). Identification to the species level cannot be made solely from a midden.

3. Wildlife Movement

Wildlife movement is currently unrestrained within the Project site (excepting the developed portion of the property), but movement on or off the site is constrained on three sides. Residential development lies to the west and east, and busy roadways abut the western and southern property

boundaries. Sand Canyon Road to the west and Soledad Canyon Road to the south are heavily traveled roadways that create significant barriers to wildlife movement, particularly larger species such as deer, coyote, and bobcat. There is undeveloped property immediately north of the property, but that is also bordered by residential land uses that continue to the north and east. There is currently no linkage to nearby natural habitat areas, or corridors to facilitate movement between such areas and the subject property.

4. Jurisdictional Waters, Streambeds and Riparian Resources

Work within the bed, bank, or channel of streams, wetlands, and certain water is regulated by federal and state laws. One jurisdictional area is subject to federal and state regulations, the ephemeral wash parallel to Sand Canyon Road (**Figure 4.4-2, Federal and State Jurisdiction**). This wash traverses the western edge of the subject property and terminates in a storm drain inlet at the north boundary of the existing mobile home development. Flow is then conveyed via underground culvert to an open ditch, and then to another buried culvert to daylight in the Santa Clara River.

Federal Jurisdiction

Federal jurisdictional areas are restricted to the ephemeral wash, as noted above. Soils sampled in a reach in the north part of wash dominated by arroyo willows (*Salix lasiolepis* – FACW) consisted of gravel and sand with no wetland indicators. Downstream sections are dominated by upland vegetation. Therefore, this reach, and the rest of the wash downstream to the edge of the mobile home development, were determined to be non-wetland waters.

A narrow-maintained drainage swale between Sand Canyon Road and a drain inlet was also determined to be non-wetland waters. While it exhibited no characteristics of a streambed, this appeared due to the highly maintained condition of the swale.

Flows are conveyed through the above-mentioned features to grated inlets adjacent to the north edge of the mobile home park. From these points, flows are conveyed through buried culverts to an open ditch on the west side of the mobile home park. The upper section, totaling about 0.09 acre was determined to be a wetland due to the presence of both hydric soil and the dominance of obligate wetland vegetation. Below this section, the soil substrate transitions to well-drained alluvium sparsely occupied by upland non-native vegetation. This lower section was concluded to be non-wetland waters.



Note: Federal and State jurisdictional acreages overlap as shown on this map, with State acreage slightly larger due to jurisdiction over banks above Federal limits (ordinary high water mark). See Tables 1 and 2 for details.

SOURCE: E. Read and Associates, Inc., October 20, 2015.

Figure 4.4-2 Federal and State Jurisdiction

The total area of federal jurisdiction is 1.561 acres, of which 1.471 acres is non-wetland waters and 0.090 acre is wetland within a maintained ditch. This ditch and the upstream terminus of the ephemeral wash are “soft-bottom channels” maintained by the County of Los Angeles under a long-term permit from CDFW.³⁰

Table 4.4-2 below summarizes the characteristics of each reach labeled in **Figure 4.4-3, Vegetation with Grading Impacts**. Plots not listed in this table represent features determined not to be jurisdictional.

Table 4.4-2 Characteristics of Stream Reaches under Federal Jurisdiction

Reach	Plot	Length (feet)	Area (acres)	Dominant Vegetation	Wetland?
1	C	609	0.13	Arroyo willow (FACW), mulefat (FAC)	No
2	A	98	0.01	Upland: holly leaf cherry, skunkbrush	No
3	D, E	1,313	1.29	Upland: holly leaf cherry, California buckwheat	No
4	I	419	0.09	Wetland: Cattails (Typha sp. – OBL), water speedwell (Veronica anagallis- aquatica – OBL) and arroyo willow (FACW) within a maintained flood control ditch	Yes
5	J, K	256	0.04	Upland non- natives w/sparse cover	No
Total federal non-wetland waters:		2,335 feet; 1.471 acres			
Total federal wetland:		419 feet; 0.090 acre			

Source: Impact Sciences Inc., November 2015

FACW = Facultative Wetland Plant (67 to 99% of the time probability of occurrence in wetlands);

FAC = Facultative Plant (34 to 66% of the time probability of occurrence in wetlands)

State Jurisdiction

The reach of wash near Sand Canyon Road under state jurisdiction is the same as federal jurisdiction, but the state jurisdictional area extends to the tops of the streambanks or outer extent of the riparian canopy, whichever is greater (refer to **Figure 4.4-2**, page [4.4-14](#)). Only arroyo willow, mulefat, and Fremont cottonwood were considered riparian species for this analysis.

Table 4.4-3 below summarizes the characteristics of state jurisdiction. The total area of state jurisdictional wetland is 0.09 acre, with state non-wetland waters of 2.87 acres.

Table 4.4-3 Characteristics of State Jurisdiction

Reach	Plot	Area (acres)	Dominant Vegetation	Wetland?
1	C	0.54	Arroyo willow (FACW), mulefat (FAC)	NO
2	A	0.14	Upland: holly leaf cherry, skunkbrush	NO
3	D, E	1.57	Upland: holly leaf cherry, California buckwheat	NO
4	I	0.40	Wetland: Cattails (OBL), water speedwell (OBL) and arroyo willow (FACW) within a maintained flood control ditch	Partly; base of channel only (0.09 acre)
5	J, K	0.25	Upland non-natives w/sparse cover	NO
6	L	0.06	Barren – Maintained Drainage Swale	NO
Total state non-wetland waters jurisdiction		2.87 acres		
Total state wetland jurisdiction:		0.090 acre		

Source: Impact Sciences Inc., November 2015

30 <http://dpw.lacounty.gov/lacfd/wdr/Default.aspx> (accessed April 2016)

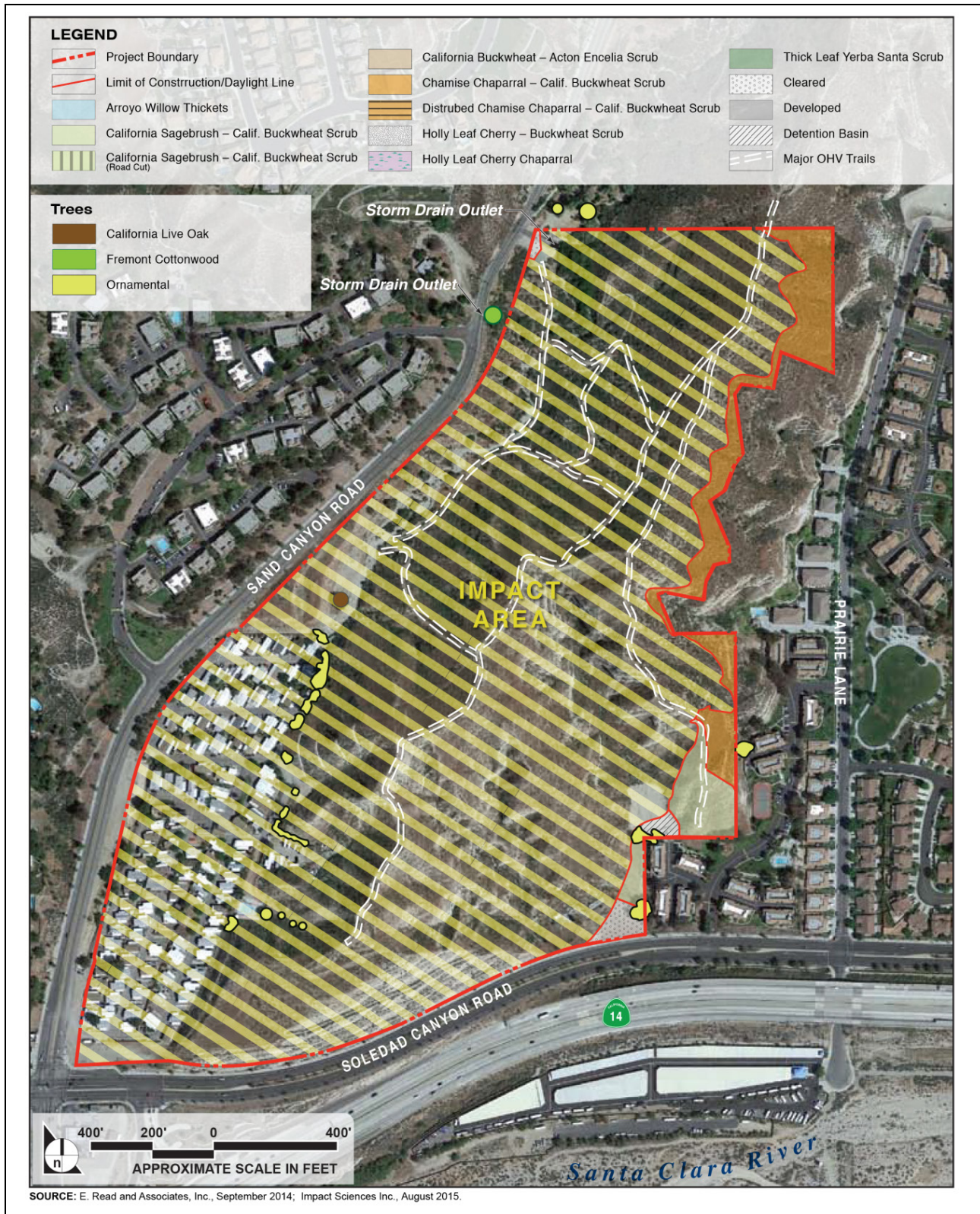


Figure 4.4-3 Vegetation with Grading Impacts

4.4-4 Regulatory Setting

The following is a summary of the regulatory context under which biological resources are managed at the federal, state, and local level.

1. Federal

Army Corps of Engineers

Under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, the United States Army Corps of Engineers (USACE) has authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. Perennial and intermittent creeks and adjacent wetlands are considered waters of the United States and are within the regulatory jurisdiction of the USACE. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetlands values or acres. In achieving the goals of the Clean Water Act, the Corps seeks to avoid adverse impacts and to offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of waters of the U.S. wetlands may require a permit from the Corps prior to the start of work. Typically, permits issued by the Corps are a condition of a project as mitigation to offset unavoidable impacts on wetlands and other waters of the U.S. in a manner that achieves the goal of no net loss of wetland acres or values.

Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC §703-711), the Bald and Golden Eagle Protection Act (16 United States Code (USC) §668), Section 10 and the Federal Endangered Species Act (FESA; 16 USC §153 et seq.). Projects that would result in take of any federally listed threatened or endangered species are required to obtain permits from the USFWS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (incidental take permit) of FESA, depending on the involvement by the federal government in permitting or funding the Project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species.

Take under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA, however, the USFWS advises project applicants that they could be elevated to listed status at any time.

2. State of California

California Endangered Species Act

The California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. CESA establishes that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats. Under state law, plant and animal species may be formally designated as Rare, Threatened, or Endangered through official listing by the California Department of Fish and Wildlife. Listed species are given greater attention during the land use planning process by local governments, public agencies, and landowners than are species that have not been listed.

On private property, Endangered plants may also be protected by the Native Plant Protection Act (NPPA) of 1977. Threatened plants are protected by CESA, and Rare plants are protected by the NPPA. However, CESA authorizes that “Private entities may take plant species listed as Endangered or Threatened under the ESA and CESA through a Federal incidental take permit issued pursuant to Section 10 of the ESA, if the CDFG certifies that the incidental take statement or incidental take permit is consistent with CESA.” In addition, the CEQA requires disclosure of any potential impacts on listed species and alternatives or mitigation that would reduce those impacts.

California Environmental Quality Act – Treatment of Listed Plant and Animal Species

ESA and CESA protect only those species formally listed as Threatened or Endangered (or Rare in the case of the state list). Section 15380 of the CEQA Guidelines independently defines “Endangered” species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and “Rare” species as those that are in such low numbers that they could become Endangered if their environment worsens. Therefore, a project normally will have a significant effect on the environment if it will substantially affect a Rare or Endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the *California Fish and Game Code*. The California Endangered Species Act (CESA; *California Fish and Game Code* §2050, et seq.) prohibits take of listed threatened or endangered species. Take under CESA is restricted to direct killing of a listed species and does not prohibit indirect harm by way of habitat modification.

Species of Special Concern (CSC) is a category used by CDFW for those species that are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that afforded by the

California Fish and Game Code. The CSC category is intended by the CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the development of natural lands.

The CDFW also has authority to administer the Native Plant Protection Act (*California Fish and Game Code* §1900, et seq.). The Act requires CDFW to establish criteria for determining if a species, a subspecies, or a variety of native plant is endangered or rare. Under §1913(c) of the Act, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant.

Perennial and intermittent streams also fall under the jurisdiction of the CDFW. Sections 1601-1603 of the *Fish and Game Code* (Streambed Alteration Agreements) give the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

The Natural Community Conservation Planning Act of 1991 was established by the California Legislature, is directed by the Department of Fish and Wildlife, and is being implemented by the state, and public and private partnerships to protect habitat in California. As opposed to the single species interpretation of the Endangered Species Act (ESA), this act aims at protecting many species using a regional approach to habitat preservation. A Natural Communities Conservation Plan (NCCP) identifies and provides for the regional or area wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.

State of California – Section 1602 of the *California Fish and Game Code*

Streambeds and other drainages that occur within the planning area are subject to regulation by the CDFW. The CDFW considers most drainages to be “streambeds” unless it can be demonstrated otherwise. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel with banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports, or has supported, riparian vegetation. CDFW jurisdiction typically extends to the edge of the riparian canopy, and therefore, usually encompasses a larger area than Corps jurisdiction.

State of California – Sections 3503, 3503.5, and 3800 of the *California Fish and Game Code*

These sections of the *California Fish and Game Code* prohibit the destruction of bird nests and eggs (§3503), and the take of birds of prey (§3503.5) and nongame birds (§3800). Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered “take.” Such a take would also violate federal law protecting migratory birds. Incidental Take Permits (i.e., Management Agreements) are required from the CDFW for projects that may result in the incidental take of species listed by the State of California as Endangered,

Threatened, or candidate species. The permits require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

Porter Cologne Act

The State Water Quality Control Board has ruled after the U.S. Supreme Court decisions to reduce the federal jurisdiction over Waters of the U.S., that the state would require that a Waste Discharge Report be required for any discharge of waste, including fill, into “waters of the state,” other than those projects requiring a federal Section 404 permit and the state’s Section 401 Certification of the federal permit, under the authority of the Porter Cologne Act. This essentially extends the state’s assumption of the NPDES program, by modifying the definition of waste. The Regional Water Quality Control Board is responsible for issuing Waste Discharge Permits.

3. City of Santa Clarita

General Plan

Applicable goals and policies from the General Plan and Conservation and Open Space Element are listed below.

- Goal CO 3: Conservation of biological resources and ecosystems, including sensitive habitats and species.
- Policy CO 3.1 Incorporate standards for a Significant Ecological Areas (SEA) Overlay Zone in the Municipal Zoning Code.
 - Policy CO 3.2 Encourage the preservation of oak woodlands, oak savannahs, and individually significant oak trees through enforcement and revisions to the Oak Tree Ordinance.
 - Policy CO 3.3 Identify and protect areas of significant ecological value, including, but not limited to, significant ecological habitats such as the wildlife corridor between the Santa Susana Mountains and the San Gabriel Mountains and preserve and enhance existing Significant Ecological Areas (SEAs).
 - Policy CO 3.4 Consolidate open space areas that represent regionally significant wildlife corridors to promote continued wildlife productivity and diversity on a regional scale and restrict development and intensive human activity in areas that sustain rare or endangered species, such as migratory bird species, fish, and rare plant species.
 - Policy CO 3.5 Promote only compatible and, where appropriate, passive recreational uses in areas designated as Significant Ecological Areas (SEA) consistent with the particular needs and characteristics of each SEA, as determined by field investigation.
 - Policy CO 3.7 Preserve to the extent feasible natural riparian habitat and ensure that adequate setback is provided between riparian habitat and surrounding urbanization.

Policy CO 3.10 Development shall consider to the extent feasible, preservation of wildlife corridors and provide adequate setbacks.

Oak Tree Ordinance

City of Santa Clarita Ordinance No. 89-10, as well as the Oak Tree Preservation and Protection Guidelines developed by the City, provide for the protection of oak trees within the City limits. The City of Santa Clarita's Oak Tree Preservation ordinance (Unified Development Code §17.17.090 C) requires the preservation of all healthy oak trees and that removal, cutting, pruning, relocation, damage, or encroachment into the protected zone of any oak trees measuring 6 inches or larger in circumference (DBH, diameter at breast height) on public or private property can only be done in accordance with a valid oak tree permit issued by the City.

4.4-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to biological resources are contained in the environmental checklist contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to biological resources if any of the following could occur.

-
- Bio-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 or U.S. Fish and Wildlife Service?**
 - Bio-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**
 - Bio-3 Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**
 - Bio-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?**
 - Bio-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**
 - Bio-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**
 - Bio-7 Would the project affect a Significant Ecological Area (SEA) as identified on the City of Santa Clarita ESA Delineation Map?**
-

4.4-6 Impacts Analysis

Bio-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 or U.S. Fish and Wildlife Service?

1. Direct Impacts

Implementation of the Project would result in the conversion of approximately 80.59 acres of the Project site (about 92.7%) from an undeveloped to a developed condition. This includes 16.12 acres of existing developed or otherwise cleared areas of the site and 70.78 acres of vegetated area.

Approximately 92% of the natural vegetation on-site would be removed, with about 5.68 acres remaining. Most of the remaining habitat areas would be along the eastern perimeter of the property, with a small area left on the northern boundary. Undeveloped open space is contiguous to these areas of the site.

The acreage and percentage of each of the vegetation/habitat types expected to be disturbed on the site as a result of Project implementation are provided in **Table 4.4-4** below.

Table 4.4-4 Sand Canyon Plaza Mixed-Use Project Habitat Acreages and Impacts

Community Type	Acreage		
	Existing	Impacted	Remaining
Arroyo Willow Thickets	0.55	0.55	0
California Sagebrush – California Buckwheat Scrub	34.8	33.35	1.45
California Sagebrush – California Buckwheat Scrub (Roadcut)	3.25	3.25	0
California Buckwheat – Acton Encelia Scrub	0.93	0.79	0.14
Chamise Chaparral – California Buckwheat Scrub	25.03	20.99	4.04
Disturbed Chamise Chaparral – California Buckwheat Scrub	4.16	4.16	0
Holly Leaf Cherry – Buckwheat Scrub	1.31	1.31	0
Holly Leaf Cherry Chaparral	0.35	0.35	0
Thick Leaf Yerba Santa Scrub	0.40	0.35	0.05
Cleared	1.42	0.99	0.43
Developed	14.16	14.16	0
Detention Basin	0.54	0.34	0.20
Totals	86.9	80.59	6.31

Source: Impact Sciences, Inc., November 2015

The majority of the Project site would be graded to develop the Project, as illustrated on **Figure 4.4-3** (page [4.4-16](#)). The areas that would not be altered are limited to the eastern, northeastern corner, and the extreme southeast corner of the property near Soledad Canyon Road. Most of these undisturbed areas support chamise chaparral – California buckwheat scrub, except the southeast corner, which has been cleared in the past and supports a ruderal assemblage of non-native plants.

Construction activity and grading operations of the Project would disturb and/or threaten the survival of common wildlife species on the site. Some species would be expected to relocate to

other areas of similar habitat within the local area. However, wildlife that migrate from the site are vulnerable to mortality by predation, potential conflicts with people and cars, and unsuccessful competition for food and territory. Species of low mobility (particularly amphibians and reptiles) could be eliminated during site preparation and construction.

Replacement of existing vegetation with structures and ornamental landscaping would eliminate natural communities on developed portions of the site and result in a reduction in native wildlife species diversity. A number of animal species would be replaced with a fauna composed of species more tolerant of, or even dependent upon, urban settings.

Although some loss of common wildlife is expected during construction of the Project, because of the relatively common occurrence of these common wildlife species that would be displaced or lost, Project implementation is not expected to cause a current wildlife population on or adjacent to the Project site to drop below self-sustaining levels. Therefore, impacts to common reptile, amphibian, or mammal species would be less than significant.

Common native bird species are protected by the Migratory Bird Treaty Act and the *California Fish and Game Code*, which prohibit actual or attempted hunting, pursuing, catching, capturing, killing, offering for sale, selling, offering to purchase or transport of any migratory bird, parts of birds, eggs and/or nests. Forty avian species were observed on the site during general biological surveys and the coastal California gnatcatcher surveys, and these species, if nesting, could be adversely affected as a result of implementation of the Project. Implementation of the Project would impact bird nesting habitat as it involves the removal of mature trees and shrubs from the property. Construction-related activities could result in the direct loss of active nests or the abandonment of active nests by adult birds during that year's nesting season. The loss of active nests of native birds would be a significant impact, according to the Migratory Bird Treaty Act and the *California Fish and Game Code*. Therefore, if Project construction would take place during the nesting season, pre-construction nesting bird surveys (Mitigation Measure **MM Bio-1**) would be required and would mitigate this impact to less than significant.

Indirect Impacts

Because nearly the entire property would be developed, indirect impacts to flora and fauna would be limited to the very small remaining undeveloped areas along the east, northeast, and southeast property boundaries.

It is expected that implementation of the Project would result in indirect impacts to biological resources in the following ways:

- An increased human and domestic animal presence in the area and noise associated with this presence
- Increase in populations of non-native plant species
- Storm water runoff

Indirect impacts associated with the Project are not quantifiable but are reasonably foreseeable. As such, the discussion that follows provides a common-sense identification of the types of secondary impacts and their relative magnitude such that decision makers and the general public are aware of the indirect impact potential associated with implementation of the Project. This type of analysis is consistent with the requirements of CEQA.

Increased Human and Domestic Animal Presence

Implementation of the Project would increase human and domestic animal presence in the area. Increased recreational and other human activity around these habitats could displace a number of wildlife species, increase the amount of refuse and pollutants in the area, compact soils, and trample plants and ground-dwelling fauna in the small remaining undeveloped areas in the eastern portion of the site.

Increased use of the site by domestic animals can disturb nesting or roosting sites, in both natural and landscaped areas, and disrupt the normal foraging activities of wildlife in adjacent habitat areas. If this activity occurs frequently and over a long time, these disturbances may have a long-term effect on the behavior of common and special-status animals and can result in their extirpation from the area. Feral cats, as well as house cats, can cause substantial damage to the species composition of natural areas through predation, including populations of special-status species.

An increase in recreational uses and use by domestic animals of the area as a result of Project implementation would affect the quality of these areas as wildlife habitat and would potentially reduce the population of wildlife species. However, the Project site is already surrounded by residential development and is impacted by recreational and domestic animal use. Therefore, the indirect impacts potentially caused by increased human and domestic animal presence as a result of Project implementation would be less than significant.

Increase in Populations of Non-Native Species

After Project completion, a number of non-native plant and wildlife species (e.g., invasive landscape materials, European starlings, house sparrows) that are more adapted to urban environments are expected to increase in population and potentially displace native species because of their ability to compete more effectively for resources. Non-native plants tend to be more adaptable to urban settings and adjacent open space areas and can out-compete native plants for available resources.

However, historical and ongoing development in the vicinity of the Project site has likely supported continual and ongoing increases and proliferation of non-native plant and wildlife species populations in remaining natural habitats. Consequently, the Project is not expected to substantially increase the distribution of non-native plants and wildlife in the remaining open spaces in the Project site area.

Therefore, impacts to the remaining natural areas as a result of potential increases in non-native plants and wildlife resulting from Project implementation are expected to be less than significant, given compliance with Mitigation Measure **MM Bio-5**.

Storm Water and Urban Runoff

Over-irrigation of landscaped areas, especially when combined with the use of chemicals, could lead to runoff that contains pesticides, herbicides, nitrates, and other contaminants. Any runoff that flows into the western drainage channel (even if underground) that contains high levels of nutrients, particularly fertilizers and waste products such as nitrogen and phosphorous, could result in eutrophication (excessive nutrient buildup) downstream (the on-site drainage connects to the Santa Clara River by means of storm drain pipes). This in turn can result in depletion of available oxygen due to increased Biological Oxygen Demand (BOD) by the nutrient-eating bacteria in the water, reducing available dissolved oxygen for fish and other aquatic organisms. Other chemicals, pesticides, and herbicides can also adversely affect aquatic systems.

Paved surfaces could contribute runoff into the riparian corridor during storm events. Depending on the magnitude and frequency of storm events and the overall level of the water quality, this runoff can cause increased eutrophication, depleted oxygen levels, long-term build-up of toxic compounds and heavy metals, and other adverse effects to biological resources associated with aquatic systems. Since the use of chemicals and the extent of over-irrigation for landscaping within common and residential areas cannot be determined prior to Project implementation, impacts related to storm water and irrigation runoff could substantially affect special-status species potentially occurring downstream from the Project site, substantially diminish habitat for fish, wildlife, or plants, and substantially degrade the quality of the environment.

Though the on-site drainage is ephemeral, meaning it does not have permanent water flowing year-round, increased pollutant-containing runoff could still have an impact on the Santa Clara River farther downstream. Therefore, these impacts would be considered potentially significant. The Water Quality Technical Report evaluates these potential impacts in further detail and discusses the storm water runoff system Best Management Practices (BMPs) that have been incorporated into the Project design to reduce these water quality impacts to less than significant.³¹

Special Status Plant Species

No special status plant species were observed during focused rare plant surveys, and none have been reported to occur on the Project site. Based on field surveys and habitat analysis, none of the rare plants recorded from the Project region were present on-site or have a high potential for occurrence on the subject site.

31 Water Quality Technical Report, Geosyntec, June 2016

One special status plant, slender mariposa lily, is considered to have a moderate potential to occur on the Project site based on habitat conditions and known distribution of the species. Although 2014 and 2015 were drought years, slender mariposa lily was observed in large numbers on other sites in the region with similar habitats. Therefore, if slender mariposa lily were to occur, they would be expected in very low numbers, whose loss would not substantially affect a local or regional population. As such, impacts to special status flora are considered less than significant.

Special-Status Fauna

Amphibians and Reptiles

No special-status amphibians are expected to occur on site, because there is no suitable habitat on site. One special-status reptile was seen (San Diego tiger [coastal] whiptail; Special Animal) and another has the potential to occur (coast horned lizard; Species of Special Concern). Because of their sensitivity status, the loss of habitat and the associated loss of individuals of these species within the Project site would be considered a significant impact. However, implementation of Mitigation Measure **MM Bio-2**, which provides for the relocation of any coast horned lizards or San Diego tiger whiptails to appropriate off-site locations, would minimize the direct loss of these animals, and direct impacts to these special-status reptile species would be reduced to a level of less than significant.

Birds

Suitable foraging and/or nesting habitat exists on the site for the Cooper's hawk, southern California rufous-crowned sparrow, California horned lark, loggerhead shrike, and Bell's sage sparrow. Cooper's hawk was observed soaring over the site, and southern California rufous-crowned sparrow and Bell's sage sparrow were observed foraging on the Project site during the focused surveys for coastal California gnatcatcher, and are assumed to be nesting on-site or in the vicinity. Focused surveys for the coastal California gnatcatcher determined this species was absent from the Project site.

During site preparation activities associated with Project implementation, special-status bird species are expected to be displaced to remaining undisturbed sage scrub habitat in other undeveloped habitat in the Project vicinity. Because foraging birds are able to escape to other foraging habitats in the region during construction, the Project would have a less than significant impact to foraging special-status bird species.

Vegetation clearing and grading within the scrub habitats, if conducted during the nesting season of these special-status bird species, could result in the direct loss of active nests, including eggs, young, or incubating adults, which would be considered a significant impact as it would be in violation of the federal Migratory Bird Treaty Act and the California Fish and Game Code. If Project construction is commenced during the nesting season, a pre-construction nesting bird survey (Mitigation Measure **MM Bio-1**) would be required and temporary buffer zones maybe

required around active nests. These measures would reduce this potential impact to less than significant.

Mammals

San Diego black-tailed jackrabbit, a California Species of Special Concern, has the potential to inhabit the open, sparse coastal sage scrub found on the Project site. The dense areas of chaparral and sage scrub are suitable habitats for the San Diego desert woodrat, also a California Species of Special Concern. These special-status mammal species were not observed during the general field surveys, but because suitable habitat occurs on-site for these species, there is potential for their presence. Because of their sensitivity status, the loss of individuals of these species within the Project site would be considered a significant impact. Pre-construction surveys for special-status mammals (Mitigation Measure **MM Bio-3**) are required. With implementation of this mitigation measure, impacts to special status mammals on the Project site would be reduced to levels that are not considered significant.

Bats

Although no focused bat surveys were conducted for this Project, it is reasonable to assume that some bats are present based on the habitats present. One or more bat species may be utilizing the rock crevices and small caves occurring on the steep slopes in the center of the property for daytime roosting, resting between bouts of nighttime feeding, and possibly rearing young. Project implementation would permanently remove this important bat habitat, and all species using those areas would be displaced.

If bats are present, the loss of roosting habitat would be a potentially significant impact. Mitigation Measure **MM Bio-4** (requiring pre-construction surveys and implementation of bat boxes) would reduce impacts to special-status mammals to a less than significant level.

The loss of on-site vegetation would be considered less than significant impact to bat feeding, because bats generally fly large to very large distances to forage during the night, and many bat species occurring in the area prefer feeding over water.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM Bio-1	Active nests of native bird species are protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the <i>California Fish and Game Code</i> (§3503). If activities associated with construction or grading are planned during the bird nesting/breeding season, generally February through March for early nesting birds (e.g., Cooper's hawks or hummingbirds) and from mid-March through mid-September for most bird species,
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the Applicant shall have a qualified biologist conduct surveys for active nests. To determine the presence/absence of active nests, pre- construction nesting bird surveys shall be conducted weekly beginning 30 days prior to initiation of ground-disturbing activities, with the last survey conducted no more than 3 days prior to the start of clearance/construction work. If ground-disturbing activities are delayed, additional pre- construction surveys shall be conducted so that no more than 3 days have elapsed between the survey and ground-disturbing activities.

Surveys shall include examination of trees, shrubs, and the ground for nesting birds. Several bird species such as killdeer and night hawks are known to nest on bare ground. Protected bird nests that are found within the construction zone shall be protected by a buffer deemed suitable by a qualified biologist, and verified by the California Department of Fish and Wildlife. Typically, a 300-foot buffer is required for most species and a 500-foot buffer for raptor and special-status species (CDFW may reduce these buffers on a site-specific basis). Buffer areas shall be delineated with orange construction fencing or other exclusionary material that would inhibit access within the buffer zone. Installation of the exclusionary material delineating the buffer zone shall be verified by a qualified biologist prior to initiation of construction activities. The buffer zone shall remain intact and maintained while the nest is active (i.e., occupied or being constructed by the adult bird(s)) and until young birds have fledged and no continued use of the nest is observed, as determined by a qualified biologist.

MM Bio-2 A qualified biologist, approved by the City and CDFW, shall prepare a detailed capture and relocation plan for San Diego tiger (coastal) whiptail and coast horned lizard that will include measures to avoid or minimize take of these sensitive species and identify appropriate relocation sites. The plan shall be submitted to CDFW for approval prior to implementation. The plan shall specify the pre-construction time frame for the biologist to conduct surveys within appropriate habitat areas to capture and relocate individual San Diego tiger whiptail and coast horned lizard in accordance with the approved relocation plan. Results of the surveys and relocation efforts shall be provided to the City with a copy to CDFW.

MM Bio-3 A qualified biologist, approved by the City and CDFW, shall prepare a detailed capture and relocation plan for San Diego black-tailed jackrabbit and San Diego desert woodrat that will include measures to avoid or minimize take of these sensitive species and identify appropriate relocation sites. The plan shall be submitted to the city and CDFW for approval prior to implementation. The plan shall specify the pre-construction timeframe for the biologist to conduct surveys within appropriate habitat areas to capture and relocate individual San Diego black-tailed jackrabbit and San Diego desert woodrat in accordance with the approved relocation plan. Results of the surveys and relocation efforts shall be provided to the City with a copy to CDFW.

- MM Bio-4** The Project Applicant shall retain a qualified biologist, approved by the City, to conduct focused bat surveys utilizing visual and electronic detection methods. The qualified biologist shall conduct the surveys between late May and mid-July, the recognized maternity season for most bats in southern California. If any special-status bat species are determined to be roosting on-site, bat boxes of a size and design suitable for the estimated number of bats on-site shall be installed, under the supervision of a qualified bat biologist, in the outer perimeter of the Project site, as close as feasible to adjacent undeveloped land, and a suitable height and solar aspect. Further, if any maternity sites are identified on site, CDFW will be notified immediately. In addition to any other direction by CDFW, no site disturbance shall occur within 300 feet of the occupied roost until it is determined that the maternity roost(s) is no longer active. Additional bat boxes designed to serve as maternity roosts shall be placed as directed by the qualified bat biologist and CDFW.
- MM Bio-5** A qualified restoration specialist shall ensure that the proposed landscape plants will not naturalize and cause maintenance or vegetation community degradation in open-space areas of the Project site. Container plants to be installed within public areas shall be inspected by a qualified restoration specialist for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases shall be rejected. In addition, landscape plants shall not be on the Cal-IPC California Invasive Plant Inventory.

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM Bio-1** through **MM Bio-5**, impacts would be less than significant.

Bio-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Holly Leaf Cherry Alliances (G3 S3)

Approximately 1.31 acres of holly leaf cherry – California buckwheat scrub and 0.35 acre of holly leaf cherry chaparral are situated in the northern and northwestern portions of the site. Holly leaf cherry alliances have a state rank of S3, meaning they are rare to uncommon; not yet susceptible to becoming extirpated in the state, but may be if additional populations are destroyed. Therefore, they meet the CDFW criteria as a sensitive habitat. Both of the holly leaf cherry alliances occurring on-site would be eliminated with development, equaling 1.66 acres and resulting in a significant impact. Mitigation Measure **MM Bio-6** proposes mitigation through restoration (on-site or off-site), thereby reducing the impact to less than significant.

Level of Significance Before Mitigation

Impacts would be significant.

Mitigation Measures

MM Bio-6 The Project Applicant, or the responsible party, shall prepare a holly leaf cherry restoration plan that details planting plans to mitigate the loss of 1.66 acres of holly leaf cherry alliance vegetation. This plan shall entail planting one holly leaf cherry shrub for each holly leaf cherry shrub to be removed. The plan shall include temporary irrigation and monitoring for 3 years after the initial installation to assure establishment of the installed shrubs. The planting site may be located within the landscaped areas of the property.

Level of Significance After Mitigation

With implementation of Mitigation Measure **MM Bio-6**, impacts would be less than significant.

Bio-3 **Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

As proposed, all federal and state jurisdictional areas on the property would be removed by Project development. Federal jurisdictional areas impacted would include 0.09 acre of wetland and 1.471 acres of non-wetland waters. State jurisdictional areas impacted would encompass 0.09 acre of wetland and 2.87 of non-wetland waters. Without appropriate authorizations, such a removal would be in violation of federal and state laws, resulting in a significant impact.

Federal Jurisdiction Impacts – 0.090-acre Wetland; 1.471 acres Non-Wetland Waters

Permits would be required from the U.S. Army Corps of Engineers and the Regional Water Quality Control Board (RWQCB) for work within Waters of the U.S. in accordance with Sections 401 and 404 of the Clean Water Act.³²

State Jurisdiction Impacts– 0.09-acre Wetland; 2.87 acres Non-Wetland Waters

Any work within the bed, bank, or channel of state waters requires a Lake and Streambed Alteration Agreement.³³ The Regional Water Quality Control Board exerts authority over “Waters of the State” and water quality by means of state law.³⁴ Of the estimated 1.471 acres of non-wetland state waters, about 27% (0.54 acre) includes dense willow riparian vegetation. The remaining area is upland habitat of sparse holly leaf cherry – buckwheat scrub.

³² Clean Water Act of 1972 §401 & §404. See also 33 U.S.C. §1341

³³ *California Fish & Game Code* §§1600–1616

³⁴ *California Water Code* §13050(e)

City of Santa Clarita

The City of Santa Clarita defines disturbance of, or encroachment into, any blue-line streams as potentially significant. Adherence with the requirements of the federal and state regulatory agencies would provide compliance with City of Santa Clarita policies. The Project Applicant shall consider the following measures as part the regulatory agency compliance and permit process to reduce impacts Army Corps of Engineers and California Department of Fish and Wildlife jurisdictional areas:

- On-site or off-site creation, restoration, or enhancement of Army Corps of Engineers jurisdictional waters of the U.S. and/or wetlands at a minimum ratio of 1:1 in accordance with the resource agencies;
- On-site or off-site creation, restoration, or enhancement of California Department of Fish and Wildlife jurisdictional areas at a minimum ratio of 1:1 in accordance with the resource agencies; and/or
- Incorporation of design features into the Project that shall avoid or minimize impacts to drainages on-site.

Mitigation Measure **MM Bio-7** has been included to ensure that the Project complies with federal and state regulatory agencies, thereby reducing impacts to less than significant levels.

Level of Significance Before Mitigation

Impacts would be significant.

Mitigation Measures

MM Bio-7 The Project impacts shall be subject to the regulations set forth by regulatory agencies as part of the jurisdictional permitting process. The Army Corps of Engineers, the California Department of Fish and Wildlife, and/or the Regional Water Quality Control Board shall require the Project Applicant, or the responsible party, to explore alternatives to avoid or reduce impacts and shall also require mitigation for all unavoidable impacts. The Army Corps of Engineers has a “no net loss” policy that requires that any unavoidable impacts to stream values and functions be replaced. In addition, the Regional Water Quality Control Board shall add restrictions to control runoff from the site, require on the site treatment of runoff to improve water quality, and impose Best Management Practices on the construction. All of the features of the Project that address water quality issues shall be mitigated within the Water Quality Management Plan and Storm Water Pollution Prevention Plan.

Level of Significance After Mitigation

With implementation of Mitigation Measure MM Bio-7, impacts would be less than significant.

Bio-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?

The Project site is completely surrounded on all sides by development, is not connected to adjacent natural habitat areas, and does not lie within nor provide a corridor that would facilitate movement between such areas and the subject property. The western ephemeral drainage is undergrounded at the existing mobile home development in the southwest portion of the site, and does not serve as a localized movement path, except for a short distance off site to the north. As such, impacts to wildlife movement from Project implementation are anticipated to be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Bio-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Per Unified Development Code §17.51.040 (Oak Tree Preservation), the City requires the preservation of all healthy oak trees unless compelling reasons justify the removal of such trees. The Project site contains three oak trees subject to the City of Santa Clarita's Oak Tree Preservation ordinance. As such, an inventory of on-site oak trees was conducted by a registered arborist, which included an evaluation of the trees' current condition, assessment of the level of encroachment/impact due to proposed construction, and identification of recommendations and mitigation measures for their preservation, if necessary.

Three protected trees have been identified as coast live oak (*Quercus agrifolia*) on the Project site. The coast live oak trees were found to be in average good condition with no significant insect pest or disease problems. The trees are identified as #1, #2 and #3. Tree #2 is classified as a "heritage tree" having a trunk diameter of 46 inches. Tree #2 has a sizeable trunk cavity at the root collar; however, the main stem is believed to have a high volume of sound wood, enough to reasonably support the tree with minimal risk at present.

Two non-heritage oak trees are proposed for removal due to required road improvements/widening of Sand Canyon Road (refer to **Figure 4.4-4**) and on-site land development. A heritage oak tree (Tree #2) would be preserved in place with minimal impacts (refer to **Figure 4.4-5**). The daylight limit for work near Tree #2 is about 60 feet, which is 5 feet outside the dripline. The Applicant would be subject to conditions imposed as part of the Oak Tree Permit per Unified Development Code §17.51.040.B.3, including required mitigation for the two proposed removals. Conditions can include, but not are limited to, requiring the Applicant to plant trees on-site or pay into the City's Oak Tree Fund the equivalent of the International Society of Arboriculture (ISA) value of the tree to be removed. These conditions, along with Mitigation Measure **MM Bio-8**, reduce impacts to less than significant levels.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

- MM Bio-8 The Project Applicant, or the responsible party, shall be responsible for implementing the following maintenance and care measures for on-site oak trees prior to, during, and post-construction.
1. Thoroughly irrigate all preserved trees one-week prior to any excavation that takes place within the tree protection zone.
 2. Provide quarterly Arborist monitoring of Tree #2 for not less than 2 years.
 3. Install and maintain protective fencing around trees as illustrated on the plans in the Oak Tree Report. There must be a three-foot opening in the protective fencing to allow for inspection and maintenance, position openings every 50 to 75 feet.
 4. Any work taking place in the ground, grading, trenching, drilling etc., within the tree protection zone shall be supervised by the arborist on record and be performed using hand tools only.
 5. Any tree roots encountered, measuring 1-inch or greater must preserved in place, or if unavoidable, properly pruned as deemed acceptable by project arborist
 6. Preserved tree roots that are left exposed shall be wrapped in burlap or other moisture retentive material and must be kept moist.
 7. Construction materials or debris shall not be stored or disposed of within the protected zone of any tree.
 8. No irrigation shall be installed within the dripline of any oak tree.
 9. Any planting within the tree protection zone must maintain a minimum distance of 15 feet from the trunk, and must consist of drought tolerant or native plant species, plant pallet must be approved by the city of Santa Clarita.
 10. No changes in soil grade shall be made within the tree protection zone other than in the permitted work area.
 11. All drainage shall be directed away from the root zone of all oak trees.

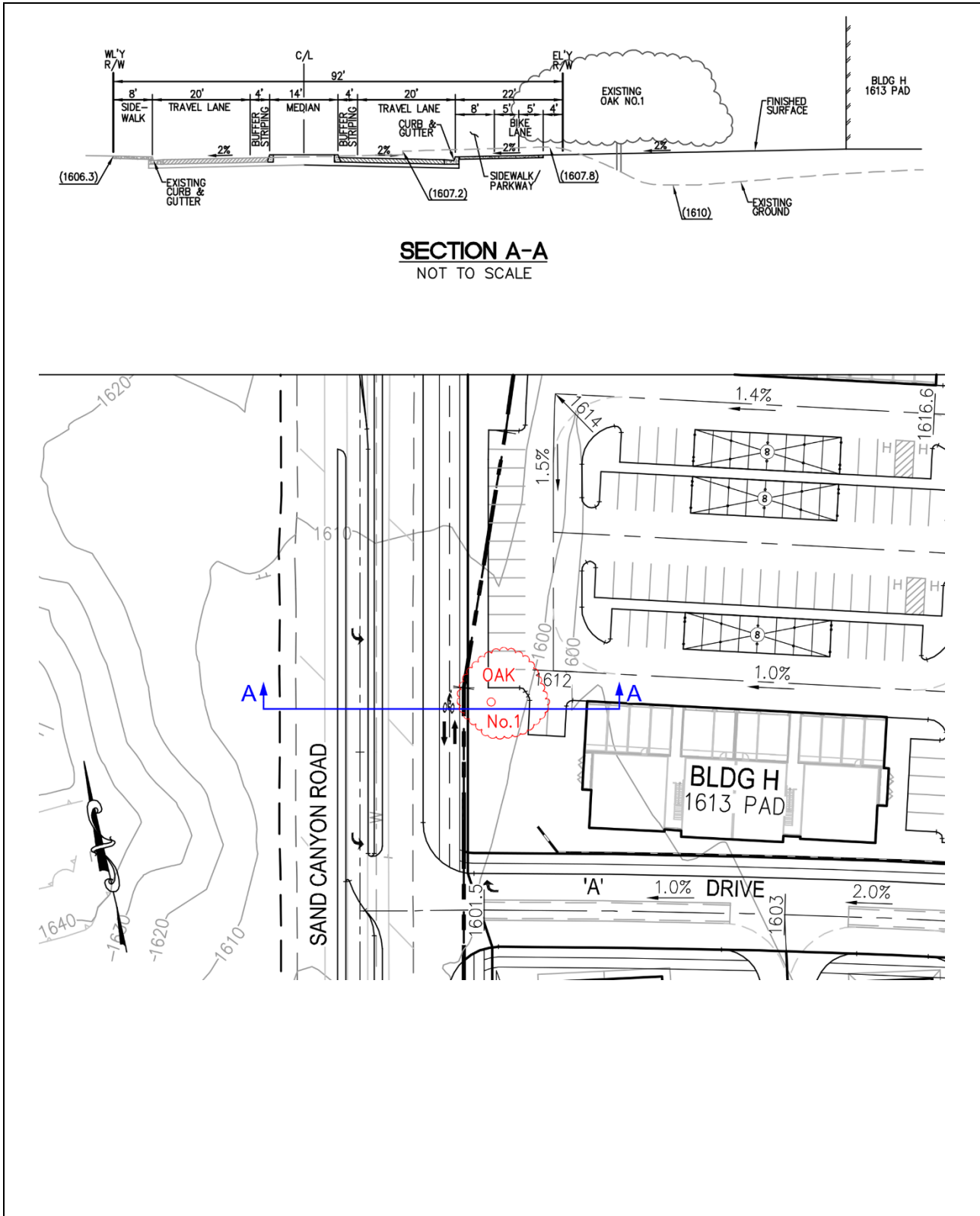


Figure 4.4-4 Oak Tree No. 1 Cross-Section

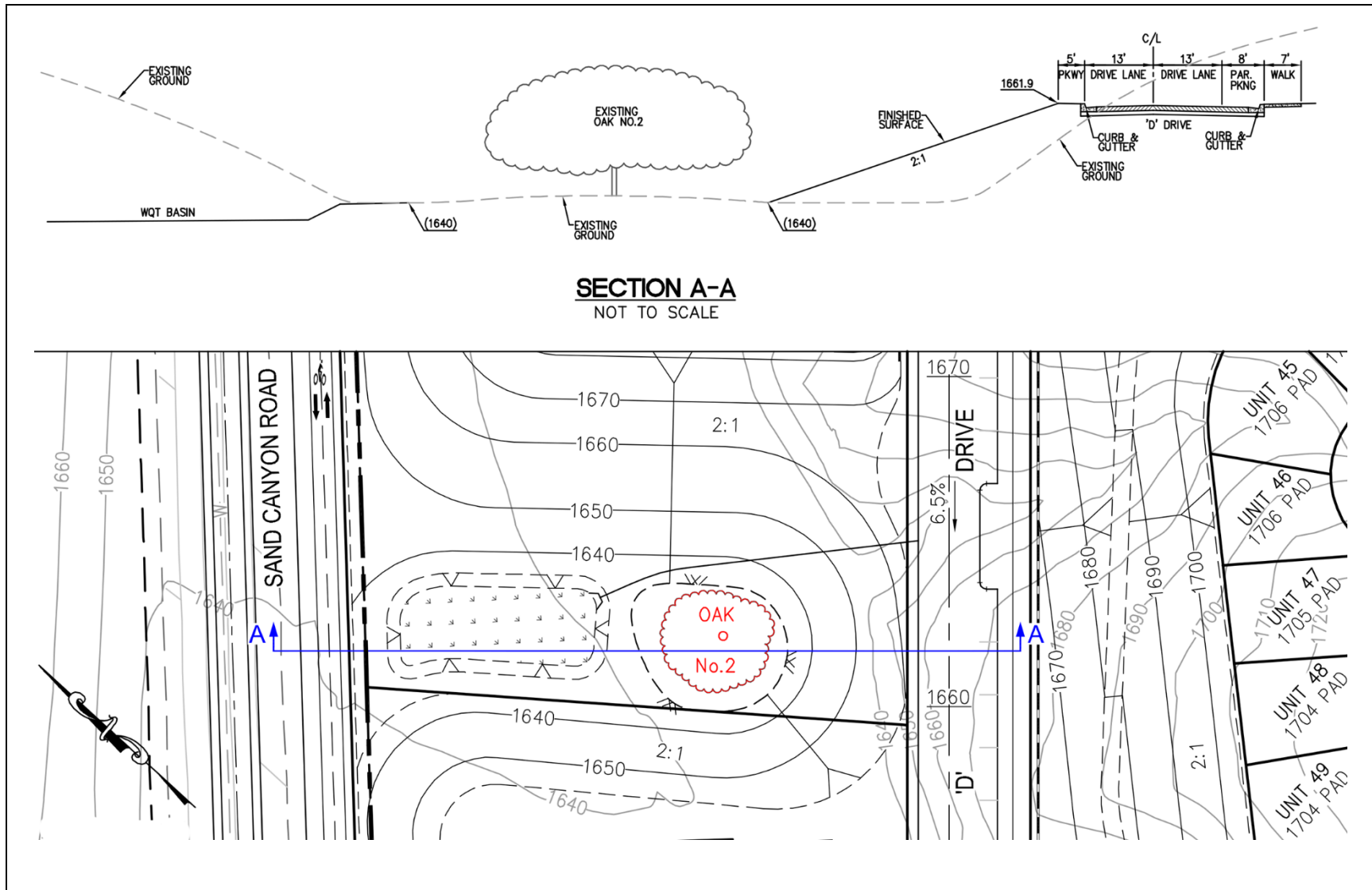


Figure 4.4-5 Oak Tree No. 2 Cross-Section

Level of Significance After Mitigation

With implementation of Mitigation Measure **MM Bio-8**, impacts would be less than significant.

Bio-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No habitat conservation plans (HCP) or natural community conservation plans (NCCP) are present within the City of Santa Clarita. As such, the Project site is not within a habitat conservation plan (HCP), a natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan. Therefore, the Project would not conflict with any adopted habitat conservation plans, and the Project impacts would be less than significant.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

Bio-7 Would the project affect a Significant Ecological Area (SEA) as identified on the City of Santa Clarita ESA Delineation Map.

The Project site is not within a Significant Ecological Area as identified on General Plan Conservation and Open Space Element Exhibit CO-5, Significant Ecological Areas. The Project site is also not within a Significant Natural Area identified by the California Department of Fish and Wildlife. Therefore, the Project would not affect a Significant Ecological Area or Significant Natural Area.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

4.4-7 Cumulative Impacts

Impacts to biological resources tend to be site-specific and are assessed on a site-by-site basis. The Project entails infill development on a disturbed site with overall low biological values. Impacts to special status resources would be mitigated to less than significant levels. Thus, implementation of the Project would not represent an incremental adverse cumulative impact to biological resources and would not be cumulatively considerable. In addition, related projects would be required to conduct analysis, as required, and to implement appropriate mitigation measures. Thus, implementation of the Project would not contribute to any potential cumulative impacts, and cumulative impacts to biological resources would be less than significant.

According to CEQA Guidelines §15130, cumulative impacts refer to the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects. Potential impacts from the Project and other related projects would be site-specific, and evaluations of potential impacts would be conducted on a project-by-project basis, and mitigation would be included to address any impacts. This would be especially true of those developments located in areas that contain sensitive species and habitats. Mitigation measures within this section would provide detailed requirements for the protection, replacement, and/or relocation of sensitive plant and animal species. Each incremental development would be required to comply with all applicable federal, state, and City regulations concerning the preservation of biological resources. In consideration of these regulations and the mitigation measures incorporated within this EIR, potential cumulative impacts upon biological resources would be considered less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.4-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to determine consistency with Goals and Policies.

Arbor Essence, Oak Tree Report, Sand Canyon Plaza, N/E corner Sand Canyon & Soledad Canyon, Santa Clarita, CA, February 9, 2016.

Arbor Essence, Oak Tree Report (Addendum), Sand Canyon Plaza, N/E corner Sand Canyon & Soledad Canyon, Santa Clarita, CA, January 5, 2017.

Impact Sciences, Inc., Biological Assessment, Sand Canyon Plaza, TTM 053074, Santa Clarita, California, November 2015. This sources is necessary to ascertain information about potential biological species near the project area.

4.5 Cultural Resources

4.5-1 Summary

A Phase 1 archeological survey for cultural resources on the Project site was undertaken in 2015. This survey indicates that there is a low potential for cultural resources on-site. Furthermore, in compliance with state law, the Project Applicant has entered into a consultation agreement with the Fernandeano Tataviam Band of Mission Indians (Tataviam) for the Project. The Native American Heritage Commission (NAHC) recognizes the Tataviam as an organized Native American tribe, and includes the Tataviam on its Tribal Consultation list compiled pursuant to *California Government Code* §65352.3. Though not anticipated, inadvertent direct and/or indirect disturbance during construction of the Project to any on-site sensitive cultural resource would be considered a significant impact. Accordingly, mitigation measures are proposed that would reduce the magnitude of potential impacts to cultural resources to less-than-significant levels.

4.5-2 Introduction

This section addresses the potential direct and indirect impacts of the Project on historical resources. The analysis in this section was prepared based on the Phase I Inventory conducted by Dudek in May 2015, the City of Santa Clarita General Plan Conservation and Open Space Element, and other sources as cited below. The Phase I archaeological survey provides: 1) a background study and archival records search to determine if any known archaeological sites are present in the study area and/or if the area had been previously and systematically studied by archaeologists; 2) an on-foot, intensive survey of the study area to identify previously unrecorded cultural resources; and 3) a preliminary assessment of such resources, should any be found within the subject property.

4.5-3 Existing Conditions

The City of Santa Clarita is located in northern Los Angeles County, California (see **Figure 3-1, Regional Vicinity Map**, page [3-4](#)). The Sand Canyon Plaza Mixed-Use Project is an approximately 87-acre site located immediately north of State Route 14 (SR-14), east of Sand Canyon Road, north of Soledad Canyon Road, and west of the Pinetree residential community in the City of Santa Clarita (see **Figure 3-2, Project Area Vicinity Map**, page [3-5](#)).

Currently, there are 123 mobile home units on the Project site.

Existing surrounding uses include commercial and retail uses to the south and west; retail, and residential uses to the north and east.

1. Prehistory and Archaeology

Early man arrived in the Santa Clarita Valley 18,000 to 25,000 years ago during the migration across the Bering land bridge. The earliest physical evidence of human occupation in the Upper Santa Clara River Area dates from 7,000 to 4,000 years before present, and was recovered from two sites near Vasquez Rocks. The identity of the area's first inhabitants is unknown. The Tataviam peoples, Uto-Aztecian speakers of Shoshonean descent, began to reach the Project area in approximately 450 A.D. They were described as a distinct linguistic group when they were first encountered in 1776 by Spanish explorer Pedro Fages.³⁵

The Tataviam lived primarily on the upper reaches of the Santa Clara River, east of Piru Creek, extending north into the Antelope Valley, south to the San Gabriel Mountains.³⁶ However, archaeological data indicate that subsistence patterns and ritual practice were very similar to neighboring Chumash and Gabrieliño culture groups. Tataviam village sites with known names are located at San Francisquito, Piru, Camulos, Castaic Reservoir, Piru Creek, Elizabeth Lake, and the Newhall environs; additional archaeological sites have been recorded throughout the Planning Area (the Project site and the surrounding areas), particularly along the Santa Clara River,³⁷ as well as in the Vasquez Rocks area.³⁸

Sites of Native American cultural significance also exist within the City's Planning Area. Some are associated with archaeological sites; others are not otherwise recognizable. According to a recent study of the Planning Area, the Native American Heritage Commission (NAHC) identified three sites of Native American cultural significance in proximity to the Santa Clara River including CA-LAN-361, CA-LAN-366, and CA-LAN-367.³⁷ Many of the place names used today, such as Castaic, Piru, Camulos, and Hasley (Islay), reflect a Tataviam linguistic origin,³⁹ and given the long history of Native American occupation of the Planning Area, other such sites are likely present. One site of extreme cultural significance, Bowers Cave near Val Verde, contributed one of the most significant assemblages of Native American religious and ceremonial artifacts ever found in North America.⁴⁰ The Cave, named after the Ventura man who purchased the cave's contents from teenage discoverers, is located in the crest of the mountain at the entrance to the Chiquita Canyon Landfill.

35 King and Blackburn 1978. Santa Clarita Valleywide General Plan Technical Background Report, 2004.

36 City of Santa Clarita, Conservation and Open Space Element (2009).

37 CH2MHill 1996. Santa Clarita Valleywide General Plan Technical Background Report, 2004.

38 City of Santa Clarita, General Plan, "Conservation and Open Space Element," (2008) CO-34.

39 City of Santa Clarita 1999. Santa Clarita Valleywide General Plan Technical Background Report, 2004.

40 Jerry Reynolds, *The Signal Newspaper*, 1984.

2. History of the Planning Area

The history of the planning area is taken from the City of Santa Clarita General Plan EIR, Section 3.8, Cultural Resources, June 2011.

The chronicles of the 1769 expedition from San Diego to Monterey by Spanish explorer Gaspar de Portola provided the first Euro-American documentation of the Santa Clarita Region. The expedition passed through the San Fernando Valley to Newhall, then to the Castaic Junction area, and then down the Santa Clara River to San Buenaventura and north to Monterey.⁴¹ The trail blazed by Portola became known as the El Camino Viejo (The Old Road).⁴² Later, Pedro Fages, commander of the Presidio of San Diego, in 1772 traveled through Castaic Junction and Soledad Canyon in search of deserters from the army.

The Rancho San Francisco (which includes the western half of the Santa Clarita Valley) and the upper reaches of the Santa Clara River figured in three important episodes in Southern California, two of which are landmarks in the economic history of the state. The first is the documented discovery of gold in Placerita Canyon in 1842 by Francisco Lopez, Manuel Cota, and Domingo Bermudez. An existing oak tree near this location became known as the Oak of the Golden Dream.

The upper Santa Clarita Valley was also the first location of true oil drilling in Southern California, exploration for which began about 1865, when oil seeps were discovered in Pico Canyon. Subsequent exploration led to the discovery of oil in Rancho San Francisco and throughout the valley. The crossing of the Southern Pacific Railroad through the region, along with the development of the Newhall oil field and the Pioneer Oil Refinery (the predecessor of Chevron Oil) in 1874 (which was moved to its present location in 1876), initiated an oil boom in the area. The third major local historical event was the failure of the St. Francis Dam and the resulting flood of the river valley on March 12 and March 13, 1928. The flood caused at least 450 deaths and destroyed 990 homes and large areas of orchards.⁴³

American explorer John C. Fremont, who would later challenge Abraham Lincoln for the Republican nomination of U.S. president, arrived at Castaic Junction with his “Buckskin Battalion” in 1847, after following the future route of State Route (SR) 126 from Ventura. After camping for two days in the Santa Clarita Valley, he crossed into the San Fernando Valley near the present alignment of Sierra Highway. Near the current Universal Studios Hollywood, he accepted the surrender of California from General Andres Pico. The crossing through the mountains occurred at what is now known as Fremont Pass. In 1854, Phineas Banning made a 30-foot cut in the pass to allow the first stagecoach through the pass.

41 City of Santa Clarita, General Plan, “Conservation and Open Space Element,” (2008) CO-35.

42 Jerry Reynolds, *The Signal Newspaper*, 1984.

43 Santa Clarita Valley Historical Society, “Welcome to St. Francis Dam,” http://seis.natsci.csulb.edu/VIRTUAL_FIELD/Francesquito_Dam/franmain.htm, 2002

The Butterfield Overland Stage took the “Great Southern” or “Oxbow” route from St. Louis to San Francisco over Fremont Pass from 1858 until the outbreak of the Civil War in 1861. In 1863, under a construction contract awarded by the Los Angeles County Board of Supervisors, General Edward F. Beale’s workers cut a 90-foot-deep passageway through the pass between the current alignments of SR-14 and Sierra Highway to improve the roadway. Beale had also constructed a toll house when the pass was widened and collected toll for the right of passage for 22 years before the County halted the practice. Beale’s Cut was a vital route that served the Southern California area until it was bypassed by the Newhall Tunnel in 1910. By 1915, the “Ridge Route” extended from downtown Los Angeles north through the Newhall Tunnel and into the San Joaquin Valley. The San Fernando Railroad Tunnel, the third longest tunnel in the world at the time of the tunnel’s completion in 1876, is still used by the Union Pacific Railroad and Metrolink.

Because San Francisquito Canyon was the traditional route taken to the east, it was among the first canyons mined and settled. Gold mining continued in the canyon until the end of the nineteenth century, and one of the camps, Ratsburg, was mined until 1930.

By 1860, a copper boom had formed in Soledad, and a little town grew near the head of Williamson’s Pass. Copper- and gold-bearing quartz veins were mined into the twentieth century, although the rush was over by 1875.

In 1875, most of the Rancho San Francisco was purchased by Henry Mayo Newhall, a San Francisco entrepreneur. From that time to the present, the history of the Santa Clarita Valley has been linked to the activities of Newhall and, after Newhall’s death, to the family company, The Newhall Land and Farming Company. When Newhall acquired the Rancho, he knew the Southern Pacific Railroad intended to lay tracks north out of Los Angeles to join with the Central Pacific and its connection to the Transcontinental Railroad. A rail route through his property would increase its value, so he sold an alignment to the Southern Pacific for one dollar and a square-mile town site to the railroad’s development company for another dollar.

Three months after Newhall’s land purchase, the Southern Pacific began tunneling through the mountains and the San Fernando and Santa Clarita Valleys. Built with Chinese labor, at 6,940 feet the San Fernando (Railroad) Tunnel was the third-longest tunnel in the United States when it was completed on July 27, 1876. As the Southern Pacific extended track to the north, the Central Pacific was coming south to meet it. The two companies joined track near Lang Station in Canyon Country in a “golden spike” ceremony on September 5, 1876. The following month, on October 18, 1876, the Southern Pacific began subdividing the town of Newhall.

Initially the town was located at Bouquet Junction, in what would later become Saugus, named for Henry Newhall’s hometown in Massachusetts. Little more than a year later, in January and February 1878, the town moved three miles south to its current location at Old Town Newhall, probably because of better water availability from a natural artesian spring. The Pioneer Oil Refinery, which handled the oil piped from Pico Canyon and was initially set up along the wagon route in the

Newhall Pass, moved to present-day Pine Street in Railroad Canyon next to the new train tracks. The earliest productive refinery on the West Coast, it operated until 1888.

The community of Newhall contains many notable Hollywood movie sets and is the site of the Walk of Western Stars. Some of the Western relics in downtown Newhall include the “Tom Mix cottages” used as housing for the early motion picture industry, the American Theater (originally the Tumbleweed Theater) designed by Charles S. Lee and funded in large part by Actor William S. Hart in 1940; Melody Ranch (aka Placeritos Ranch and Monogram Ranch), built in the early 1920s and owned from 1952 to 1990 by actor Gene Autry and used as a location for hundreds of Western films, television series, and commercials; and the Walt Disney Co.’s Golden Oak Ranch in nearby Placerita Canyon. Heritage Junction, located at 24151 Newhall Avenue, has been set aside for the preservation of historic local structures.⁴⁴

In 1908, the City of Los Angeles obtained rights to the watershed of the Owens Valley. Under direction of William Mulholland, chief engineer for the Los Angeles Department of Water and Power, the Project was expanded in the 1920s into San Francisquito Canyon, where the St. Francis Dam was completed in 1926. From there, the aqueduct crossed the eastern end of the ranch and extended over the San Fernando Pass to the spillway above the San Fernando Reservoir. The Newhall directors also agreed to reservoir spillage of excess water into the Santa Clara River, for use by the ranch. In 1928 the concrete dam failed. The resulting flood of the river valley on March 12 and March 13 caused at least 450 deaths and destroyed 990 homes and large areas of farmland. It was America’s worst civil engineering failure of the twentieth century. In 1932-34, the Los Angeles Department of Water and Power built a new earthen dam in Bouquet Canyon.

3. Records Search

A search of records on file at the South Central Coastal Information Center (SCCIC) was conducted for a 1-mile radius around the Project area. No previously recorded cultural resources were identified within the Project site; however, five previously recorded sites and two isolated finds were identified within 1 mile of the Project area (**Table 4.5-1**).

Table 4.5-1 Previously Recorded Cultural Resources within 1 Mile of Project Area

Trinomial	Primary Number	Age	Description	In/Out of APE
CA-LAn-1077	19-001077	Prehistoric	Midden and Habitation site	Out
CA-LAn-2897	19-002897	Historic	Historic homestead	Out
CA-LAn-3768	19-003768	Prehistoric	Prehistoric artifact scatter	Out
CA-LAn-4335	19-004355	Multi- Component	Prehistoric artifact scatter and historic cemetery	Out
CA-LAn-4356	19-004356	Historic	The Mitchell Cattle Ranch site	Out
-	19-100335	Prehistoric	Sandstone Mano Isolate	Out
-	19-100336	Prehistoric	Isolated Quartz Core	Out

Source: Table 1, Cultural Resources Inventory for the Sand Canyon Plaza Project, City of Santa Clarita, prepared by Dudek, dated May 2015 (**Appendix 4** to this EIR)

⁴⁴ City of Santa Clarita, 1999.

Based on SCCIC records, 35 previous cultural resource studies have been conducted within 1 mile of the Project area (Table 4.5-2).

Table 4.5-2 Previous Cultural Studies Conducted within 1 Mile of Project Area

NADB ID#	Author	Date	Report Title
LA-00040	Leonard, Nelson N. III	1974	Draft Environmental Impact Report: Pinetree Properties
LA-00500	Robinson, R. W.	1978	Cultural Resources Investigation Prepared for Engineering Services Corporation
LA-00501	Robinson, R. W.	1977	Cultural Resources Investigation Prepared for Engineering Services Corporation, October 1977
LA-00502	Robinson, R. W.	1977	Cultural Resources Investigation Prepared for Engineering Services Corporation
LA-00593	Romani, Gwendolyn	1980	Assessment of the Impact Upon Cultural Resources by the Proposed Development of 88.05+/- Acres of Tentative Tract No. 37038, Combined with 12.27 Adjacent Acres to Be Known As Tentative Parcel Map No. 7389, Canyon Country, Los Angeles County, California
LA-00758	Robinson, R. W.	1980	Cultural Resources Investigation Re: Property Located Near Sand Canyon Road and the Santa Clarita River, Los Angeles County
LA-00877	Robinson, R. W.	1980	Report on Preliminary Mitigation Efforts Associated with Archaeological Site LA-1077 in North Los Angeles County, California
LA-01084	Robinson, R. W.	1981	Cultural Resources Investigation Re: tentative Tract Map No. 39245 Submitted to Falconer and Sons, Inc.
LA-01116	Robinson, R. W.	1977	Cultural Resources Investigation Submitted to Kaufman and Broad Homes, Inc. Re: Tentative Tract Map No. 26967
LA-01166	Wlodarski, Robert J.	1977	An Evaluation of the Potential Impacts to Cultural Resources Located on Portions of Tentative Tract 42254 Sand Canyon Road, Canyon Country, Los Angeles County, Ca
LA-01463	Gummerman, George, Mark Allen, and David S. Whitley	1985	An Archaeological Resource Survey and Impact Assessment of the Proposed Soledad Canyon Road Improvement Project, Los Angeles County, California
LA-02215	Alexander, Molly B.	1990	An Archaeological Survey of the Proposed Lost Canyon Road Extension, Santa Clarita, Los Angeles County
LA-02431	Wlodarski, Robert J.	1991	A Phase I Archaeological Study for Tentative Tract Number 50592, [Lost Canyon Project] West of Sand Canyon Road and South of the Antelope Valley Freeway, Los Angeles County, California
LA-02996	Valentine-Maki, Mary	1993	Cultural Resources Survey for the Proposed Santa Clara River Horse and Bike Trail Santa Clarita. Los Angeles County
LA-03659	Romani, Gwendolyn R.	1980	Parcel Map 12878
LA-03690	Wlodarski, Robert, J.	1997	Cultural Resources Evaluation City of Santa Clarita Circulation Element EIR
LA-03837	White, Robert S	1997	An Archaeological Assessment of the Live Oak Springs Canyon Drain and Debris Project, City of Santa Clarita, Los Angeles County
LA-03840	Wlodarski, Robert, J.	1996	A Phase I Archaeological Study: Santa Clarita Water Company Application 29898 for 13 Existing Well Site Locations, Los Angeles Ca
LA-04008	Unknown	1996	Cultural Resources Investigation Pacific Pipeline Emidio Route
LA-04482	Wlodarski, Robert, J.	1999	A Phase I Archaeological Study for a 53.3 Acre Parcel (tentative Tract 52790), Located in Sand Canyon, County of Los Angeles, California
LA-04483	Wlodarski, Robert, J.	1982	An Evaluation of the Impacts to Cultural Resources by the Proposed Construction of a Mobile Home Park on 80 Acres of Land in Mint Canyon, Canyon Country, Los Angeles County, California
LA-04663	Romani, John F. and James Schmidt	1999	Results of a Phase I Archaeological Survey Tentative Tract No. 52355, Santa Clarita, California

NADB ID#	Author	Date	Report Title
LA-05624	McKenna, Jeanette A.	2002	Cultural Resources Assessment/Evaluation for Nextel Communications Site CA-7565-a, 16404 Delone Street, Santa Clarita, Los Angeles County, California
LA-05628	Sylvia, Barbara	2002	Negative Archaeological Survey Report
LA-05818	Anonymous	2000	Phase I Archaeological Survey of Vtm 53074, Santa Clarita, Los Angeles County, California
LA-06942	McKenna, Jeanette A.	2003	The Lost Canyon Pedestrian Bridge and Sidewalk Project Located on the South Side of Los[t] Canyon Road Between Sand Canyon Road and the Terminus of the Existing Asphalt Sidewalk
LA-07489	Bonner, Wayne H.	2006	Cultural Resources Records Search and Site Visit Results for T-mobile USA Candidate Sv01533a (Sand Canyon) 29156 Sand Canyon Road, Santa Clarita, Los Angeles County, California
LA-07493	Bonner, Wayne H.	2006	Cultural Resources Records Search and Site Visit Results for Cingular Wireless Candidate Lsancad353d (soledad), 16500 Soledad Canyon Road, Santa Clarita, Los Angeles County, California
LA-07496	Wlodarski, Robert J.	2004	Records Search and Field Reconnaissance Results for Cingular Wireless Site Vy-533-02 (atc Project No. 52.75127.0055-sand Canyon) Located at 29156 Sand Canyon Road, Los Angeles County, California
LA-08933	McKenna, Jeanette A.	2007	A Phase I Cultural Resources Investigation of Vesting Tentative Tract Map No. 68601, Located in the Soledad Canyon Area of Santa Clarita, Los Angeles County, California
LA-09042	Simon, Joseph M., Tamara K. Whitley, and David S. Whitley	2004	Phase I Archaeological Survey of the Skyline Ranch Study Area, Los Angeles County, California
LA-09101	Bonner, Wayne H.	2007	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate Sv01533C (Sand Canyon), 29546 Sand Canyon Road, Los Angeles County, California
LA-09460	Toren, A. George and John F. Romani	2008	Archaeological Reconnaissance Report: Approximately 2.5 Acres in Sand Canyon (APN 2839-005-021) Los Angeles County, California
LA-10560	Hunt, Kevin and Richard D. Schultz	2005	Final Confidential: Cultural Resources Study for the Upper Santa Clara River Watershed Arundo and Tamarisk Removal Program Long-term Implementation Plan, Program Environmental Assessment, Los Angeles County, California
LA-10642	Tang, Bai "Tom"	2010	Preliminary Historical/Archaeological Resources Study, Antelope Valley Line Positive Train Control (PTC) Project Southern California Regional Rail Authority, Lancaster to Glendale, Los Angeles County, California

Source: Table 2, Cultural Resources Inventory for the Sand Canyon Plaza Project, City of Santa Clarita, prepared by Dudek, dated May 2015 (Appendix 4 to this EIR)

4. Intensive Pedestrian Survey Results

The current survey methods can be classified as intensive due to the short-interval transect spacing that was applied throughout the survey. Pedestrian survey exceeded the applicable Secretary of Interior Qualification Standards for archaeological survey and evaluation. Wherever possible the Project APE (Area of Potential Effect) was subject to 100% survey, with transects spaced 15 to 20 meters apart and oriented to correspond with natural topography. To maintain positional accuracy during survey, a GPS receiver with sub-meter accuracy was utilized. Evidence for buried cultural deposits was opportunistically sought through inspection of natural or artificial erosional exposures and animal burrows. No cultural material was observed within the Project APE. The

Project site has been subject to a number of slight-to-moderate past disturbances. These have included natural alluvial processes, soil disturbance by animals and vegetation, some off-road recreational activities and the residential development in the southwestern portion of the Project site. The plant community is dominated by a thickly vegetated Granitic Southern Mixed Chaparral environment, allowing for approximately 25% of the ground to be observed in areas not dominated by slope. Surface visibility on trails, open, flat areas, and the open drainage wash along the western portion of the property was closer to 75%. More than any other factor limiting the survey was the sloping nature of portions of the property.

5. Native American Tribal Correspondence

Dudek requested a search of the Native American Heritage Commission Sacred Lands File on November 10, 2014 (Appendix B to the Cultural Resources Inventory, included in **Appendix 4-1** to this EIR). The NAHC responded on November 21, 2014 stating that no records of Native American cultural resources are recorded within the Project site, and provided a list of tribal individuals to correspond with for further information. Dudek sent information request letters to affiliated tribal representatives/organizations on the list on December 2, 2014. Only the Fernandño Tataviam Band of Mission Indians (“Tataviam”) responded, stating that the Project will break ground in their traditional territory and that it poses a risk to uncovering traditional cultural resources. They requested that an application for information must be completed prior to completing consultation. Since that time, the Project Applicant has entered into a consultation agreement with the Tataviam (see **Appendix 4-2** to this EIR, Tribal Consultation Letter to City). All files, including responses, are located in **Appendix 4** to this EIR.

4.5-4 Regulatory Setting

1. State of California

California Public Resources Code

The *California Public Resources Code* defines any unauthorized disturbance or removal of a fossil locality or remains on public land as a misdemeanor, and requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources.

California Senate Bill 52

AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. “Tribal cultural resources” are defined as either 1) “sites, features, places cultural landscapes, sacred places and objects with cultural value to a California Native American tribe” that are included in the state register of historical resources or a local register of historical resources, or that are determined to

be eligible for inclusion in the state register; or 2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Under AB 52, a project that may cause a substantial adverse change in the significance of a tribal cultural resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact.

Consultation with Tribes

Recognizing that tribes may have expertise regarding their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe.

California Senate Bill 18

Cities and counties are required pursuant to Senate Bill (SB) 18 to notify and consult with California Native American tribes about proposed local land use planning decisions for protecting Traditional Tribal Cultural Places. Cities and counties must obtain a list of the California Native American tribes from the Native American Heritage Commission (NAHC) whose traditional lands within the agency's jurisdiction may be affected by a proposed adoption or amendment of a general plan or a specific plan. Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes of the opportunity to conduct consultations on the proposed action. Prior to the adoption or substantial amendment of the general plan or specific plan, a local government must refer the proposed action to those tribes on the Native American contact list that have traditional lands within the agency's jurisdiction.

To help local officials meet these new obligations, SB 18 requires the Governor's Office of Planning and Research (OPR) to amend its General Plan Guidelines to include advice to local government on how to consult with California Native American tribes.

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 §15064.5(e) of the California Environmental Quality Act (CEQA) Guidelines.

California Register of Historical Resources

The California State Historical Resources Commission has designed this program for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The California Register is the authoritative guide to the state's significant historical and archaeological resources. The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords certain protections under CEQA.

The criteria for inclusion in the California Register of Historical Resources include any object, building, structure, site, area, place, record, or manuscript that is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources, which includes the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

The California Register automatically includes the following:

- California properties listed or formally determined eligible for listing in the National Register of Historic Places
- California Registered Historical Landmarks from No. 0770 onward
- California Points of Historical Interest that have been evaluated by the Office of Historic Preservation and have been recommended to the State Historical Resources Commission for inclusion in the California Register

Other resources may be nominated for listing in the California Register based on the criteria stated above.

Additionally, a resource must retain historic architectural integrity in terms of location, design, setting, materials, workmanship, feeling, and association. The California Register procedures

include language similar to the National Register criteria (discussed above) with regard to integrity.

As with the National Register, the minimum age criterion for the California Register is 50 years. Properties less than 50 years old may be eligible for listing on the California Register “if it can be demonstrated that sufficient time has passed to understand its historical importance.”

The California Register may also include properties listed in “local registers” of historic properties. A “local register of historic resources” is broadly defined in *California Public Resources Code* §5020.1(k) as “a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.” Local registers of historic properties come in two forms:

1. Surveys of historic resources conducted by a local agency in accordance with Office of Historic Preservation procedures and standards, adopted by the local agency and maintained as current; and
2. Landmarks designated under local ordinances or resolutions (*California Public Resources Code* §5024.1, §21804.1, and §15064.5).

2. City of Santa Clarita

General Plan

Applicable goals and policies from the General Plan Land Use and Conservation and Open Space Elements are listed below.

Goal CO 5: Protection of historical and culturally significant resources that contribute to community identity and a sense of history.

Objective CO 5.1: Protect sites identified as having local, state, or national significance as a cultural or historical resource.

Policy CO 5.1.1: For sites identified on the Cultural and Historical Resources Map, review appropriate documentation prior to issuance of any permits for grading, demolition, alteration, and/or new development, to avoid significant adverse impacts. Such documentation may include cultural resource reports, environmental impact reports, or other information as determined to be adequate by the reviewing authority.

Policy CO 5.1.2: Review any proposed alterations to cultural and historic sites identified in the Cultural and Historical Resources in the Santa Clarita Valley Planning Area Table or other sites which are so designated, based on the guidelines contained in the Secretary of the Interior’s Standards for the Treatment of Properties (Title 36, Code of Federal Regulations, Chapter 1, Part 68, also known as 36 CFR 68), or other adopted City guidelines.

Policy CO 5.1.3: As new information about other potentially significant historic and cultural sites becomes available, update the Cultural and Historical Resources Inventory and apply appropriate measures to all identified sites to protect their historical and cultural integrity.

Goal CO 10: Preservation of open space to meet the community's multiple objectives for resource preservation.

Objective CO 10.1: Identify areas throughout the Santa Clarita Valley which should be preserved as open space in order to conserve significant resources for long-term community benefit.

Policy CO 10.1.4: Maintain and acquire, where appropriate, open space to preserve cultural and historical resources.

Goal LU 2: A mix of land uses to accommodate growth, supported by adequate resources and maintaining community assets.

Objective LU 2.2: Protect significant community resources from encroachment by incompatible uses, where feasible and appropriate.

Policy LU 2.2.2: Identify sites and areas with historical or cultural value to the community, and ensure that uses in or adjacent to these areas will not impact their historical integrity.

Goal LU 6: A scenic and beautiful urban environment that builds on the community's history and natural setting.

Objective LU 6.4: Protect the Santa Clarita Valley's significant historical and cultural resources in a scenic setting through appropriate land use designations.

Policy LU 6.4.3: Maintain cultural resources from pre-historical Native American habitation and historical settlement in the areas around Vasquez Rocks, Elsmere Canyon, and along the Santa Clara River, through designation of these areas as Open Space on the Land Use Map.

Policy LU 6.4.6: Through the environmental review and development review processes, evaluate impacts on historic and cultural sites from proposed development and require appropriate mitigation.

Objective CO 5.3: Encourage conservation and preservation of Native American cultural places, including prehistoric, archaeological, cultural, spiritual, and ceremonial sites on both public and private lands, throughout all stages of the planning and development process.

Policy CO 5.3.1: For any proposed general plan amendment, specific plan, or specific plan amendment, notify and consult with any California Native American tribes on the contact list maintained by the California Native American Heritage Commission that have traditional lands located within the

City’s jurisdiction, regarding any potential impacts to Native American resources from the proposed action, pursuant to State guidelines.

Policy CO 5.3.2: For any proposed development project that may have a potential impact on Native American cultural resources, provide notification to Native American tribes on the contact list maintained by the California Native American Heritage Commission that have traditional lands located within the City’s jurisdiction, and consider the input received prior to a discretionary decision.

Policy CO 5.3.3: Review and consider a cultural resources study for any new grading or development in areas identified as having a high potential for Native American resources, and incorporate recommendations into the project approval as appropriate to mitigate impacts to cultural resources.

3. California Environmental Quality Act

Section 21084.1 of the *California Public Resources Code* provides the framework for determining whether a property is a historic resource for CEQA purposes.

A resource is considered historically significant, and therefore a historical resource under CEQA if it falls into one of the three following categories as defined by §21084.1 of the *California Public Resources Code*:

- “Mandatory historical resources” are resources “listed in, or determined to be eligible for listing in, the California Register of Historical Resources.”
- “Presumptive historical resources” are resources “included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1” of the Public Resources Code, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant.
- “Discretionary historical resources” are those resources that are not listed but determined to be eligible under the criteria for the California Register of Historical Resources.

A lead agency must consider a property a historic resource under CEQA if it is listed in, or determined to be eligible for listing in, the California Register. Historical resources included in a local register of historical resources, as defined in §5020.1(k), or deemed significant pursuant to criteria set forth in §5024.1(g), are presumed to be historically or culturally significant for purposes of CEQA, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register

of historical resources, or not identified in an historical resources survey meeting the criteria of §5024.1(g), shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of CEQA.

4.5-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to cultural resources are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to cultural resources if any of the following could occur.

-
- CR-1** Would the project cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?
- CR-2** Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
- CR-3** Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
- CR-4** Would the project disturb any human remains, including those interred outside of formal cemeteries?
-

4.5-6 Impacts Analysis

-
- CR-1** Would the project cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?

Records searches performed for the Project site and a site survey did not identify any historical resources within the Project site. Currently, there are 123 mobile home units on the Project site. Development of the residential or commercial uses proposed by the Project would therefore not affect any historical resources. There are no previously recorded cultural resources within the Project site. Therefore, impacts related to historic resources would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

CR-2 Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Dudek’s review of the previous cultural resources technical investigations and archival records for the Project vicinity indicate that there is a low potential for the inadvertent discovery of cultural resources during earth moving activities related to the Project. This has been supported by a negative intensive pedestrian archaeological survey of the Project site. While one tribal organization responded with concerns about discoveries, no specific information was provided by the NAHC or tribal individuals/organizations that warrant consideration of the Project as archaeologically sensitive. Project topography, consisting primarily of severely inclined slopes, is not suitable for archaeological features or constituents, nor supporting the development of cultural deposits. Furthermore, the Project Applicant has entered into a consultation agreement with the Tataviam that would ensure their involvement through Project implementation. Therefore, impacts would be potentially significant. Thus, a mitigation measure has been provided in the unlikely scenario that artifacts are found during grading and construction activities.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM CR-1 In the unlikely event that artifacts are found during grading within the City’s Planning Area or future roadway extensions, an archaeologist will be notified to stabilize, recover and evaluate such finds. Furthermore, the Project Applicant will comply with the consultation requirements between the Tataviam and the Applicant.

Level of Significance After Mitigation

With implementation of Mitigation Measure **MM CR-1**, impacts would be less than significant.

CR-3 Would the Project disturb or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Construction of the Project would require grading of the Project site and excavation for the placement of building foundations. The ground-disturbing activities could potentially disturb subsurface paleontological resources.

Portions of the Project site are hilly in nature and the site does not contain any prominent geologic features or known paleontological resources. The records search and the site survey performed for the Project site did not identify any existing paleontological resources within the site.

Consequently, there is little potential for the Project to disturb or indirectly destroy a unique paleontologic resource site or geologic feature, and less than significant impacts would occur.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

CR-4 Would the Project disturb any human remains, including those interred outside formal cemeteries?

There are no known cemeteries or burial grounds on the Project site. As previously discussed, the site, as with other areas in the Santa Clarita Valley, has a history of use by Native Americans; therefore, there is potential for archaeological resources, including burial grounds, to exist on the Project site. Because the potential exists for human remains to be unearthed during earthwork and grading of the Project site, impacts would be potentially significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM CR-2 If human remains are encountered during excavation and grading activities within the Project site, the contractor shall stop such activities. In the event of accidental discovery or recognition of any human remains there shall be no further excavation or disturbance of the subject site or any nearby areas reasonably suspected to overlie adjacent human remains and the following steps shall be taken:

- The coroner of the City in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required; and, if the remains are of Native American origin, either of the following steps shall be taken:
 - The coroner should contact the Native American Heritage Commission to ascertain the proper descendants from the deceased individual. The coroner should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.
 - Implementing or local agencies or authorized representatives should retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains

and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:

- The Native American Heritage Commission is unable to identify a descendent.
- The descendant identified fails to make a recommendation.
- The implementing agency or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

Level of Significance After Mitigation

With implementation of Mitigation Measure **MM CR-2**, impacts would be less than significant.

4.5-7 Cumulative Impacts

Impacts upon cultural and historical resources tend to be site-specific and are assessed on a site-by-site basis. Where resources exist, implementation of cumulative development in the region would represent an incremental adverse impact to historical resources. However, provided that proper mitigation is implemented in conjunction with development of related projects in the City of Santa Clarita, no significant cumulative impacts are anticipated.

Development of the Citywide projects would require grading and excavation that could potentially affect archaeological or paleontological or human remains. The cumulative effect of these projects would contribute to the loss of subsurface cultural resources if these resources are not protected upon discovery. CEQA requirements for protecting archaeological and paleontological resources or human remains are applicable to development in the City of Santa Clarita, as are local cultural resource protection ordinances. Because subsurface cultural resources are protected upon discovery as required by law, impact to those resources would be less than significant. Consequently, the Project contribution to any cumulative impacts associated with these resources would not be cumulatively considerable and are therefore less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.5-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to determine consistency with Goals and Policies.

Dudek, Cultural Resources Inventory for the Sand Canyon Plaza Project, City of Santa Clarita, California, May 2015.

4.6 Geology and Soils

4.6-1 Summary

This section describes the existing geologic and soils conditions on the Project site, and the potential for geotechnical hazards to affect the Sand Canyon Plaza Mixed-Use Project. Due to the potential for liquefiable soils, the Project site could be susceptible to liquefaction. Based on the results of the geotechnical investigation of the Project site, significant impacts could occur as a result of strong seismic ground shaking, liquefaction and its effects, soil expansion, and soil corrosiveness. However, with implementation of grading and construction techniques outlined in the geotechnical report prepared for the Project and included within this section as mitigation measures, impacts would be reduced to less than significant. Cumulative impacts related to geotechnical hazards would also be less than significant.

4.6-2 Introduction

The purpose of this section is to evaluate the Project and provide geotechnical recommendations as required. This section was prepared based upon review of Tentative Map Plan Review, Tentative Map No. 053074, Sand Canyon Plaza, Santa Clarita, California prepared by RTF&A, July 1, 2015 (**Appendix 5-1** to this EIR). Previous geotechnical studies conducted on the site were performed by Leighton and Associates, Inc. (Leighton) in 1987 and 1990 and Southwest Geotechnical, Inc. (SGI) from 1997 through 2008. Data from the Leighton and SGI reports were reviewed and evaluated in preparation of this report. The findings, conclusions, and recommendations presented in this report are based on data developed by RTF&A, SGI, and Leighton, as well as appropriate engineering and geologic analyses.

4.6-3 Existing Conditions

1. Geological Setting

The site is located in the City of Santa Clarita and consists of approximately 87 acres situated at the northeast corner of Sand Canyon Road and Soledad Canyon Road (**Figure 3-2, Project Area Vicinity Map**, page [3-5](#)). The western portion of the site lies within the alluviated flood plain of Sand Canyon. The eastern portion of the site is dominated by a south-southwesterly trending bedrock ridge. The bedrock slopes are inclined at gradients of approximately 3:1 (horizontal:vertical) to $\frac{3}{4}$:1. Site elevations range from approximately 1,590 feet above mean sea level (msl) in the southwest portion of the site to approximately 1,830 feet above msl in the northeast.

The Project site is located at the western end of the Soledad basin within the Transverse Ranges geomorphic province of California. The Soledad basin consists of an elongate, northeast-trending basin, measuring approximately 30 miles long and 8 to 12 miles wide. The floor of the basin is

irregular, with elevations ranging from 400 feet msl at its western end to as much as 2,500 feet near the eastern edge of the basin.

The basin is bounded on the north, east, and south by ridges and mountain masses of relatively old crystalline rocks that, along with ancestral highland masses, have contributed large quantities of Cenozoic age sediments to the basin. More than 20,000 square feet of stratified rocks were deposited into the elongate lowland area of the basin, with an additional $\pm 4,500$ square feet of volcanic rocks accumulated locally.

Structurally, the Soledad basin is a westerly plunging open syncline with locally wrinkled flanks. The basin appears to have been defined as a trough of deposition mainly by faults, receiving its sedimentary fill in a manner that was very irregular in detail. Repeated episodes of primarily early Tertiary deformation, both within and along the margins of the basin, are indicated by numerous faults, folds, and unconformities, as well as by the distribution and lithology of the sedimentary rocks. The early Miocene and younger strata of the basin, although maintaining the broadly synclinal structure, have been considerably less deformed. These deposits blanket many of the older faults of the basin, but are themselves offset by other faults, such as the San Gabriel fault zone.

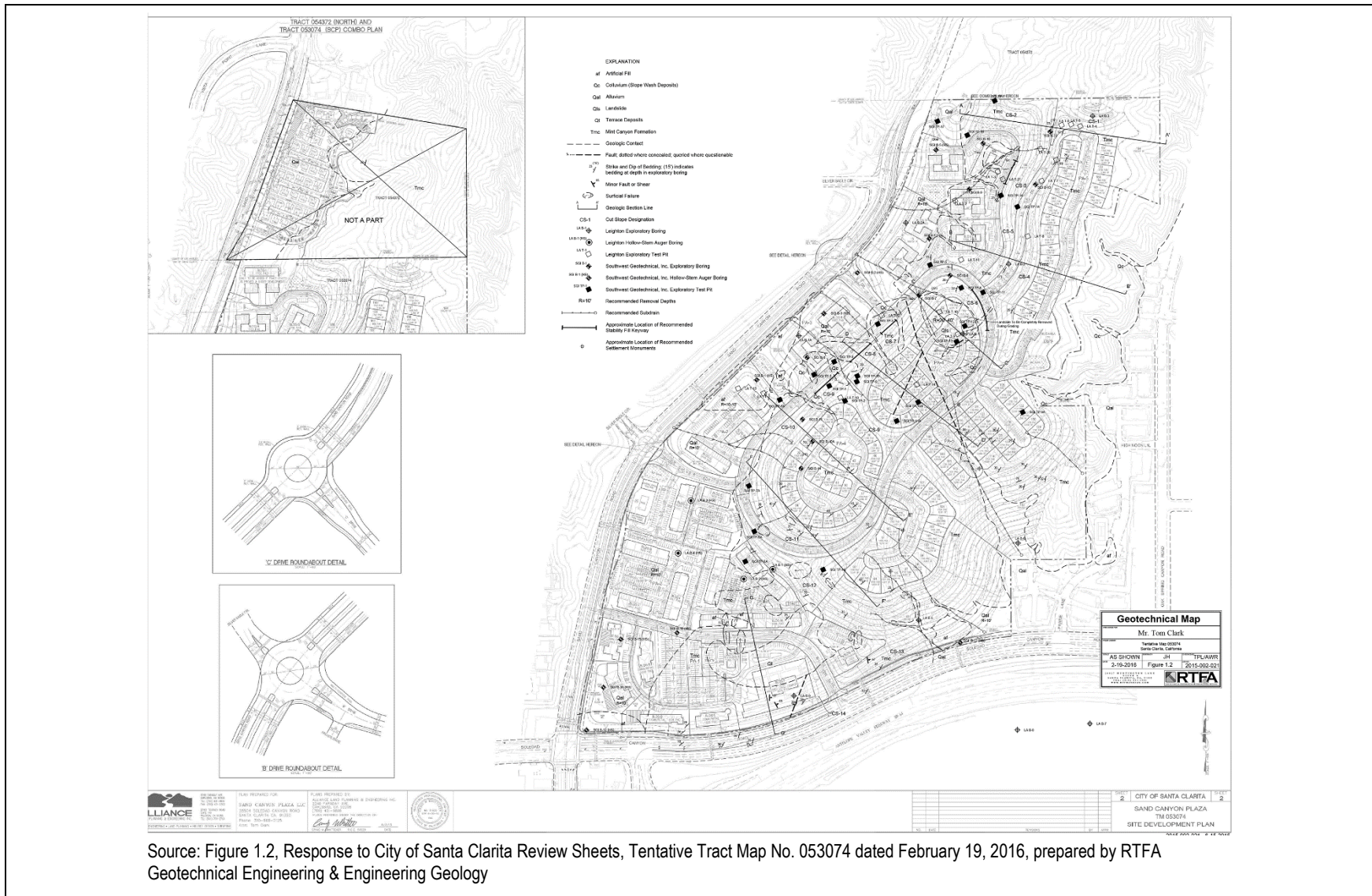
The San Gabriel fault zone, the dominant geologic feature in the Santa Clarita Valley, forms the southwestern boundary of the Soledad basin and separates the basin from the structurally similar Ventura basin.

2. Site Geology

Geologic Materials

Earth materials encountered on-site consist of artificial fill, colluvium, alluvium, older alluvium, landslide debris, terrace deposits, and bedrock units assigned to the Mint Canyon Formation. The areal extent of the various geologic units is depicted on **Figure 4.6-1, Site Geology Map**. Following is a brief description of the earth materials present on the Project site, with emphasis on their engineering geologic characteristics.

- **Mint Canyon Formation (Tmc):** Sedimentary rock units of the Miocene age Mint Canyon Formation underlie the site at depth, and are exposed at ground surface in areas of higher topographic relief. This formation consists of fine to coarse grained arkosic sandstone interbedded with conglomerate, siltstone, and claystone. The rock is hard when struck with a rock pick and difficult to excavate with standard drill rigs. Beds are several inches to several feet thick, and the color is light gray to brown. The rock mass shows few widely spaced joints. Joint spacing is in excess of 20 feet. Joints are tight with no separation and continuous over 3 feet to 10 feet. Joint surfaces are rough and irregular and may show no coating or a coating of disseminated carbonate or oxide.



Source: Figure 1.2, Response to City of Santa Clarita Review Sheets, Tentative Tract Map No. 053074 dated February 19, 2016, prepared by RTFA Geotechnical Engineering & Engineering Geology

Figure 4.6-1 Site Geology Map

- **Terrace Deposits (Qt):** Pleistocene age terrace deposits cap the Mint Canyon Formation in the southwestern corner of the Project site. Terrace deposits consist of massive to poorly bedded sand, gravel, and silt. Cobbles and boulders are common. The unit is generally loose and poorly consolidated. The color is yellowish brown to brown.
- **Landslides (Qls):** Landslides often occur along pre-existing zones of weakness within bedrock (i.e., previous failure surfaces). Additionally, landslides have the potential to occur on over-steepened slopes, especially where weak layers, such as thin clay layers, are present and dip out-of-slope. One landslide has been mapped within the Project boundary. The slide, located in the northern portion of Planning Area 4, consists of disturbed bedrock materials. The landslide has been observed to a maximum depth of approximately 60 feet below ground surface (see **Figure 4.6-2, Geologic Section C-C'**).

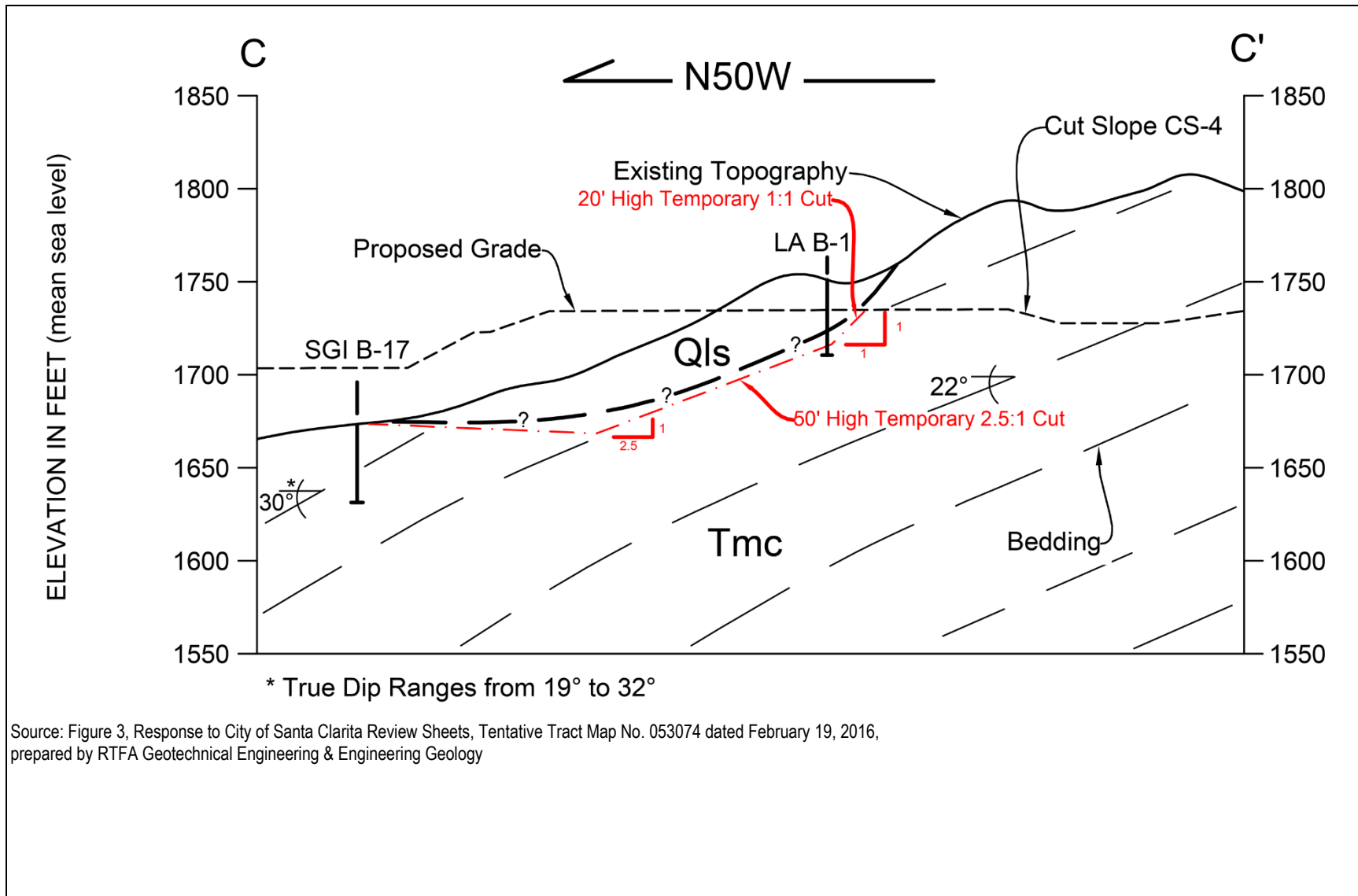
Numerous surficial failures are located on the natural slopes on-site, particularly in the southern portion of the Project site. These deposits generally are composed of slope wash and/or weathered rock materials that failed during periods of heavy rainfall. For the most part these deposits are less than 10 feet thick.

- **Alluvium (Qal):** Holocene age alluvial deposits mantle much of the western portion of the Project site, and blanket the major canyons within the site. The alluvial deposits consist of loose to dense mixtures of sand, silty sand, and gravelly sand, with varying amounts of clay.
- **Colluvium (Qc):** Colluvium, or slope wash deposits, blanket portions of the natural slopes on-site. These deposits consist of loose sand, gravel, and silt.
- **Artificial Fill (af):** Artificial fill materials are presented in isolated areas of the Project site. The artificial fill is composed of sand, silt, gravel, and clay mixtures derived from the nearby alluvial and bedrock materials.

Geologic Structure

The Mint Canyon Formation has been warped into a northeast striking homoclinal structure with bedding dipping between approximately 15 to 40 degrees towards northwest. Localized warping of the beds occurs in the area of two small, discontinuous inactive faults in the central portion of the Project site.

Bedding planes within the Mint Canyon Formation vary from poorly defined and gradational to sharp and planar. The geologic structure beneath the Project site is shown on **Figure 4.6-3, Geologic Sections**.



Source: Figure 3, Response to City of Santa Clarita Review Sheets, Tentative Tract Map No. 053074 dated February 19, 2016, prepared by RTFA Geotechnical Engineering & Engineering Geology

Figure 4.6-2 Geotechnical Section C-C'

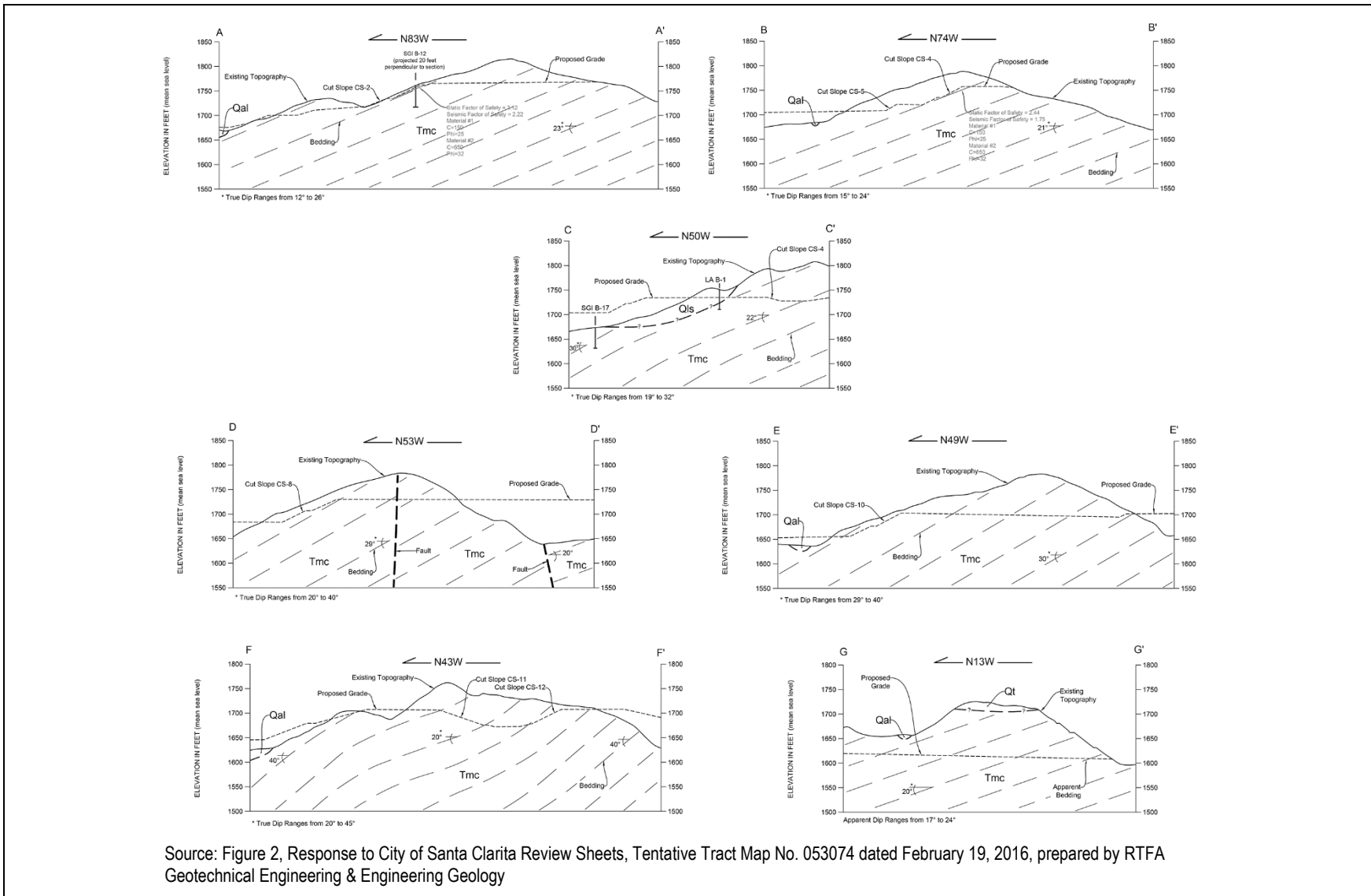


Figure 4.6-3 Geologic Sections

3. Geological Hazards

Faulting

The California Geological Survey (CGS) defines a fault as a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side.⁴⁵ The CGS defines a fault zone as a zone of related faults that commonly are interconnected and subparallel to each other, but may be branching and divergent.⁴⁵

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface; however, not all earthquakes result in surface rupture. Fault rupture almost always follows pre-existing faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep.⁴⁶ Sudden displacements (as compared to fault creep) are more damaging to structures because they are accompanied by shaking.⁴⁷

Faults in Southern California are classified as active, potentially active, or inactive, based on their most recent activity. A fault is considered active if it has demonstrated movement with the Holocene epoch, or approximately in the last 11,000 years. Faults that have demonstrated Quaternary movement (last 1.6 million years) but lack strong evidence of Holocene movement, are classified as potentially active, and faults that have not moved since the beginning of the Quaternary period are deemed inactive.

Under the Alquist-Priolo Earthquake Fault Zoning Act (discussed in detail below), development near active faults is regulated to mitigate the hazard of surface fault-rupture. The CGS designates Alquist-Priolo Earthquake Fault Zones, which are regulatory zones around active faults. A 50-foot setback from any known trace of any active fault is required for all proposed projects.

The active San Gabriel fault zone is located approximately 4 miles southwest of the Project site, and consists of a northwest-trending zone of imbricate, steeply north-dipping faults. The fault has strong geomorphic expression characterized by displaced geologic units, deflected drainages, strike valleys, notched ridges, subparallel faulting, fracturing, and folding. The zone of faulting ranges in width from a single plane with no more than a few inches of gouge, to a half-mile-wide area of several fault planes, zones of brecciation, and complex, steep-limbed folds.

No known active faults project into or cross the Project site, and the Project site is not located in an Alquist-Priolo Earthquake Fault Zone.

Faults confined to the Miocene age Mint Canyon Formation (which by definition are inactive) have been mapped in the central portion of Project site and along the road cut bordering Soledad Canyon Road (see **Figure 4.6-1**, page [4.6-3](#)).

⁴⁵ California Geological Survey, Fault Rupture Hazard Zones in California.

⁴⁶ Fault creep is the slow rupture of the earth's crust.

⁴⁷ California Geological Survey, Alquist-Priolo Earthquake Fault Zones.

Seismicity

The City of Santa Clarita is located in one of the more seismically active areas of California and is subject to moderate to severe ground shaking. Ground shaking may affect areas hundreds of miles away from the earthquake's epicenter. Historic earthquakes have caused strong ground shaking and damage in many areas surrounding and within the City. The composition of underlying soils in areas located relatively distant from faults can intensify ground shaking. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

Ground shaking is commonly described in terms of peak ground acceleration as a fraction of the acceleration of gravity (g), or by using the Modified Mercalli (MM) Intensity Scale, a common metric for characterizing intensity. The MM Intensity Scale is a more descriptive method involving 12 levels of intensity denoted by Roman numerals. As presented in **Table 4.6-1, Modified Mercalli Intensity Scale**, MM intensities range from level I (shaking that is not felt) to level XII (total damage). MM intensities ranging from IV to X could cause moderate to significant structural damage. However, the degree of structural damage will not be uniform. Not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance.

Table 4.6-1 Modified Mercalli Intensity Scale

Intensity	Description
I	Not felt except by a very few under especially favorable conditions
II	Felt only by a few persons at rest, especially on upper floor of buildings
III	Felt quite noticeable by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight
VI	Felt by all, many frightened. Some heavy furniture moved. A few instances of fallen plaster.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Source: US Geology Survey, National Earthquake Information Center website, <http://neic.usgs.gov/neis/general/mercalli.html>

Potentially active fault systems are expected to produce a wide range of ground shaking intensities. The estimated maximum moment magnitudes represent characteristic earthquakes on particular faults.⁴⁸ While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and characteristics of geologic media. Generally, intensities are highest at the fault and decrease with distance from the fault. However, at any given location, the amount of the resulting shaking motion caused by the sudden movement depends, to a large extent, on local ground conditions (including the degree of water saturation), and may be as severe as 10 miles from the fault or immediately adjacent to it.

Identified faults must be considered in planning and land use activities, and faults identified as active should be considered when deciding on a project's location. No structure should be built astride an active fault. Similarly, utilities that cross such faults must be designed to remain functional even after fault movement.

Liquefaction and Lateral Spreading

Liquefaction may occur when saturated, loose to medium dense, cohesionless soils are densified by ground vibrations. The densification results in increased pore water pressures if the soils are not sufficiently permeable to dissipate these pressures during, and immediately following, an earthquake. When the pore water pressure is equal to or exceeds the overburden pressure, liquefaction of the affected soil layers occurs. For liquefaction to occur, three conditions are required:

- ground shaking of sufficient magnitude and duration;
- soils that are susceptible to liquefaction; and
- a groundwater level at or above the level of the susceptible soils during the ground shaking.

For a site to be considered susceptible to liquefaction, using the criteria and methodology, liquefaction of underlying soil layers must result in an observed surface effect such as sand boils, mud-spouts, surface water seepage, ground cracking, or quicksand-like conditions.

Lateral spreading can result in ground cracking, and may occur when a site is sloped or is near a free-face and there is a sufficiently continuous liquefiable layer on which the overlying soils can move laterally.

⁴⁸ Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (California Geological Survey (CGS), 1997).

Ground settlement may occur during seismic shaking of an area. The settlement can be caused by liquefaction of loose granular soils and by compaction of loose, but not necessarily liquefiable, soils.

The State of California Seismic Hazard Maps for the Mint Canyon Quadrangle (1999) indicate that, within the Project site, the alleviated canyon bottom of Sand Canyon along the west side of the site, is considered a potential liquefaction area.

Expansive Soil

Expansive soils consist of a significant concentration of clay particles, which can give up water (shrink) or absorb water (swell). Excessive swelling and shrinkage cycles can result in distress to improvements and structures. The change in volume exerts stress on buildings and other loads placed on these soils. Expansive soils can be widely dispersed and can be found in hillside areas as well as low-lying alluvial basins. Mudstone beds underlying the Project site may be subject to expansion when exposed to repeated cycles of wetting. Where mudstone beds are isolated between nonexpansive, coarse-grained soil layers, differential expansion may occur.

Subsidence

Subsidence is the sudden sinking or gradual downward settling and compaction of soil and other surface material with little or no horizontal motion. Subsidence usually occurs as a result of the extraction of subsurface gas, oil, or water or from hydro-compaction; it is not the result of landslide or slope failure. Subsidence typically occurs over a long period of time and can result in structural impacts on developed areas, such as cracked pavement and building foundations, and dislocated wells, pipelines, and water drains. Mitigation of ground subsidence usually requires a regional approach to groundwater conservation and recharge. Such mitigation measures are difficult to implement if the geology of the aquifer and overlying sediment are not well understood. Furthermore, conservation efforts can be quickly offset by rapid growth and attendant heavy water requirements. Because it is not uncommon for several jurisdictions to utilize a continuous groundwater aquifer, mitigation requires regional cooperation among all agencies. No large-scale problems with ground subsidence have been reported in the City's Planning Area. Furthermore, no underground mines or tunnels exist beneath the Project site. According to the California Division of Oil, Gas, and Geothermal Resources (DOGGR) Regional Wildcat Map W1-2 (June 19, 1986), no oil wells are located on or immediately adjacent to the site.

Debris Flow Hazard

Debris flows, consisting of a moving mass of heterogeneous debris lubricated by water, are generated by shallow soil slips in response to heavy rainfall. Debris flows "occur during, and only during, heavy rainfall". Landslides depend on deep percolation of groundwater and may not respond to the effects of heavy rainfall until long after a storm. Damage from debris flows is due

chiefly to inundation by, or high-velocity impact of, the debris mass. Campbell identifies three conditions for debris flow potential:

- a mantle of colluvial soil or a wedge of colluvial ravine soil;
- a slope angle ranging from 27 to 56 degrees (slopes steeper than 56 degrees generally do not have a continuous mantle of colluvium and are most commonly bare bedrock); and
- soil moisture equal to or greater than the colluvial soil's liquid limit.

In general, building lots most susceptible to potential debris flow are those lots located directly below and adjacent to natural slopes.

Geologic Factors

Cut slopes proposed for the site are underlain by bedrock of the Mint Canyon Formation. The Mint Canyon Formation can range from massive to thinly bedded sedimentary rock units of sandstone, conglomerate, and siltstone. Bedding planes within the Mint Canyon Formation range from poorly defined and gradational to sharp and planar and can constitute significant planes of weakness, particularly where sandstone/conglomerate beds are in contact with siltstone. Where bedding is adversely oriented, or "daylighted," with respect to natural or cut slopes, potential for bedding plane, or "block-glide," failure exists.

Soil Expansion and Erosion

Expansive soils are clay-rich soils which can easily absorb water and swell, or shrink when water is sparse. Excessive swelling and shrinkage cycles can result in distress to improvements and structures. The change in volume exerts stress on buildings and other loads placed on these soils. Expansive soils can be widely dispersed and are found in hillside areas as well as low-lying alluvial basins.

Wind and rain erosion can result in varying amounts of soil erosion which is common in unconsolidated alluvium surficial soils.

4.6-4 Regulatory Setting

1. Federal

Uniform Building Code

The Uniform Building Code (UBC) is published by the International Conference of Building Officials and forms the basis for California's building code, as well as approximately half of the state building codes in the United States. It has been adopted by the California Legislature to address the specific building conditions and structural requirements for California, as well as provide guidance on foundation design and structural engineering for different soil types.

United States Department of Agriculture, Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS) maps soils and farmland uses to provide comprehensive information necessary for understanding, managing, conserving, and sustaining the nation's limited soil resources. In addition to many other natural resource conservation programs, the NRCS manages the Farmland Protection Program, which provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, United States Department of Agriculture (USDA) joins with state, tribal, and local governments to acquire conservation easements or other interests from landowners.

Earthquake Hazards Reduction Act of 1977

The Earthquake Hazards Reduction Act (EHRA) of 1977 (42 USC § 7701 et seq.) established the National Earthquake Hazards Reduction Program as a long-term earthquake risk reduction program for the United States which focuses on: developing effective measures to reduce earthquake hazards; promoting the adoption of earthquake hazard reduction activities by federal, state, and local governments, building standards and model building code organizations, engineers, architects, building owners, etc.; improving the understanding of earthquakes and their effects on people and infrastructure through interdisciplinary research involving engineering, natural sciences, and social, economic, and decision sciences; and developing and maintaining the Advanced National Seismic System, the George E. Brown Jr. Network for Earthquake Engineering Simulation, and the Global Seismic Network.

Soil and Water Resources Conservation Act

The purpose of the Soil and Water Resources Conservation Act of 1977 is to protect or restore the functions of the soil on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. If impacts are made on the soil, disruptions of its natural functions and of its function as an archive of natural and cultural history should be avoided, as far as practicable. In addition, the requirements of the Federal Water Pollution Control Act (also referred to as the Clean Water Act (CWA)) through the National Pollution Discharge Elimination System (NPDES) permit provide guidance for protection of geologic and soil resources.

2. State of California

California Building Code

Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The California Building Code is another name for the body of regulations contained in Title 24, Part 2, of the *California Code of Regulations*, which is a portion of the California Building Standards

Code.⁴⁹ Title 24 is assigned to the California Building Standards Commission which, by law, is responsible for coordinating all building standards. Published by the International Conference of Building Officials, the UBC is a widely adopted model building code in the United States. The California Building Code incorporates by reference the UBC with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions. Although widely accepted and implemented throughout the United States, local, city, and county jurisdictions can adopt the UBC either in whole or in part.

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (AP), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The AP prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones.

Under the AP, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well defined." A fault is considered sufficiently active if one or more of its segments or strands show evidence of surface displacement during Holocene time (defined for the purposes of the AP as within the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment.⁵⁰

Seismic Hazards Mapping Act

The program and actions mandated by the Seismic Hazards Mapping Act of 1990 (SHMA) closely resemble those of the AP. SHMA addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The purpose of the SHMA is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes.

California Department of Transportation

The California Department of Transportation (Caltrans) provides Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with

⁴⁹ California Building Standards Commission, 1995.

⁵⁰ Hart, E.W. and Bryant, W.A., 1997 (revised), Fault-rupture hazard zones in California: California Department of Conservation, Division of Mines and Geology Special Publication 42, 38 p.

input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

Southern California Catastrophic Earthquake Preparedness Plan

The Southern California Catastrophic Earthquake Preparedness Plan, adopted in 2008, examines the initial impacts, inventories resources, provides for the wounded and homeless, and develops a long-term recovery process. The process of Long-Term Regional Recovery (LTRR) provides a mechanism for coordinating federal support to state, tribal, regional, and local governments, nongovernmental organizations (NGOs), and the private sector to enable recovery from long-term consequences of extraordinary disasters. The LTRR process accomplishes this by identifying and facilitating the availability and use of recovery funding sources, and providing technical assistance (such as impact analysis) for recovery and recovery planning support. "Long term" refers to the need to re-establish a healthy, functioning region that will sustain itself over time. Long-term recovery is not debris removal and restoration of utilities, which are considered immediate or short-term recovery actions. The LTRR's three main focus areas are housing, infrastructure (including transportation), and economic development.

3. City of Santa Clarita

General Plan

The Santa Clarita 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. City policies pertaining to geological hazards are included in The Natural Environment Chapter. The Summary of Conservation and Open Space Needs as they pertain to geotechnical resources include:

1. Strive to balance the needs of new residents, businesses and employment centers with the community's goals for retention of open space and preservation of natural resources.
2. Limit losses of valuable topsoil by erosion, construction, and development practices.
3. Maintain and protect the scenic backdrop of hills and ridgelines around and within the valley, to preserve community character.
4. Protect the scenic beauty of the Valley's canyons, woodlands, water bodies, and unique geological features, to enhance the sense of place.

Applicable goals and policies from the General Plan Conservation and Open Space Elements are listed below.

- Goal CO-1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.
 - Policy CO 1.5.5: Promote concentration of urban uses within the center of the Santa Clarita Valley through incentives for infill development and rebuilding, in order to limit impacts to open space, habitats, watersheds, hillsides, and other components of the Valley's natural ecosystems.
- Goal CO 2: Conserve the Santa Clarita Valley's hillsides, canyons, ridgelines, soils, and minerals, which provide the physical setting for the natural and built environments.
 - Objective CO 2.1: Control soil erosion, waterway sedimentation, and airborne dust generation, and maintain the fertility of topsoil.
 - Policy CO 2.1.1: Review soil erosion and sedimentation control plans for development-related grading activities, where appropriate, to ensure mitigation of potential erosion by water and air.
 - Policy CO 2.1.2: Promote conservation of topsoil on development sites by stockpiling for later reuse, where feasible.
 - Policy CO 2.1.3: Promote soil enhancement and waste reduction through composting, where appropriate.
 - Objective CO 2.2: Preserve the Santa Clarita Valley's prominent ridgelines and limit hillside development to protect the valuable aesthetic and visual qualities intrinsic to the Santa Clarita Valley landscape.
 - Policy CO 2.2.1: Locate development and designate land uses to minimize the impact on the Santa Clarita Valley's topography, minimizing grading and emphasizing the use of development pads that mimic the natural topography in lieu of repetitive flat pads, to the extent feasible.
 - Policy CO 2.2.2: Ensure that graded slopes in hillside areas are revegetated with native drought tolerant plants or other approved vegetation to blend manufactured slopes with adjacent natural hillsides, in consideration of fire safety and slope stability requirements.
 - Policy CO 2.2.3: Preserve designated natural ridgelines from development by ensuring a minimum distance for grading and development from these ridgelines of 50 feet or more if determined appropriate by the reviewing authority based on site conditions, to maintain the Santa Clarita Valley's distinctive community character and preserve the scenic setting.

- Policy CO 2.2.4: Identify and preserve significant geological and topographic features through designating these areas as open space or by other means as appropriate.
- Policy CO 2.2.5: Promote the use of adequate erosion control measures for all development in hillside areas, including single family homes and infrastructure improvements, both during and after construction.
- Policy CO 2.2.6: Encourage building and grading designs that conform to the natural grade, avoiding the use of large retaining walls and build-up walls that are visible from offsite, to the extent feasible and practicable.

4.6-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to geology and soils are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to geology and soils if any of the following could occur.

Geo-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 fault. Refer to Division of Mines and Geology Special Publication 42?**
- ii) **Strong seismic ground shaking?**
- iii) **Seismic-related ground failure, including liquefaction?**
- iv) **Landslides?**

Geo-2 Would the project result in substantial soil erosion or the loss of topsoil?

Geo-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-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Geo-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?

Geo-5 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Geo-6 Would the project change topography or ground surface relief features?

Geo-7 Would the project require earth movement (cut and/or fill) of 10,000 cubic yards or more?

Geo-8 Would the project develop and/or grade on a slope greater than 10 percent natural grade?

Geo-9 Would the project destroy, cover or modify any unique geologic or physical feature?

4.6-6 Impacts Analysis

For ease of readability, all Geology and Soils mitigation measures are included at the end of this section.

Geo-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 fault?

The Project site is not located in an Alquist-Priolo Earthquake Fault Zone, and no known active faults are located within the Project site. Therefore, the Project would not expose people or structures to the rupture of a known earthquake fault, and no impacts would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

Geo-1 Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

ii) Strong seismic ground shaking?

Because the Project site is located in Southern California, an area of strong seismic activity, ground shaking on the Project site is anticipated. The intensity of ground shaking generally depends on several factors, including the distance to the earthquake epicenter, the earthquake magnitude, the response characteristics of the underlying materials, and the quality and type of construction.

The Project site would likely experience moderate to high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the Southern California region. The Project would be required to incorporate necessary design and structural elements to resist strong ground motion in compliance with the California Building Code and the geotechnical report (Mitigation Measures **MM Geo-29** through **MM Geo-33**).

Although some structural damage is typically not avoidable during a large earthquake, the Project would be constructed to meet existing City ordinances, the California Building Code, and the geotechnical report (Mitigation Measures **MM Geo-29** through **MM Geo-33**) in order to protect

against building collapse and major injury during a seismic event. Thus, potentially significant risks related to strong seismic shaking would be reduced to less than significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

Refer to Mitigation Measures **MM Geo-29** (page [4.6-32](#)) through **MM Geo-33** (page [4.6-37](#)).

Level of Significance After Mitigation

Impacts would be less than significant.

Geo-1	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving: (iii) Seismic related ground failure, including liquefaction? (iv) Landslides?
Geo-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-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
Geo-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?

Liquefaction

The liquefaction potential of the Project site was evaluated by SGI (2004). SGI determined that the effects of liquefaction on-site could result in total settlements of 0.47 inches and a differential settlement of 0.236 to 0.312 inches within areas underlain by the alluvial deposits. SGI determined that the effects of liquefaction on-site could result in total settlements of 0.47 inch and a differential settlement of 0.236 to 0.312 inch within areas underlain by the alluvial deposits.

These are all acceptable for the type of development proposed by the project. Future bedrock cut areas would not be impacted by potential liquefaction. Therefore, no liquefaction impacts would occur due to implementation of the Project.

Landslides

A landslide is located in the northern portion of Planning Area 4. The landslide has been observed to a maximum depth of approximately 60 feet below ground surface. Most of the landslide lies within a future fill area, with a small portion of the slide mass extending into proposed Cut Slope CS-6. The entire landslide would be removed during grading. As addressed in the “Slope Stability” section of this report below, the landslide removals would impact the cut slope, requiring restoration of the slope grades with engineered fill.

Other cut slopes proposed for the site are underlain by bedrock of the Mint Canyon Formation. The Mint Canyon Formation can range from massive to thinly bedded sedimentary rock units of sandstone, conglomerate, and siltstone. Bedding planes within the Mint Canyon Formation range from poorly defined and gradational to sharp and planar and can constitute significant planes of weakness, particularly where sandstone/conglomerate beds are in contact with siltstone. Where bedding is adversely oriented, or “daylighted,” with respect to natural or cut slopes, potential for bedding plane, or “block-glide,” failure exists.

The Project would include grading of 14 cut slopes. For the purposes of this analysis, a cut slope is defined as a slope 10 feet or more in height. The cut slopes are designated CS-1 through CS-14, with locations shown on **Figure 4.6-1, Site Geology** (page 4.6-3). Proposed cut slope gradients would range from 2:1 to 5:1. The maximum cut slope height is approximately 90 feet (Cut Slope CS-9). Data specific to all of the cut slopes, including slope height, gradient, and underlying geologic conditions, are summarized below in **Table 4.6-2**.

Table 4.6-2 Cut Slopes

Cut Slope	Slope Gradient	Slope Height (In Feet)	Slope Face Direction	Geologic Materials	Geologic Section	Geologic Stability	Mitigation
CS-1	2:1	40	S	Tmc	---	Favorable bedding; grossly stable	None
CS-2	2:1	60	S to W	Tmc	A-A'	Daylighted bedding; stable by analyses	None
CS-3	2:1	45	W	Tmc	---	Daylighted bedding	Limited exposure of bedrock between two canyon fills. Remove bedrock during adjacent canyon cleanouts and re-establish slope as stability fill slope.
CS-4	2:1	40	W	Tmc	B-B'	Daylighted bedding; stable by analyses	None
CS-5	2:1	30	W	Tmc	B-B'	Daylighted bedding; stable by analyses	None
CS-6	2:1	25	E	Tmc & Qls	---	Favorable bedding; grossly stable	Removal of landslide near top of cut slope would likely require construction of stability fill slope to restore slope grades.
CS-7	2:1	40	NW	Tmc	---	Favorable bedding; grossly stable	None. Limited exposure of bedrock between two canyon fills may result in elimination of bedrock during adjacent canyon cleanouts requiring re-establishment of slope grade with stability fill slope.
CS-8	2:1	45	NW	Tmc	D-D'	Favorable bedding; grossly stable	None. Limited exposure of bedrock between two canyon fills may result in elimination of bedrock during adjacent canyon cleanouts requiring re-establishment of slope grade with stability fill slope.

Cut Slope	Slope Gradient	Slope Height (In Feet)	Slope Face Direction	Geologic Materials	Geologic Section	Geologic Stability	Mitigation
CS-9	2:1 to 4:1	60	NW to SW	Tmc	---	Favorable bedding; grossly stable	None. Limited exposure of bedrock between two canyon fills for northwest-facing portion of slope. Removals for adjacent canyons may result in elimination of bedrock requiring re-establishment of slope grade with stability fill slope.
CS-10	2:1	45	NW	Tmc	E-E'	Favorable bedding; grossly stable	None
CS-11	2:1	60	SW to S	Tmc	F-F'	Favorable bedding; grossly stable	Cleanout for canyon fill below Lots in this area shall extend down to "D" Drive to eliminate potential adverse fill-over-cut condition.
CS-12	2:1 to 5:1	90	NW to SW	Tmc	F-F'	Favorable bedding; grossly stable	None
CS-13	2:1	30	S to W	Tmc	---	Favorable bedding; grossly stable	None
CS-14	3:1	15	S to E	Tmc	---	Favorable bedding; grossly stable	None

Numerous surficial failures are present on the site. As indicated previously, surficial failures located within future cut areas would be eliminated as part of the grading. Surficial failures lying within future fill areas would require removal before placement of engineered fill. Implementation of Mitigation Measures **MM Geo-2** through **MM Geo-28** would reduce potentially significant impacts to less than significant.

Debris Flows

A review of the tentative tract map plan indicates that the proposed grading, which includes construction of debris basins and drainage control devices for graded and natural slopes, would eliminate debris flow hazard within the Project site. Proposed lots within the site would either occupy the top of a ridge, above the natural slopes, or would be located below landscaped graded slopes that would be provided with adequate slope drainage. To ensure consistency with the conclusion reached above, potential debris flow should be further evaluated once a 40-scale rough grading plan has been developed for the Project site. Mitigation Measures **MM Geo-1** and **MM Geo-20** would reduce potentially significant impacts to less than significant.

Differential Settlement

Proposed building pads located in a transition zone may experience cracking and movement of the footings and slab due to differing compressibility of the fill, as compared to the bedrock material. Therefore, differential settlement constitutes a potentially significant impact to the Project. As required by Mitigation Measure **MM Geo-24**, the portion of the Project site in bedrock shall be over-excavated to a depth of at least 5 feet below the proposed finished pad elevation, or 3 feet

below the bottom of proposed footings, whichever is greater. The over-excavation shall extend at least 5 feet laterally beyond the building limits. This technique would reduce the potential for differential settlement.

Where removal and recompaction for potentially expansive soils or bedrock is also required, 8-foot removals shall be performed. With implementation of Mitigation Measure **MM Geo-24**, potentially significant impacts would be reduced to less than significant.

Level of Significance Before Mitigation

No impacts for liquefaction.

Impacts would be potentially significant for landslides, debris flows, and differential settlement.

Mitigation Measures

Refer to Mitigation Measures **MM Geo-1** through **MM Geo-28**.

Level of Significance After Mitigation

No impacts for liquefaction.

With implementation of Mitigation Measures **MM Geo-1** through **MM Geo-28**, impacts would be less than significant for landslides, debris flows, and differential settlement.

Geo-2 Would the project result in substantial soil erosion or the loss of topsoil?

Construction activity associated with the Project site development may result in wind- and water-driven erosion of soils due to grading activities if soil is stockpiled or exposed during construction. The Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES program requires that the Project's grading operations include adequate provisions for wind and water erosion control during, as well as after, grading operations to reduce soil erosion during construction. The details of erosion control would be incorporated into the Project's Storm Water Pollution Prevention Plan, as specified in **Section 4.9, Hydrology and Water Quality**. Additionally, the project design feature identified in **Section 4.3, Air Quality**, would reduce the potential for wind erosion during construction.

Furthermore, a grading plan for the Project would be submitted to the City of Santa Clarita Public Works Department and/or the City Geologist for review and approval. As required by the City, the grading plan shall include erosion and sediment control plans. Measures included in this plan may include, but are not limited to, the following:

- The extent and duration of ground disturbing activities during and immediately following periods of rain shall be limited, to avoid the potential for erosion which may be accelerated by rainfall on exposed soils; and
- The amount of water entering and exiting a graded site shall be limited through the placement of interceptor trenches or other erosion control devices.

Erosion and sediment control plans shall be submitted to the City for review and approval prior to the issuance of grading permits. Thus, less than significant impacts would result from implementation of the Project.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Geo-5 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Project would not require the use of septic tanks for wastewater disposal, thus no impacts would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

- Geo-6** Would the project change topography or ground surface relief features?
- Geo-7** Would the project require earth movement (cut and/or fill) of 10,000 cubic yards or more?
- Geo-8** Would the project develop and/or grade on a slope greater than 10 percent natural grade?

Topographic changes on the Project site would occur during grading operations to accommodate the Project, however, these changes are not considered significant. The Project would include grading approximately 2 million cubic yards of cut and fill balanced on-site and is depicted on **Figure 3-15, Cut and Fill Map** (page [3-27](#)). Implementation of the Project would result in potentially significant impacts. The Project requires additional remedial grading consistent with the requirements of the geotechnical report (Mitigation Measures **MM Geo-2** through **MM Geo-16**, and **MM Geo-21**), which are necessary to accommodate the Project and grades greater than 10%. In addition, compliance with the City of Santa Clarita Hillside Development Review requirements would reduce impacts to less than significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

Refer to Mitigation Measures **MM Geo-2** through **MM Geo-16**, and **MM Geo-21**). No additional mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Geo-9 Would the project destroy, cover or modify any unique geologic or physical feature?

No state- or city-identified unique geologic or physical features would be destroyed, covered, or modified with implementation of the Project. Therefore, impacts under this criterion would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Mitigation Measures – Geology and Soils

MM Geo-1	Potential debris flow shall be further evaluated once a 40-scale rough grading plan has been developed for the Project site. Appropriate mitigation measures can be provided for any additional debris flow areas identified on the rough grading plan.
MM Geo-2	Cut Slope CS-3: Bedrock shall be eliminated during removals within the adjacent canyons and the slope grades re-established as a 25-foot-wide, 3-foot-deep stability fill slope. The stability fill slope should be constructed with backdrains in accordance with the recommendations presented in the “Conclusions and Recommendations” section of the RTF&A report, and as shown on the Stability Fill Details for Grossly Stable Slopes, presented as Figure 4 (Frankian Study).
MM Geo-3	Cut Slope CS-6 shall be constructed entirely as a 20-foot-wide, 3-foot-deep stability fill slope after landslide removal.
MM Geo-4	Cut Slope CS-7: Bedrock shall be eliminated during the removals within the adjacent canyons and the slope grades reestablished as a 25-foot-wide, 3-foot-deep stability fill slope.
MM Geo-5	Cut Slope CS-8: Bedrock shall be eliminated during the removals within the adjacent canyons and the slope grades reestablished as a 25-foot-wide, 3-foot-deep stability fill slope.
MM Geo-6	Cut Slope CS-11: A small canyon is situated in the central portion of Cut Slope CS-11, below future Lot Nos. 19 and 20. The removals as part of the canyon cleanout in this area, and eventual fill placement, shall extend to the bottom of the cut slope at “D” Drive to eliminate a potential fill-over-cut condition.
MM Geo-7	<p>Site Preparation Requirements:</p> <ul style="list-style-type: none"> • Prior to performing earthwork, the existing vegetation and any deleterious debris should be removed from the site. • All unsuitable soils in the areas of grading that are receiving fill should be removed to competent bedrock materials and replaced with engineered fill. • The depth of removal and recompaction of unsuitable soils is noted on the Geotechnical Map. Any fill required to raise the site grades should be properly compacted. Removal of the exposed natural soils should extend to at least the depths indicated on the Site Geology Map (Figure 4.6-1).
MM Geo-8	<p>Removal Depth Requirements: The required depth of removal and recompaction of the natural soils is indicated on the Geotechnical Map.</p> <ul style="list-style-type: none"> • Deeper removals will be required if disturbed or unsuitable soils are encountered. • After excavation of the upper natural soils on hillsides and in canyons, further excavation should be performed, if necessary, to remove slope wash or other unsuitable soils. • The Geotechnical Consultant of Record may require that additional shallow excavations be made periodically in the exposed bottom to determine that sufficient removals have been made prior to recompacting the soil in-place.

Deeper removals may be recommended by RTF&A, based on observed field conditions during grading.

- During grading operations, the removal depths should be observed by a representative of RTF&A and surveyed by the Project Civil Engineer for conformance with the recommended removal depths shown on the grading plan (**Figure 4.6-1**).

MM Geo-9 Fill Material Requirements: The on-site soils, less any debris or organic matter, may be used in the required fills.

- Any expansive clays should be mixed with nonexpansive soils to result in a mixture having an expansion index less than 30 if they are to be placed within the upper 8 feet of the proposed rough grades.
- Rocks or hard fragments larger than 8 inches may not be placed in the fill without special treatment. Rocks or hard fragments larger than 4 inches shall not be clustered or compose more than 25% by weight of any portion of the fill or a lift. Soils containing more than 25% rock or hard fragments larger than 4 inches must be removed or crushed with successive passes (e.g., with a sheepsfoot roller) until rock or hard fragments larger than 4 inches constitute less than 25% of the fill or lift.

MM Geo-10 Oversized Material Requirements:

- Rocks or material greater than 8 inches in diameter, but not exceeding 4 feet in largest dimension, shall be considered oversized rock. The oversized rocks can be incorporated into deep fills where designated by the Geotechnical Consultant of Record. Rocks should be placed in the lower portions of the fill and should not be placed within the upper 10 feet of compacted fill, or nearer than 15 feet to the surface of any fill slope. Windrows should be excluded from areas of proposed utilities, pools, and other types of future underground improvements. Additional costs and construction difficulties should be anticipated if future improvements are located in areas where there will be conflicts with existing windrows.
- Rocks between 8 inches and 4 feet in diameter shall be placed in windrows or shallow trenches located so that equipment can build up and compact fill on both sides. The width of the windrows shall not exceed 4 feet. The windrows should be staggered vertically so that one windrow is not placed directly above the windrow immediately below.
- Rock greater than one foot in diameter shall not exceed 30% of the volume of the windrows. Granular fill shall be placed on the windrow, and enough water should be applied so that soil can be flooded into the voids. Fill should be placed along the sides of the windrows and compacted as thoroughly as possible. After the fill has been brought to the top of the rock windrow, additional granular fill should be placed and flooded into the voids. Flooding is not permitted in fill soils placed more than 1 foot above the top of the windrowed rocks.

- Where utility lines or pipelines are to be located at depths greater than 15 feet, rock shall be excluded in that area. Excess rock that cannot be included in the fill, or that exceeds 4 feet in diameter, should be stockpiled for export or used for landscaping purposes.
- The oversized material recommendations presented in this report provide for the geotechnical consultant to coordinate with the grading contractor to develop a procedure for construction of compacted fills that have a satisfactory fill performance for the intended use of the fill. It should be understood that it is not feasible and/or cost effective to eliminate all oversized material from constructed fills as part of a conventional grading operation. The exclusion of all oversized material is not necessary for satisfactory fill performance on the majority of projects.

MM Geo-11 **Compaction Requirements:** After the site is cleared and excavated as recommended, the exposed soils should be carefully observed for the removal of all unsuitable material. Next, the exposed subgrade soils should be scarified to a depth of at least 6 inches, brought to above optimum moisture content, and rolled with heavy compaction equipment. The upper 6 inches of exposed soils should be compacted to at least 90% of the maximum dry density obtainable by the ASTM D1557 Method of Compaction. After compacting the exposed subgrade soils, all required fills should be placed in loose lifts, not more than 8 inches in thickness, and compacted to at least 90% of their maximum density. For fills placed at depths greater than 40 feet below proposed finish grade, a minimum compaction of 93% of the maximum dry density is required. The moisture content of the fill soils at the time of compaction should be above the optimum moisture content. Compacted fill should not be allowed to dry out before subsequent lifts are placed.

Rough grades should be sloped so as not to direct water flow over slope faces. Finished exterior grades should be sloped to drain away from building areas to prevent ponding of water adjacent to foundations.

MM Geo-12 **Shrinkage and Bulking Requirements:** Shrinkage of about 10% to 15% is estimated for the on-site natural alluvial soils when removed and placed as compacted fill. A bulking value of about 3% to 10% is estimated for materials generated from Mint Canyon Formation bedrock cut areas for use as compacted fill. The actual shrinkage and bulking will depend upon the relative compaction obtained by the contractor during grading operations and would be expected to change on a daily basis.

MM Geo-13 **Permanent Slope Requirements:** Permanent cut and fill slopes may be inclined at 2:1 or flatter. The current site plan indicates that the steepest slope to be constructed at the site during grading will be 2:1.

MM Geo-14 Proposed Cut Slope Requirements: Cut slopes proposed for the rough grading of the Project site have been designated as shown on the Geotechnical Map. Each cut slope is discussed with specific recommendations presented below. All grading should conform to the minimum recommendations presented in this report.

If these slopes are modified from those that are discussed in this report, the modifications should be reviewed by RTF&A to ascertain the applicability of our recommendations.

MM Geo-15 Fill Slope Requirements:

- Where the toe of a fill slope terminates on natural, fill, or cut materials, a keyway is required at the toe of the fill slope. The fill slope keyway should be a minimum width of 12 feet, be founded within competent material, and extend a horizontal distance beyond the toe of the fill to the depth of the keyway. The keyway should be sloped back at a minimum gradient of 2% into the slope. The width of fill slopes shall be no less than 8 feet, and under no circumstances should the fill widths be less than what the compaction equipment being used can fully compact. Benches should be cut into the existing slope to bind the fill to the slope. Benches should be step-like in profile, with each bench not less than 4 feet in height and established in competent material. Compressible or other unsuitable soils should be removed from the slope prior to benching. Competent material is defined as being essentially free of loose soil, heavy fracturing, or erosion-prone material and is established by the Geotechnical Consultant of Record during grading.
- Where the top or toe of a fill slope terminates on a natural or cut slope and the natural or cut slope is steeper than a gradient of 3:1, a drainage terrace with a width of at least 6 feet is recommended along the contact. As an alternative, the natural or cut portion of the slope can be excavated and reconstructed as a stability fill slope to provide an all-fill slope condition. Where the contact between the face of the fill slope and the face of a lower natural or cut slope is inclined at 45 degrees or steeper, a drainage terrace would not be required.
- When constructing fill slopes, the grading contractor shall avoid spillage of loose material down the face of the slope during the dumping and rolling operations. Preferably, the incoming load shall be dumped behind the face of the slope and bladed into place. After a maximum of 4 feet of compacted fill has been placed, the contractor shall backroll the outer face of the slope by backing the tamping roller over the top of the slope, thoroughly covering all of the slope surface with overlapping passes of the roller. The foregoing should be repeated after the placement of each 4-foot thickness of fill. As an alternative, the fill slope can be overbuilt and the slope cut back to expose a compacted core. If the required compaction is not obtained on the fill slope, additional rolling will be required prior to placement of additional fill, or the slope shall be overbuilt and cut back to expose the compacted core.

MM Geo-16 **Stability Fill Requirements:** Stability fills have been recommended for several of the cut slopes on-site, as discussed in the “Slope Stability” section of this report. The stability fill slopes should be constructed in accordance with Stability Fill Details for Grossly Stable Slopes (Figure 4), Frankian study. Backdrains should be installed at the backcut of the stability fill as recommended below in Mitigation Measures **MM Geo-17** and **MM Geo-18**.

MM Geo-17 **Subdrain Requirements:**

- Canyon subdrains are recommended to intercept and remove groundwater within canyon fill areas. All subdrains should extend up-canyon, with the drain inlet carried to within 15 feet of final pad grade. The approximate locations for recommended subdrains are shown on **Figure 4.6-1, Site Geology Map**. Specific subdrain locations should be determined in the field during grading operations. The subdrains should be surveyed by the Project Surveyor to establish line and grade during construction, and for future location reference. Subdrain and backdrain excavations should be observed by the Geotechnical Consultant.
- The subdrains should be installed in accordance with the manufacturer's specifications.
- A minimum 2% gradient is to be maintained in the subdrain pipes and the pipe shall have at least eight uniformly spaced narrow slots per foot. The width of the slots should not exceed one-sixteenth of an inch. If PVC pipe with drilled perforations is utilized, the diameter of the holes should not exceed three-eighths of an inch if gravel and filter fabric is used, or one-eighth inch-diameter perforations if Los Angeles County Flood Control District (LACFCD) Designation F-1 Filter Material is used. There should be at least eight uniformly spaced sets of two perforations per lineal foot of pipe. When constructing the subdrain, the pipe should be placed so that the drilled perforations are positioned on the bottom half of the pipe. The upstream end of subdrains should be capped. The final 20 feet of pipe at the downstream end of canyon, stabilization, buttress, and side hill fills shall not be slotted or perforated. Provisions should be made at all times during construction to prevent damage to the subdrain from construction equipment, and to prevent soils from being washed into an exposed subdrain by surface waters.
- For runs up to 500 feet, subdrains for the bottom of canyon fills should consist of at least 6-inch-diameter pipe. For runs of 500 to 1,500 feet, 8-inch-diameter pipe shall be used. For runs over 1,500 feet, 10-inch-diameter pipe shall be used.
- Canyon subdrains may be installed in a rectangular trench excavated to expose competent material and shall be approved by the Geotechnical Consultant. The subdrains should be surrounded by at least 3 cubic feet per lineal foot of granular filter material and there should be at least 6 inches of compacted granular filter material or gravel on all sides of the pipe. The granular filter material for subdrains should meet the F1 material criteria, or have a gradation

approved by the Geotechnical Consultant prior to placement. As an alternative to the granular filter material, three-quarter-inch-diameter gravel may be placed around the pipe. The gravel should be separated from the surrounding soils by a filter fabric such as Mirafi 140N, or equivalent, wrapped around the gravel (“burrito wrapped”).

MM Geo-18 Backdrains Requirements: Backdrains are required for all stability fills or buttress fills.

- Backdrains shall consist of 4-inch-diameter perforated or slotted pipe.
- The vertical spacing of the backdrains shall be a maximum of 15 feet, with a horizontal spacing of 100 feet.
- Backdrain outlets shall consist of non-perforated pipe.
- The backdrain gradient shall be at least 2% to the discharge end.
- The exact location of the backdrains shall be determined in the field by the Geotechnical Consultant after the backcut has been made, so that it can be best positioned to intercept potential seepage.

MM Geo-19 Surface Drainage Requirements:

- All surface drainage shall be directed away from proposed structures through non-erosive devices. The ponding of water must not be allowed, especially adjacent to foundations. The pad gradients shall not slope toward any descending slopes in order to reduce the potential for surficial erosion. Water that flows towards slopes shall be conducted to appropriate discharge locations via non-erodible drainage devices. Drainage devices, including drainage terraces on graded slopes shall be inspected periodically and kept clear of debris. Drainage and erosion control shall be designed in accordance with the standards set forth in the CBC.
- Any modification of the grades of building pads, parking areas, etc., could adversely affect drainage at the site. Future landscaping, construction of walkways, planters and walls, etc. must never modify site drainage unless additional measures to enhance drainage (e.g., area drains, additional grading) are designed and constructed in accordance with the applicable City of Santa Clarita.

MM Geo-20 Erosion Protection Requirements

- To reduce the potential for erosion, all permanent cut-and-fill slopes on-site should be seeded or planted with lightweight, deep-rooting, drought-resistant vegetation. A landscaping expert should be consulted for ground cover recommendations. Excessive landscape irrigation or leakage from irrigation lines can cause localized slope failures. Therefore, irrigation systems for slope vegetation should be designed and maintained to minimize leakage onto graded slopes. If automatic sprinkler systems are used, they should be adjusted for seasonal variations in rainfall. Vegetation on natural slopes should remain natural and not be landscaped or irrigated in the same manner as graded slopes.

- Rodent burrows are known to provide direct conduits for water flow that can decrease slope stability. Therefore, to maintain the integrity of graded slopes, a rodent abatement program shall be instituted.
- Even with the implementation of these recommendations, it is not possible to eliminate erosion within hillside developments. Removal of debris from drainage devices, slope maintenance, and landscaping shall be required, especially after periods of heavy rainfall.

MM Geo-21 General Grading Requirements

- All fills, unless otherwise specifically designed, shall be compacted to at least 90% of the maximum dry unit weight as determined by the ASTM D1557 Method of Soil Compaction.
- No fill shall be placed until the area to receive the fill has been adequately prepared, and subsequently approved by the Geotechnical Consultant of Record or his representative.
- Fill soils should be kept free of debris and organic material.
- Rocks or hard fragments larger than 8 inches may not be placed in the fill without approval of the Geotechnical Consultant of Record or his representative, and in a manner specified for each occurrence.
- Bedrock fragments larger than 8 inches, or fill soils containing greater than 25% of bedrock fragments larger than 4 inches in diameter, must be removed or processed using successive passes of a sheepsfoot compactor until rock fragments constitute less than 25% of the fill material.
- The fill material shall be placed in layers which, when compacted, shall not exceed 8 inches per layer. Each layer shall be spread evenly and shall be mixed thoroughly during the spreading to ensure uniformity of material and moisture.
- When moisture content of the fill material is too low to obtain adequate compaction, water shall be added and thoroughly dispersed until the soil is approximately 2% to 4% above optimum moisture content.
- When the moisture content of the fill material is too high to obtain adequate compaction, the fill material shall be aerated by blading, or other satisfactory methods, until the soil is approximately 2% to 4% above optimum moisture content.
- Fill and cut slopes shall not be constructed at gradients steeper than 2:1 (horizontal:vertical).

MM Geo-22 Grading Observation. Construction observation shall be made by the Geotechnical Consultant of Record during any grading activities within the Project site, to verify the findings within this report. Additional recommendations may be required for landfill design based on conditions uncovered during grading.

MM Geo-23 Temporary Excavation. Based on review of the subject plans, it does not appear that significant temporary excavations will be required during the construction of the proposed development. However, the following recommendations are applicable in

areas where excavations are to be made.

- Temporary excavations are not expected to stand vertically in cuts that exceed 4 feet in height. Temporary excavations in excess of 4 feet may be sloped at a gradient of $\frac{3}{4}$:1, to a maximum height of 12 feet in favorably oriented Mint Canyon Formation or Terrace Deposits. Temporary slopes within alluvial soils and slopes greater than 12 feet may be sloped at gradients of 1:1. “Temporary” means a period not exceeding 60 days. All regulations of State or Federal OSHA shall be followed.
- If excavations are made during the rainy season (normally from November through April), particular care shall be taken to protect slopes against erosion. Measures to help mitigate erosion, such as the installation of berms, plastic sheeting, or other devices, may be warranted. Surface water shall be prevented from flowing over or ponding at the top of excavations.

- MM Geo-24 Expansive Bedrock. It is anticipated that bedrock materials exposed at pad grade may contain expansive claystone beds that could cause differential expansion. Therefore, within building areas at locations where expansive bedrock units are exposed at pad grade, it is recommended that the bedrock be removed and recompacted to a depth at least 8 feet below the proposed final pad elevations or 5 feet below the bottom of proposed footings, whichever is greater. It is also recommended that the bedrock be removed and recompacted to a depth at least 3 feet below proposed soil subgrade in exposed bedrock areas receiving pavement or hardscape improvements. The soils generated by these over-excavations should be mixed with nonexpansive soils to yield a relatively nonexpansive mixture. If the resulting fill soil is still expansive, special construction techniques, such as pad subgrade saturation or post-tensioned slabs, may be required to reduce the potential for expansive soil-related distress.
- MM Geo-25 Transition Lots. Proposed building pads located in a cut and fill transition zone may experience cracking and movement of the footings and slab due to differing compressibility of the fill, as compared to the bedrock material. To reduce the potential for cracking and differential settlement, the portion of the lot in cut bedrock or terrace deposits should be over-excavated to a depth at least 5 feet below the proposed finished pad elevation or 3 feet below the bottom of proposed footings, whichever is greater. The over-excavation shall extend at least 5 feet laterally beyond the building limits. Where removal and recompaction for potentially expansive soils or bedrock is also required that the 8-foot removals be performed as described in the “Expansive Bedrock” section of the RTF&A 2015 report.
- MM Geo-26 The applicability of the preliminary recommendations for foundation and retaining wall design should be confirmed at the completion of grading.
- MM Geo-27 Paving studies and soil corrosivity tests should be performed at the completion of rough grading, to develop detailed recommendations for protection of utilities and structures and for construction of the proposed roads.

MM Geo-28 Expansive Soils. The on-site alluvial soils and terrace deposits are expected to have a very low potential for expansion. Compacted fills generated from the Mint Canyon Formation are expected to have up to a medium potential for expansion. The compacted fills generated by the on-site materials are expected to be classified as having a very low to medium potential for expansion. Samples of the compacted fill shall be obtained at the completion of the rough grading operations to support final foundation design.

MM Geo-29 Foundation

- General: Buildings may be supported on continuous or individual spread footings established in properly compacted fill soils. Foundations and floor slabs should be designed by a structural engineer, in accordance with the minimum requirements of the CBC.
- Design Criteria: The recommendations presented in this section are based on the assumption that the proposed structures will have column loads not exceeding approximately 100 kips and continuous foundation loads not exceeding 3 kips per lineal foot. A bearing value of 2,000 pounds per square foot (psf) may be used in the design of spread foundations. This value can be increased by one-third when considering seismic and wind forces. The bearing material shall consist of compacted fill soil. Individual column pads and continuous wall footings shall be designed to meet the minimum width and depth requirements as set forth in the CBC. Foundation depths shall be measured from the lowest adjacent final grade.
- Building Setbacks: Building setbacks for structures located adjacent to either ascending or descending slopes shall be in accordance with the standards set forth in the CBC. All foundation excavations shall be observed and approved by a representative from our firm prior to placement of reinforcing steel. Foundations shall be deepened, where necessary, to prevent surcharge loads from being imposed on adjacent foundations or utilities. Observation of foundation excavations may also be required by the appropriate reviewing governmental agencies. The contractor shall be familiar with the requirements of the governing reviewing agencies.
- Lateral Design: Lateral restraint at the bases of footings or slabs may be assumed to be the product of the dead load and a coefficient of friction of 0.4. Passive pressure on the faces of footings may also be used to resist lateral forces. A passive pressure of zero at the surface of finished grade, increasing at the rate of 250 psf per foot of depth, to a maximum value of 2,500 psf, may be used at this site. The passive pressure and friction may be combined without reduction when evaluating lateral resistance.
- Settlement: Provided that the proposed buildings are supported on shallow foundations established in compacted fill soils, as recommended, column loads do not exceed 100 kips, and continuous footings do not exceed 3 kips per lineal foot, it is estimated that the maximum static settlement will be about 0.75 inches. The total static and seismic settlement is estimated to be about 1.5

inches. It is further estimated that static and seismic differential settlements will be less than 1.0 inches of vertical movement across a horizontal distance of 30 feet. RTF&A shall review the foundation loads after plans are developed to verify the applicability of our recommendations to the proposed structures.

MM Geo-30 Floor Slab Support

- **General:** The floor slab design recommendations presented in this section are based upon the assumption that the soil subgrade in proposed floor slab areas will consist of compacted fill soil and that floor slabs will be subjected to normal loads with no special requirements. Any surficial soils that become dried or disturbed during the course of construction shall be moisture-conditioned and compacted prior to casting the floor slab. Conventional floor slabs may be utilized at the subject development, provided the subgrade soils consist of compacted fill soils with a very low (Expansion Index of 0 to 20) potential for expansion. If the subgrade soils are determined to have an expansion potential in the low or higher range (Expansion Index greater than 21), post-tensioned floor slabs, as indicated below, are recommended. Post-tensioned floor slabs can also be used in soils with a very low potential for expansion.
- **Conventional Floor Slabs:** Conventional slabs-on-grade should be designed per the recommendations of the CBC. However, as a minimum, the building floor slabs should have a nominal thickness of at least 4 inches and should be reinforced with a No. 4 rebar spaced at 16 inches on center, in each direction, or equivalent. Thicker slabs may be required depending on CBC requirements, the floor loads, and the structural requirements; we defer to the Project Structural Engineer for design of the floor slabs.
- **Post-Tensioned Floor Slabs:** Post-tensioned floor slabs should be designed per the recommendations of the CBC. The design values, presented following this paragraph, assume that the proposed floor slabs will be poured monolithic with continuous perimeter edge footings. Perimeter edge footings should have a minimum depth of 12 inches. Footing depths should be measured from the lowest adjacent grade for perimeter footings or the top of slab for interior footings.
- **Net Bearing Value:** An allowable net bearing value of 2,000 psf may be used for footings with a minimum width of 12 inches and a minimum depth of 12 inches below the top of slab or 12 inches below the lowest adjacent grade.
- **Coefficient of Friction:** 0.75
- **Passive Pressure:** 250 pcf for level ground condition
- **Modulus of Subgrade Reaction (K):** 150 pounds per cubic inch (pci) for a footing width of one foot. For larger footings or floor slabs, this value should be reduced using the following equation:

$$K_r = K \left[\frac{(B + 1)}{2B} \right]^2$$

where:

Kr = Reduced Modulus Value

K = Modulus of Subgrade Reaction for a One-Foot-Wide Plate

B = Width of Large Footing or Slab

- Modulus of Elasticity: 1,000 pounds per square inch (psi)
- Edge Moisture Variation Distance:
Me (Center Lift): 5.25 feet
Me (Edge Lift): 2.5 feet
- Estimated Differential Movements
My (swelling): Low – 0.4; Medium – 0.9
My (shrink): Low – 0.3; Medium – 0.7
- Water Vapor: Water vapor transmitted through floor slabs is a common cause of floor covering problems. An impermeable membrane vapor barrier should be installed to reduce excess vapor drive through the floor slab. The function of the impermeable membrane is to reduce the amount of water vapor transmitted through the floor slab. Vapor-related impacts should be expected in areas where a vapor barrier is not installed. Floor slabs shall be underlain by a vapor barrier surrounded by 2 inches of sand above and below it. The membrane should be at least 10 millimeters thick; care shall be taken to preserve the continuity and integrity of the membrane beneath the floor slab. The sand shall be sufficiently moist to remain in place and be stable during construction; however, if the sand above the membrane becomes saturated before placing concrete, the moisture in the sand can become a source of water vapor. Another factor affecting vapor transmission through floor slabs is a high water-to-cement ratio in the concrete used for the floor slab. A high water-to-cement ratio increases the porosity of the concrete, thereby facilitating the transmission of water and water vapor through the slab. The Project Structural Engineer or a concrete mix specialist should provide recommendations for design of concrete for footings and floor slabs in accordance with CBC.

MM Geo-31 Retaining Walls

- General: A bearing value of 2,000 psf may be used in the design of retaining wall footings. Backfill placed behind retaining walls shall be compacted to a minimum of 90% of the maximum dry density, as determined by the Soil Compaction Test Method (ASTM Standard D1557). When backfilling, walls should be braced. Heavy compaction equipment shall not be used any closer to the back of the wall than the height of the wall. Soils that have an expansion index in excess of 30 shall not be utilized for backfill behind walls that are greater than 3 feet in height. The backs of retaining walls shall be water-proofed where aesthetics are concerned.
- Lateral Earth Pressure: Cantilevered retaining walls separate and independent of buildings, where the surface of the backfill is level and the retained height of soils is less than 15 feet, may be designed assuming that drained, nonexpansive

soils will exert a lateral pressure equal to that developed by a fluid with a density of 30 pounds per cubic foot (pcf). The indicated pressure assumes that a lateral deflection of up to about 1% of the wall height is acceptable at the top of the wall. If it is desired to decrease the amount of potential wall deflection, a greater lateral pressure could be used in the wall design. Where the surface of the backfill is inclined at 2:1, it may be assumed that drained soils will exert a lateral pressure equal to that developed by a fluid with a density of 45 pcf. For the design of a rigid wall where rotation and lateral movement are not acceptable, as in the case of buildings, it may be assumed that drained, nonexpansive soils will exert a rectangular lateral pressure with a maximum pressure equal to $22H$ psf, where “H” is the wall height in feet. The pressure value and distribution may vary significantly when considering wall rigidity and restraining conditions. The structural characteristics of the wall are referred to the Project Structural Engineer. If requested, we can provide additional geotechnical design parameters for specific restrained conditions. In addition to the recommended earth pressure, walls should be designed to resist any lateral surcharges due to nearby buildings, storage, or traffic loads. A drainage system should be provided behind the walls to reduce the potential for development of hydrostatic pressure. If a drainage system is not installed, walls should be designed to resist an additional hydrostatic pressure equal to that developed by a fluid with a density of 55 pcf for the full height of the wall.

- Seismic Lateral Earth Pressure: The preceding recommended values indicate earth pressures for conventional static loading conditions. Ground shaking associated with earthquakes may cause additional pressure on walls. In addition to the previously mentioned lateral earth pressures, it is recommended that all rigid (building) walls of any height, and cantilevered retaining walls greater than 6 feet in height, be designed to support an additional seismic earth pressure equal to an inverted equivalent fluid pressure of 29 pcf.
- Density of Backfill: When designing retaining walls to resist over-turning, it can be assumed that compacted, on-site soils will have a density of 125 pcf.
- Drainage: A drainage system should be provided behind retaining walls, or the walls should be designed to resist hydrostatic pressures.
 - The drainage system could consist of a 4-inch-diameter perforated pipe placed 6 inches from the base of the wall, with the perforations down, and connected to an outlet device.
 - The pipe should be sloped at least 1 inch per 50 feet and surrounded on all sides by at least 6 inches of clean gravel. The gravel should be “burrito-wrapped” with filter fabric, such as Mirafi 140N, or equivalent. As an alternative to the gravel and filter fabric, filter material meeting the requirements of LACFCD Designated F-1 Filter Material, and slotted pipe, may be used.
 - The backside of the wall should be water-proofed.

- A vertical, 6-inch-wide gravel chimney drain, or a drainage geocomposite such as Miradrain, should be placed against and behind retaining walls that are higher than 3 feet. The top of the back drain should be capped with 18 inches of on-site soils.
- The installed drainage system should be observed by the Geotechnical Consultant of Record prior to backfilling the system. Inspection of the drainage system may also be required by the reviewing governmental agencies.

MM Geo-32 Pavement Design: Samples of the on-site soil should be obtained from near final grade elevation in proposed pavement areas, following the grading operations, to perform R-value tests. The R-value test results would be used to prepare pavement section recommendations. The *preliminary* pavement section recommendations presented below are based on the assumption that the on-site soils have an R-value of at least 20. The *final* pavement section recommendations could vary depending on the results of the actual R-value tests. We would be pleased to provide pavement section recommendations for alternative Traffic Index values upon request.

Traffic Index	Asphalt Thickness (inches)	(CAB) Base Course Thickness (inches)
4	3	5
6	4	9
8	5	14

- Base course material should consist of crushed aggregate base (CAB), as defined by Section 2002.2 of the Standard Specifications for Public Works Construction (“Greenbook”), or crushed miscellaneous base (CMB), as defined by Section 200-2.4 of the Greenbook. Base course material should be compacted to at least 95% of the maximum dry density of that material.
- Base course material should be purchased from a supplier who will certify that it will meet or exceed the specifications in the Greenbook, as indicated. We could, upon request, perform sieve analysis and sand equivalency tests on material delivered to the site that appears suspect. Additional tests could be performed, upon request, to determine if the material is in compliance with the remainder of the specifications indicated in the Greenbook.
- The pavement section recommendations presented above are based upon assumed Traffic Index values. RTF&A does not take responsibility for the numerical determination of the Traffic Index values, nor the areas where they apply within the site.

MM Geo-33 Seismic Design. The following factors are recommended for seismic force design of structures at the subject site. The parameters were determined using the U.S. Seismic Design Maps at the United States Geological Survey (USGS) Earthquakes Hazard website.

Site Class	D
Ss	2.509
S1	0.898
SMs	2.509
SM1	1.347
SDs	1.673
SD1	0.898
PGA	0.899

4.6-7 Cumulative Impacts

Related projects would be subject to varying risks associated with geotechnical hazards. Due to the site-specific nature of geological conditions, geotechnical impacts are typically assessed on a project-by-project basis in accordance with the CEQA. Related projects would be subject to mitigation measures similar to those required for the Project in addition to the UBC regulations. The UBC regulations would require that structures be constructed to meet minimum seismic safety standards. In most cases, cumulative impacts would be reduced to less than significant levels through compliance with existing codes and regulations. Therefore, with the implementation of appropriate Project-specific mitigation measures and existing regulations, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.6-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to determine consistency with Goals and Policies.

Earth Systems, Geotechnical Review – Approval Letter for Proposed Residential Tract, Tentative Tract Map 053074, Northwest Corner of Sand Canyon Road and Soledad Canyon Road, Santa

Clarita, California, Report provided by the Building Official for the City of Santa Clarita, March 24, 2016.

RFT&A, Tentative Map Plan Review, Tentative Map No. 053074, Sand Canyon Plaza, Santa Clarita, California, July 1, 2015.

Southwest Geotechnical, Inc., Addendum Geologic and Geotechnical Report, Grading Plan Review, Revised Tentative Tract No 53074, APN 2839-052 to -054, APN 2839-005-058 to -060, APN 2839-005-035, Northeast corner of Sand Canyon Road and Soledad Canyon Road, Santa Clarita, California, April 17, 2008.

4.7 Greenhouse Gas Emissions/Climate Change

4.7-1 Summary

The emission of greenhouse gas (GHG) emissions by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically are relatively very small in comparison to state or global GHG emissions and, consequently would, in isolation, have no significant direct impact on climate change. The Project's GHG emissions would not be considered substantial when compared to California's statewide GHG emissions.

Given the Project's mixed-use design, walkability, location, compliance with the CALGreen Code, and consistency with the City's CAP and associated GHG reduction measures, the Project would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 375 and AB 32's goal of achieving 1990 GHG emission levels by 2020. Similarly, related projects would also be subject to these emissions reduction goals and objectives, and related projects would be required to demonstrate consistency on a case-by-case basis.

Given the Project's mixed-use design, walkability, location, compliance with the CALGreen Code, and consistency with the City's CAP and associated GHG reduction measures, the Project would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 375 and AB 32's goal of achieving 1990 GHG emission levels by 2020. This discussion is discussed in **Section 4.10, Land Use**. Therefore, the Project's generation of GHG emissions would not make a cumulatively considerable contribution to GHG emissions and climate change, and impacts would be less than significant.

4.7-2 Introduction

This report provides a discussion of global climate change, existing regulations pertaining to global climate change, an inventory of the approximate greenhouse gas (GHG) emissions that would result from the Project, and an analysis of the significance of the impact of these GHGs. The analysis and conclusions reached in this section are based on the Greenhouse Gas Emissions Technical Report (Pomeroy Environmental Services, December 2015) included as **Appendix 6-1** to this EIR.

1. General Terms and Scientific Literature

Earth's natural warming process is known as the "greenhouse effect." This greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass allows solar radiation (sunlight) into Earth's atmosphere, but prevents radiative heat from

escaping, thus warming Earth’s atmosphere. GHGs keep the average surface temperature of the Earth at approximately 60 degrees Fahrenheit. However, excessive concentrations of GHGs in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences.

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHGs, primarily from the burning of fossil fuels (for example, during motorized transport, electricity generation, consumption of natural gas, industrial activity, manufacturing), deforestation, agricultural activity, and the decomposition of solid waste.

Scientists refer to the global warming context of the past century as the “enhanced greenhouse effect” to distinguish it from the natural greenhouse effect.⁵¹ While the increase in temperature is known as “global warming,” the resulting change in weather patterns is known as “global climate change.” Global climate change is evidenced in changes to wind patterns, storms, precipitation, and air temperature.

4.7-3 Existing Conditions

1. GHG Components

GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride.⁵² A general description of each GHG discussed in this report is provided in **Table 4.7-1, Description of Identified Greenhouse Gases**. CO₂ is the most abundant GHG. Other GHGs are less abundant, but have higher global warming potential (GWP) than CO₂. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO₂, denoted as CO₂e. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

Table 4.7-1 Description of Identified Greenhouse Gases

Greenhouse Gas	General Description
CO ₂	CO ₂ is an odorless, colorless GHG that has natural and manmade sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing; man-made sources of CO ₂ are burning coal, oil, natural gas, and wood.
CH ₄	CH ₄ is a flammable gas and is the main component of natural gas. When one molecule of CH ₄ is burned in the presence of oxygen, one molecule of CO ₂ and two molecules of water are released. There are no ill health effects from CH ₄ . A natural source of CH ₄ is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH ₄ , which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.

⁵¹ Climate Change 101: Understanding and Responding to Global Climate Change, published by the Pew Center on Global Climate Change and the Pew Center on the States.

⁵² As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.

Greenhouse Gas	General Description
N ₂ O	N ₂ O is a colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N ₂ O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.
HFCs	HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (CFCs) for automobile air conditioners and refrigerants. CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987.
PFCs	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above the Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.
SF ₆	SF ₆ is an inorganic, odorless, colorless, non-toxic, and nonflammable gas. SF ₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Source: Association of Environment Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007.

2. Global Warming Potential

Global Warming Potential (GWP) is one type of simplified index based upon radiative properties that is used to estimate the potential future impacts of emissions of different gases upon the climate system in a relative sense. GWP is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO₂, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO₂. A summary of the atmospheric lifetime and GWP of selected gases is presented in **Table 4.7-2** below.

Table 4.7-2 Atmospheric Lifetimes and Global Warming Potentials

Pollutant	Lifetime	Global Warming Potential (20-Year)	Global Warming Potential (100-Year)
Carbon dioxide	100 years	1	1
Nitrous oxide	121 years	264	265
Nitrogen trifluoride	500 years	12,800	16,100
Sulfur hexafluoride	3,200 years	17,500	23,500
Perfluorocarbons	3,000-50,000 years	5,000-8,000	7,000-11,000
Black carbon	days to weeks	270-6,200	100-1,700
Methane	12 years	84	28
Hydrofluorocarbons	Uncertain	100-11,000	100-12,000

Source: CARB, First Update to the Climate Change Scoping Plan, May 2014.

3. Projected Impacts of Global Warming in California

The primary effect of rising global concentrations of atmospheric GHG levels is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide, which would induce further changes in the global climate system during the current century.⁵³ Adverse impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snow peak levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures,⁵³
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;⁵⁴
- 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;⁵⁴
- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70% to as much as 90% over the next 100 years;⁵⁵
- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25% to 85% (depending on the future temperature scenario) in high O₃ areas located in the Southern California area and the San Joaquin Valley by the end of the twenty-first Century;⁵⁵ and
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.⁵⁵

4. Existing Statewide Greenhouse Gas Emissions

California is the fifteenth largest emitter of GHG on the planet, representing about 2% of the worldwide emissions.⁵⁶ **Table 4.7-3** shows the California GHG emissions inventory for the years 2003 to 2013. Statewide GHG emissions slightly decreased in 2009 due to a noticeable drop in on-road transportation, electricity generation, and industrial emissions. In 2012 and 2013, total GHG and per capita emissions increased, albeit only by a single percentage point. This increase was driven primarily by strong economic growth in the state, the unexpected closure of the San Onofre Nuclear Generating Station, and drought conditions that limited in-state hydropower.

53 USEPA, Draft Endangerment Finding, 74 Federal Regulations 18886, 18904, April 24, 2009.

54 Intergovernmental Panel on Climate Change, *Climate Change 2007*.

55 Cal/EPA, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.

56 CARB, Climate Change Scoping Plan, December 2008.

Table 4.7-3 California Greenhouse Gas Emissions Inventory

Scoping Plan Category	CO ₂ e Emissions (Million Metric Tons)										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Transportation	184	187	189	189	189	178	171	170	168	167	169
Electric Power	113	115	108	105	114	120	101	90	88	95	91
Commercial and Residential	42	43	41	42	42	42	43	44	44	42	44
Industrial	93	94	92	90	87	88	85	89	88	89	93
Recycling and Waste	8	8	8	8	8	8	8	8	8	8	9
Agriculture	37	36	37	38	37	38	36	36	36	38	36
High Global Warming Potential	9	10	10	11	12	13	14	16	17	18	19
Emissions Total	486	493	485	483	489	487	458	453	449	457	459

Source: CARB, California Greenhouse Gas Inventory 2003-2013, April 24, 2015;

http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-13_20150831.pdf.

4.7-4 Regulatory Setting

1. Federal

With regard to GHG emissions and global climate change, in 2002, President George W. Bush set a national policy goal of reducing the GHG emission intensity (tons of GHG emissions per million dollars of gross domestic product) of the nation's economy by 18% by 2012. No binding reductions were associated with the goal. The United States instead opted for a voluntary and incentive-based approach toward GHG emissions reductions, identified as the Climate Change Technology Program (CCTP). CCTP is a multi-agency research and development coordination effort, led by the Secretaries of Energy and Commerce.

The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S. Ct. 1438 (2007), that CO₂ and other GHGs are pollutants under the federal Clean Air Act (CAA), which the United States Environmental Protection Agency (USEPA) must regulate if it determines they pose an endangerment to public health or welfare. On December 7, 2009, USEPA Administrator made two distinct findings: 1) the current and projected concentrations of the six key GHGs in the atmosphere (i.e., CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) threatens the public health and welfare of current and future generations; and 2) the combined emissions of these GHGs from motor vehicle engines contribute to GHG pollution which threatens public health and welfare.

USEPA subsequently published its endangerment finding for GHGs in the Federal Register. The USEPA Administrator determined that six GHGs, taken in combination, endanger both the public health and welfare of current and future generations. Although the endangerment finding discusses the effects of six GHGs, it acknowledges that transportation sources only emit four of the key GHGs: CO₂, CH₄, N₂O, and HFCs. Further, the USEPA Administrator found that the combined emissions of these GHGs from new motor vehicles contribute to air pollution that endangers the public health and welfare under the CAA, Section 202(a).

USEPA requires large emitters of GHG to collect and report data. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 metric tons or

more of CO₂ equivalent per year to report GHG emissions annually data to USEPA. The Rule is referred to as 40 *Code of Federal Regulations* (CFR) Part 98-Greenhouse Gas Reporting Program.

Energy Independence and Security Act (EISA)

In response to the *Massachusetts v. Environmental Protection Agency* ruling, the Bush Administration issued an executive order on May 14, 2007, directing USEPA, the United States Departments of Transportation, and the United States Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. On December 19, 2007, the EISA was signed into law, which requires an increased corporate average fuel economy (CAFE) standard of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020.

EISA requires establishment of interim standards (from 2011 to 2020) that will be the maximum feasible average fuel economy for each fleet. On October 10, 2008, the National Highway Traffic Safety Administration (NHTSA) released a final environmental impact statement analyzing interim standards for model years 2011 to 2015 passenger cars and light trucks. NHTSA issued a final rule for model year 2011 on March 23, 2009. In addition to setting increased CAFE standards for motor vehicles, the EISA included other provisions: 1) renewable fuel standard (RFS) (Section 202); 2) appliance and lighting efficiency standards (Sections 301–325); and 3) building energy efficiency (Sections 411-441). Additional provisions addressed energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs. On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The federal standards apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles built in model years 2012 through 2016.

In addition, on September 15, 2009, President Obama proposed new fuel efficiency standards for cars and trucks that required fuel economy to increase by 5% annually. In 2016, new cars and trucks will have to achieve an average rating of 35.5 mpg, 4 years sooner than the law now requires. Alternatively, manufacturers could meet this requirement if their vehicles, on average, emit no more than 250 grams of CO₂ per mile.

Stationary Source Regulations

Under the CAA, once a pollutant is regulated under any part of the Act, (as was the case with GHG emissions after the motor vehicle regulations were finalized in April 2010) major new sources or modifications are subject to the Prevention of Significant Deterioration (PSD) program and to Title V operating permits. In the PSD program, major new or modified stationary sources (such as power plants and manufacturing facilities) are required to implement best available control technologies for pollution abatement.

The Tailoring Rule

On May 13, 2010, USEPA issued the final version of a new rule for GHG emissions, referred to as the Tailoring Rule. The rule states that new or modified sources that already are subject to New Source Review requirements for other pollutants will be required to also meet these requirements for GHGs if they increase emissions by more than 75,000 tons of CO₂e annually. Then on July 1, 2011, the requirements will apply to new sources that emit at least 100,000 tons of CO₂e annually and to major modifications of existing sources emitting 75,000 tons of CO₂e annually, even if they do not meet the threshold new source review requirements for other pollutants. In July 2012, the requirements will begin applying Title V operating permit requirements to existing sources not currently covered by Title V if they emit 100,000 tons of CO₂e annually. In regulating these GHG emissions, USEPA has developed guidelines for states to use in determining what would satisfy requirements as "best available control technology" as part of new source review of major modifications or new sources.

GHG and Fuel Efficiency Standards for Passenger Cars and Light-Duty Trucks

In April 2010, USEPA and NHTSA finalized GHG standards for new (model year 2012 through 2016) passenger cars, light-duty trucks, and medium-duty passenger vehicles. Under these standards, CO₂ emission limits would decrease from 295 grams per mile (g/mi) in 2012 to 250 g/mi in 2016 for a combined fleet of cars and light trucks. If all of the necessary emission reductions were made from fuel economy improvements, then the standards would correspond to a combined fuel economy of 30.1 miles per gallon (mpg) in 2012 and 35.5 mpg in 2016. The agencies issued a joint Final Rule for a coordinated national program for model years 2017 to 2025 light-duty vehicles on August 28, 2012, that would correspond to a combined fuel economy of 36.6 mpg in 2017 and 54.5 mpg in 2025.

GHG and Fuel Efficiency Standards for Medium-and Heavy-Duty Engines and Vehicles

In October 2010, the USEPA and NHTSA announced a program to reduce GHG emissions and to improve fuel efficiency for medium-and heavy-duty vehicles (model years 2014 through 2018). These standards were signed into law on August 9, 2011. The two agencies' complementary standards form a new Heavy-Duty National Program that has the potential to reduce GHG emissions by 270 million metric tons and to reduce oil consumption by 530 million barrels over the life of the affected vehicles.

Additional Stationary Source Rules

As a consequence of the decision in *Massachusetts v. Environmental Protection Agency*, USEPA entered into a December 2010 judicial settlement ending a long-running lawsuit seeking the inclusion of GHGs under the New Source Performance Standards (NSPS) provisions of the CAA. USEPA committed to promulgating NSPS for GHGs for power plants and refineries. NSPS are

technology-based standards for both new and existing sources which apply to specific categories of stationary sources.

2. State of California

Executive Order S-3-05

On June 1, 2005, Executive Order (E.O.) S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80% below 1990 levels. The E.O. establishes state GHG emission targets of 1990 levels by 2020 (the same as Assembly Bill 32) and 80% below 1990 levels by 2050. It calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of state agencies and progress reporting. However, a recent Commission for Environmental Cooperation (CEC) report concludes that the primary strategies to achieve this target should be major “decarbonization” of electricity supplies and fuels, and major improvements in energy efficiency.

In response to the E.O., the Secretary of the Cal/EPA created the Climate Action Team (CAT). California’s CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the state. The council was given formal recognition in E.O. S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 state agencies and departments. The CAT also has ten working groups, which coordinate policies among their members. The working groups and their major areas of focus are as follows:

- **Agriculture:** Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change
- **Biodiversity:** Designing policies to protect species and natural habitats from the effects of climate change
- **Energy:** Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation
- **Forestry:** Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols
- **Land Use and Infrastructure:** Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions

- Oceans and Coastal: Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions
- Research: Coordinating research concerning impacts of and responses to climate change in California
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from state government operations
- Water: Reducing GHG impacts associated with the state’s water systems and exploring strategies to protect water distribution and flood protection infrastructure.

Assembly Bill 32

In September 2006, the California Global Warming Solutions Act of 2006, also known as Assembly Bill 32 (AB 32), was signed into law. AB 32 focuses on reducing GHG emissions in California and requires the California Air Resources Board (CARB) to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. The CARB initially determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million metric tons of CO_{2e}. The 2020 target reduction was estimated to be 174 million metric tons of CO_{2e}.

To achieve the goal, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the CEC to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the state.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.⁵⁷ On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs emissions from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing SF₆ emissions from the non-electricity sector.

⁵⁷ CARB, Proposed Early Action Measures to Mitigate Climate Change in California, April 20, 2007.

The CARB AB 32 Scoping Plan (Scoping Plan) contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by CARB with input from the CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the state economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing GHG emissions to 1990 levels by 2020 include the following:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable electricity standard of 33%;
- 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 GHG emissions for regions throughout the state, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions.

CARB has adopted the First Update to the Climate Change Scoping Plan.⁵⁸ This update identifies the next steps for California's leadership on climate change. The first update to the initial AB 32 Scoping Plan describes progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the state as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020. Specifically, the update covers a range of topics, including the following:

- An update of the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants.
- A review of progress-to-date, including an update of Scoping Plan measures and other state, federal, and local efforts to reduce GHG emissions in California.
- Potential technologically feasible and cost-effective actions to further reduce GHG emissions by 2020.
- Recommendations for establishing a mid-term emissions limit that aligns with the state's long-term goal of an emissions limit 80% below 1990 levels by 2050.
- Sector-specific discussions covering issues, technologies, needs, and ongoing state activities to significantly reduce emissions throughout California's economy through 2050.

58 CARB, First Update to the Climate Change Scoping Plan: Building on the Framework, May 2014.

In December 2007, CARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons of CO₂e. As part of the update, CARB revised the 2020 statewide limit to 431 million metric tons of CO₂e, an approximately 1% increase from the original estimate. The 2020 business-as-usual (BAU) forecast in the update is 509 million metric tons of CO₂e. The state would need to reduce those emissions by 15.3% to meet the 431 million metric tons of CO₂e 2020 limit.

SB 97 and CEQA Guidelines

In August 2007, the Legislature adopted Senate Bill 97 (SB 97), requiring the California Governor's Office of Planning and Research (OPR) to prepare and transmit new CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the California Natural Resources Agency by July 1, 2009. Following receipt of these guidelines, the Resources Agency was required to certify and adopt the guidelines prepared by OPR by January 1, 2010.

OPR submitted its proposed guidelines to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency then undertook the formal rulemaking process to certify and adopt the amendments as part of the state regulations implementing CEQA. The CEQA Guidelines amendments were adopted on December 30, 2009 and became effective on March 18, 2010.

The CEQA Guideline amendments do not specify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, the amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but rely on the lead agencies in making their own significance threshold determinations based upon substantial evidence. The CEQA Guidelines amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

Senate Bill 375

California's Sustainable Communities and Climate Protection Act, also referred to as Senate Bill 375 (SB 375) became effective January 1, 2009. The goal of SB 375 is to help achieve AB 32's GHG emissions reduction goals by aligning the planning processes for regional transportation, housing, and land use. SB 375 requires CARB to develop regional reduction targets for GHGs, and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California's 18 Metropolitan Planning Organizations (MPOs) have been tasked with creating "Sustainable Community Strategies" (SCS) in an effort to reduce the region's vehicle miles traveled (VMT) in order to help meet AB 32 targets through integrated transportation, land use, housing and environmental planning. Pursuant to SB 375, CARB set per-capita GHG emissions reduction targets from passenger vehicles for each of the state's 18 MPOs. For the Southern California Association of Governments (SCAG) region, the targets are set at 8% below 2005 per capita emissions levels by 2020 and 13% below 2005 per capita emissions levels by 2035.

Senate Bill 743

Senate Bill 743 (SB 743), adopted September 27, 2013, encourages land use and transportation planning decisions and investments that reduce vehicle miles traveled that contribute to GHG emissions, as required by AB 32. Key provisions of SB 743 include reforming aesthetics and parking CEQA analysis for urban infill projects and eliminating the measurement of auto delay, including level of service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 requires the Governor’s Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas that promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. It also allows OPR to develop alternative metrics outside of transit priority areas.

California’s Energy Efficiency Standards for Residential and Nonresidential Buildings

Located in Title 24, Part 6 of the CCR and commonly referred to as “Title 24,” these energy efficiency standards were established in 1978 in response to a legislative mandate to reduce California’s energy consumption. The goal of Title 24 energy standards is the reduction of energy use. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.⁵⁹ On May 31, 2012, the California Energy Commission (CEC) adopted the 2013 Building and Energy Efficiency Standards. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25% (residential) to 30% (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in home and businesses.

California Green Building Code

The California Green Building Standards Code, referred to as CALGreen, is the first statewide green building code. It was developed to provide a consistent, approach for green building within California. CALGreen lays out minimum requirements for newly constructed buildings in California, which will reduce greenhouse gas emissions through improved efficiency and process improvements. It requires builders to install plumbing that cuts indoor water use by as much as 20%, to divert 50% of construction waste from landfills to recycling, and to use low-pollutant paints, carpets, and floors.

⁵⁹ CEC, California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations.

3. Regional

Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

While Southern California is a leader in reducing emissions, and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation. SCAG completed the RTP/SCS, which includes a strong commitment to reduce emissions from transportation sources to comply with SB 375. Goals and policies included in the RTP/SCS to reduce air pollution consist of adding density in proximity to transit stations, mixed-use development and encouraging active transportation (i.e., non-motorized transportation such as bicycling). SCAG promotes the following policies and actions related to active transportation to help the region confront congestion and mobility issues and consequently improve air quality:

- Implement Transportation Demand Management (TDM) strategies including integrating bicycling through folding bikes on buses programs, triple racks on buses, and dedicated racks on light and heavy rail vehicles;
- Encourage and support local jurisdictions to develop "Active Transportation Plans" for their jurisdiction if they do not already have one;
- Expand Compass Blueprint program to support member cities in the development of bicycle plans;
- Expand the Toolbox Tuesdays program to encourage local jurisdictions to direct enforcement agencies to focus on bicycling and walking safety to reduce multimodal conflicts;
- Support local advocacy groups and bicycle-related businesses to provide bicycle-safety curricula to the general public;
- Encourage children, including those with disabilities, to walk and bicycle to school;
- Encourage local jurisdictions to adopt and implement the proposed SCAG Regional Bikeway Network; and
- Support local jurisdictions to connect all of the cities within the SCAG region via bicycle facilities.

South Coast Air Quality Management District (SCAQMD)

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan (AQMP). In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In December 2008, the SCAQMD adopted an interim 10,000 metric tons CO_{2e} (MTCO_{2e}) per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. The SCAQMD continues to consider adoption of significance thresholds for non-

industrial development projects. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses:

- Tier 1: Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- Tier 2: Consider whether or not a proposed project is consistent with a locally adopted GHG reduction plan (i.e., Climate Action Plan) that has gone through public hearings and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.
- Tier 3: Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MTCO_{2e}/year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MTCO_{2e}/year), commercial projects (1,400 MTCO_{2e}/year), and mixed-use projects (3,000 MTCO_{2e}/year). Under option 2 a single numerical screening threshold of 3,000 MTCO_{2e}/year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.
- Tier 4: Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MTCO_{2e} per service population for project level analyses and 6.6 MTCO_{2e} per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.
- Tier 5: Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The thresholds identified above are not adopted by the SCAQMD or distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain.

4. City of Santa Clarita

General Plan

The City's Conservation and Open Space Element of the 2011 General Plan has identified the following goals, objectives, and policies aimed at greenhouse gas reduction in private development projects in the City.

Applicable goals and policies from the General Plan Conservation and Open Space Elements are listed below.

Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases.

Objective CO 8.1: Comply with the requirements of State law, including AB 32, SB 375 and implementing regulations, to reach targeted reductions of greenhouse gas (GHG) emissions.

Policy CO 8.1.1: Create and adopt a Climate Action Plan within 18 months of the OVOV adoption date of the City's General Plan Update that meets State requirements and includes the following components:

- a. Plans and programs to reduce GHG emissions to State-mandated targets, including enforceable reduction measures;
 - i. The CAP may establish goals beyond 2020, which are consistent with the applicable laws and regulations referenced in this paragraph and based on current science;
 - ii. The CAP shall include specific and general tools and strategies to reduce the City's current and projected 2020 inventory and to meet the CAPs target for GHG reductions by 2020;
 - iii. The CAP shall consider, among other GHG reduction strategies, the feasibility of development fees; incentive and rebate programs; and, voluntary and mandatory reduction strategies in areas of energy efficiency, renewable energy, water conservation and efficiency, solid waste, land use and transportation.
- b. Mechanisms to ensure regular review of progress towards the emission reduction targets established by the Climate Action Plan;
- c. Procedures for reporting on progress to officials and the public;
- d. Procedures for revising the plan as needed to meet GHG emissions reduction targets; and,
- e. Allocation of funding and staffing for Plan implementation;

Policy CO 8.1.2: Participate in the preparation of a regional Sustainable Communities Strategy (SCS) Plan to meet regional targets for greenhouse gas emission reductions, as required by SB 375.

Policy CO 8.1.3: Revise codes and ordinances as needed to address energy conservation, including but not limited to the following:

- a. Strengthen building codes for new construction and renovation to achieve a higher level of energy efficiency, with a goal of exceeding energy efficiency beyond that required by Title 24;
- b. Adopt a Green Building Program to encourage green building practices and materials, along with appropriate ordinances and incentives;
- c. Require orientation of buildings to maximize passive solar heating during cool seasons, avoid solar heat gain during hot periods, enhance natural ventilation, promote effective use of daylight, and optimize opportunities for on-site solar generation;
- d. Encourage mitigation of the “heat island” effect through use of cool roofs, light-colored paving, and shading to reduce energy consumption for air conditioning.

Policy CO 8.1.4: Provide information and education to the public about energy conservation and local strategies to address climate change.

Policy CO 8.1.5: Coordinate various activities within the community and appropriate agencies related to GHG emissions reduction activities.

Objective CO 8.3: Encourage the following green building and sustainable development practices on private development projects, to the extent reasonable and feasible.

Policy CO 8.3.1: Evaluate site plans proposed for new development based on energy efficiency pursuant to LEED (Leadership in Energy and Environmental Design) standards for New Construction and Neighborhood Development, including the following: a) location efficiency; b) environmental preservation; c) compact, complete, and connected neighborhoods; and d) resource efficiency, including use of recycled materials and water.

Policy CO 8.3.2: Promote construction of energy efficient buildings through requirements for LEED certification or through comparable alternative requirements as adopted by local ordinance.

Policy CO 8.3.3: Promote energy efficiency and water conservation upgrades to existing non-residential buildings at the time of major remodel or additions.

Policy CO 8.3.4: Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.

Policy CO 8.3.5: Encourage on-site solar generation of electricity in new retail and office commercial buildings and associated parking lots,

- carports, and garages, in concert with other significant energy conservation efforts.
- Policy CO 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light colored roofs, shade trees, and paving materials.
- Policy CO 8.3.7: Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.
- Policy CO 8.3.8: Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.
- Policy CO 8.3.9: Limit excessive lighting levels, and encourage a reduction of lighting when businesses are closed to a level required for security.
- Policy CO 8.3.10: Provide incentives and technical assistance for installation of energy-efficient improvements in existing and new buildings.
- Policy CO 8.3.11: Consider allowing carbon off-sets for large development projects, if appropriate, which may include funding off-site projects or purchase of credits for other forms of mitigation, provided that any such mitigation shall be measurable and enforceable.
- Policy CO 8.3.12: Reduce extensive heat gain from paved surfaces through development standards wherever feasible.

Climate Action Plan

The State of California requires all cities that create a new general plan or update their general plan document to consider its impacts on GHG emissions. To do so, cities must complete a Climate Action Plan (CAP). The CAP must achieve the emission reduction goals outlined by the Global Warming Solutions Act of 2006 (AB 32). AB 32 requires that statewide GHG emissions must be reduced to 1990 levels by 2020. Measures identified in Santa Clarita’s Climate Action plan will not only meet but exceed the state’s AB 32 GHG emission reduction mandate.

In June 2011, the City Council adopted a new General Plan (formerly referred to as One Valley One Vision) which is intended to guide growth and development within all portions of the Santa Clarita Valley. As noted above, Policy CO 8.1.1 of the City’s General Plan states the City shall create and adopt a Climate Action Plan within 18 months of the OVOV adoption date of the City’s General Plan Update that meets state requirements. Consistent with this policy, in January 2011, the City began the process of developing a CAP, with the Final CAP published in August 2012. The CAP, part of the General Plan, serves as a component of the general plan document for the

City to address GHG emissions. Using the goals, objectives and policies of the General Plan as a starting point, the CAP identifies mitigation measures that can be quantified and translated into significant reductions in the GHG emissions by the year 2020. The development of a CAP begins with a premise that establishing a complete GHG emissions inventory within the city's boundary is the critical foundation for the remainder of the Project. The 2005 baseline year GHG emissions inventory has captured emissions from various sources. The total emissions of GHG in 2005 were estimated to be 1,717,648 MTCO_{2e}. The emissions are presented separately for community-wide sources and municipal sources. Of this total, the emissions from on-road vehicles were the main source of GHG emissions for the City in 2005 (60%) followed by residential energy use (18%) and commercial/industrial energy use (13%). The municipal source emissions make up approximately 2% of the total emissions. This emissions profile is typical for a City with the characteristics of Santa Clarita.

A large portion of the GHG reductions would be achieved by the decrease in vehicle miles traveled in the City via changes in land use patterns and a greater emphasis of transit and alternative transportation programs. Other significant reductions are due to the creation or acquisition of new vegetated space in line with the goals of the City's Open Space Preservation District and water use measures. Applying estimated reductions from CAP measures shows that the resulting 2020 net emissions are expected to be approximately 4% below the 2005 baseline level. The reduction represents a level that is 17% below the 2020 BAU emissions level and is consistent with the overall Statewide Goals of AB 32. The Climate Action Plan not only identifies a reduction target or commitments, but it also sets forth the complement of goals, policies, measures, and ordinances that will achieve the target. These policies and other strategies include measures in transportation, land use, energy conservation, water conservation, and vegetation.

The CAP also defines a local threshold of significance for GHG emissions for project-level submittals that trigger review by the California Environmental Quality Act. Because goals, objectives and policies approved under the General Plan are forecast to meet the GHG emission reduction targets mandated by AB 32, development projects that are able to demonstrate consistency with the General Plan and zoning ordinance will by association demonstrate consistency with the CAP.

Green Building Standards Code

Section 25.01.010 in the Santa Clarita Municipal Code adopts by reference that certain code known and designated as the California Code of Regulations, Title 24, Part 11, further described as the 2013 California Green Building Standards Code, also referred to as CalGreen, published by the California Building Standards Commission. Such code shall be and become the City of Santa Clarita Green Building Standards Code, regulating the planning, design, operation, construction, use and occupancy of every new building or structure to ensure buildings have a more positive

environmental impact and encourage sustainable construction practices as specifically provided for therein.

4.7-5 Thresholds of Significance

1. Appendix G of the CEQA Guidelines

The following thresholds for determining the significance of impacts related to greenhouse gas emissions are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts due to greenhouse gas emissions if any of the following could occur.

GHG-1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG-2 Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

A project's GHG emissions typically are very small in comparison to state or global GHG emissions. In isolation, a Project may have no significant direct impact on climate change. However, the increased accumulation of GHGs from more than one project and many sources in the atmosphere may result in global climate change, which can cause the adverse environmental effects previously discussed. Accordingly, the threshold of significance for GHG emissions determines whether a project's contribution to global climate change is "cumulatively considerable." Many air quality agencies, including the SCAQMD, concur that GHG and climate change should be evaluated as a potentially significant cumulative impact, rather than a project-specific and direct impact SCAQMD Draft Thresholds.

As stated previously, the SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In December 2008, the SCAQMD adopted an interim 10,000 metric tons CO_{2e} (MTCO_{2e}) per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. The SCAQMD continues to consider adoption of significance thresholds for non-industrial development projects. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses:

- Tier 1: Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- Tier 2: Consider whether or not a proposed project is consistent with a locally adopted GHG reduction plan (i.e., a Climate Action Plan) that has gone through public hearings and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

- Tier 3: Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MTCO₂e/year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MTCO₂e/year), commercial projects (1,400 MTCO₂e/year), and mixed-use projects (3,000 MTCO₂e/year). Under option 2 a single numerical screening threshold of 3,000 MTCO₂e/year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.
- Tier 4: Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MTCO₂e per service population for project level analyses and 6.6 MTCO₂e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.
- Tier 5: Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The thresholds identified above are not adopted by the SCAQMD or distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain.

2. City of Santa Clarita Climate Action Plan Threshold

As stated previously, the City's adopted CAP defines a local threshold of significance for GHG emissions for project-level submittals that trigger review by the California Environmental Quality Act. Because goals, objectives and policies approved under the General Plan are forecast to meet the GHG emission reduction targets mandated by AB 32, development projects that are able to demonstrate consistency with the General Plan and zoning ordinance will by association demonstrate consistency with the CAP. This threshold of significance is consistent with the SCAQMD's Tier 2 draft threshold noted above and will be the primary threshold of significance for the Project. As such, if the Project can demonstrate consistency with the General Plan and zoning ordinance, then the Project will by association be consistent with the City's CAP and result in a less than significant project-level impact.

It should also be noted that although the Project does not require a zone change or General Plan Amendment, the City's CAP states that some large scale development projects that generate a significant number of vehicle miles travelled and/or are heavy industrial uses may also be required to demonstrate consistency with the CAP. Compliance can be demonstrated by performing a quantitative analysis using approved modeling techniques indicating the large scale development

project can reduce its associated GHG emissions by 12% below the business-as-usual scenario defined in the City's CAP. This reduction is consistent with the overall reduction expected in the CAP, not counting the three statewide measures that are not affected by local development. Although the Project would not require a zone change or general plan amendment and the City's CAP does not define "large scale development projects" the following quantitative analysis conservatively includes an estimate of the Project's GHG emissions compared to a business-as-usual scenario (as defined in the City's CAP) to illustrate the effectiveness of the Project's GHG reduction measures and design features. It should be noted that this quantitative analysis is included for supplemental illustrative purposes only, and the primary GHG significance threshold will be the Project's qualitative consistency with the City's CAP, General Plan, and zoning ordinance.

4.7-6 Impacts Analysis

Methodology

The California Climate Action Registry (CCAR) General Reporting Protocol recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.⁶⁰

CARB believes that consideration of so-called indirect emissions provides a more complete picture of the GHG footprint of a facility. Annually reported indirect energy usage aids the conservation awareness of a facility and provides information to CARB to be considered for future strategies.⁶¹ CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Additionally, the OPR has noted that lead agencies "should make a good-faith effort, based on available information, to calculate, model, or estimate...GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption,

60 Embodied energy is a scientific term that refers to the quantity of energy required to manufacture and supply to the point of use a product, material, or service.

61 CARB, Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), Planning and Technical Support Division Emission Inventory Branch, October 19, 2007.

water usage and construction activities.”⁶² Therefore, direct and indirect emissions have been calculated for the Project from these sources.

GHG-1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG-2 Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Construction-Related Emissions

Consistent with SCAQMD recommendations, construction GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod 2013.2.2).⁶³ For a complete discussion of the construction methodology, please refer to the Air Quality Technical Report (**Appendix 2-1**) prepared for this Project. The mobile source emission methodology for on-road construction emissions, associated with worker commute and delivery of materials, uses a vehicle miles traveled rate calculated by CalEEMod to generate values for annual emissions. Emission factors are derived from the EMFAC model using light duty automobile factors for worker commute and heavy duty truck factors for deliveries.

The Association of Environmental Professionals (AEP) has recommended that total construction emissions be amortized and added to operational emissions (AEP 2010). This amortization method is also recommended by the SCAQMD. Accordingly, the construction-related GHG emissions have been amortized over a 30-year operational period to be consistent with this guidance.

The most common GHGs emitted in association with the construction of land use developments include CO₂, CH₄ and N₂O. CalEEMod provides these GHGs and translates them into a common currency of carbon dioxide equivalent (CO₂e). To obtain the CO₂e, an individual GHG is multiplied by its global warming potential. The GWP designates on a pound for pound basis the potency of the GHG compared to CO₂.

62 State of California Office of Planning and Research (OPR), Technical Advisory, CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review, June 19, 2008.

63 CalEEMod Version 2016.3.1 was released in October 2016, after the technical analyses for the Project's EIR commenced. For informational purposes, a supplemental model run was conducted with CalEEMod 2016.3.1 for construction and operational greenhouse emissions. Although emissions varied, the impact conclusions in this analysis are the same with the use of either model. See **Appendix 6-2** to this EIR for the CalEEMod Version 2016.3.1 data.

GHG Impacts – Construction-Related GHG Emissions

For purposes of this analysis, it is estimated that the Project would be constructed in approximately 2.5 years (30 months) with construction beginning in mid-2017 and Project operations commencing by the end of 2019.⁶⁴ While construction may take place over a longer period, the assumption of a 30-month construction period would assume the fastest build-out potential resulting in a worst-case annual impact scenario for purposes of this analysis. This analysis assumes construction would be undertaken with the following primary construction phases: 1) Demolition/Site Clearing, 2) Site Preparation, Grading, and Foundations, and 3) Structural Building, Finishing and Paving. Each primary construction phase has been further detailed below.

Demolition/Site Clearing

The Project would require demolition of permanent structures, site clearing, and removal of 123 mobile homes. The existing mobile home units would be hauled off site and would not require extensive demolition work, and the existing 3,120 square feet of permanent structures would be demolished and hauled off site. In addition, demolition/site clearing activities would include the removal of trees, fences, and other existing debris. This analysis estimates demolition and site clearing would occur for approximately one month. The daily on-site demolition activities would require the following equipment: three excavators, two rubber tired dozers, and one concrete/industrial saw.

Site Preparation, Grading, and Foundations

After the completion of demolition/site clearing, site preparation, grading, and foundation preparation activities would occur for approximately 6 months and would involve the cut and fill of land to ensure the proper base and slope for the entire site, including building pads and foundations. Specifically, it is estimated that approximately 2.2 million cubic yards (cy) of cut/fill work would be required to balance the site. At this time, no soil import or export activities are anticipated. This analysis assumes daily grading activities would require the following equipment: two excavators, one grader, one rubber tired dozer, two scrapers, and two tractors/loaders/backhoes.

⁶⁴ The Air Quality Technical Report (December 2015) estimated that the Project would be constructed in approximately 2.5 years (30 months) with construction beginning in mid-2016 and Project operations commencing by the end of 2018. Given the difficulty in estimating the timing of the planning phase for development projects, the most recent estimate assumes construction of the Project would begin in mid-2017 and last until the end of 2019 with the same construction phasing and durations. Compared to what was estimated in the Air Quality Technical Report, this slight modification would result in minor reductions of air quality emissions as emission factors for off-road and on-road sources gradually improve each calendar year into the future (i.e., emissions would not have the potential to be greater than those disclosed in the Air Quality Technical Report). As such, this analysis presents a conservative and worst-case analysis.

Structural Building, Finishing, and Paving

The Project would include the construction and operation of 55,600 square feet of commercial/retail/restaurant uses, 75,000 square feet of assisted living facilities, and 580 multi-family units. In total, structural building, finishing, and paving activities are expected to occur for approximately 23 months. Upon completion of the building shells, finishing (coatings) and paving of parking areas and streets would follow. It is estimated that architectural coatings and paving/stripping of roadways and parking lots would occur over the final 6 months of this phase. This analysis assumes that the maximum daily construction building activities would require the following equipment: one crane, three forklifts, one generator set, three tractors/loaders/backhoes, one welder, one air compressor, two pavers, two pieces of paving equipment, and two rollers.

Emissions of GHGs were calculated using CalEEMod for each phase and each year of construction of the Project and the results of this analysis are presented in **Table 4.7-4** below. The table shows that the greatest annual increase in GHG emissions from the Project's construction activities would be 1,986.88 CO₂e MTY in 2016. The total amount of construction-related GHG emissions is estimated to be approximately 4,289.33 CO₂e MTY, or approximately 143 CO₂e MTY amortized over a 30-year period.

Table 4.7-4 Project Construction-Related Greenhouse Gas Emissions

Year	CO ₂ e Emissions (Metric Tons per Year)
2016	440.90
2017	1,861.55
2018	1,986.88
Total Project Construction GHG Emissions	4,289.33

CalEEMod data provided in the Greenhouse Gas Emissions Technical Report (PES, December 2015) included in **Appendix 6-1** to this EIR.

Operational Emissions

Consistent with SCAQMD recommendations, operational GHG emissions were calculated using CalEEMod 2013.2.2.⁶⁵ Operational GHG sources include motor vehicles, electricity, natural gas, water usage/wastewater generation, landscaping/maintenance equipment, and solid waste generation and disposal.

⁶⁵ The Air Quality Technical Report (December 2015) estimated that the Project would be constructed in approximately 2.5 years (30 months) with construction beginning in mid-2016 and Project operations commencing by the end of 2018. Given the difficulty in estimating the timing of the planning phase for development projects, the most recent estimate assumes construction of the Project would begin in mid-2017 and last until the end of 2019 with the same construction phasing and durations. Compared to what was estimated in the Air Quality Technical Report, this slight modification would result in minor reductions of air quality emissions as emission factors for off-road and on-road sources gradually improve each calendar year into the future (i.e., emissions would not have the potential to be greater than those disclosed in the Air Quality Technical Report). As such, this analysis presents a conservative and worst-case analysis.

Motor vehicle emission calculations associated with operation of the Project use a projection of annual VMT, which is derived from the trips provided in the Project traffic study and the default trip characteristics in CalEEMod. These values account for the daily and seasonal variations in trip frequency and length associated with travel to and from the Project site and other activities that require a commute.

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. Combustion of any type of fuel emits criteria pollutants and GHGs directly into the atmosphere; when this occurs in a building this is a direct emission source associated with that building and CalEEMod calculates all of these pollutants. GHGs are also emitted during the generation of electricity from fossil fuels. When electricity is used, the electricity generation typically takes place off-site at a power plant; electricity use generally causes emissions in an indirect manner and therefore GHG emissions have been calculated from electricity generation.

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. Water treatment and wastewater treatment often occur outside the Project area. In this case, it is still important to quantify the energy and associated GHG emissions attributable to the water use. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide. Thus, GHG emissions have been calculated from water used and wastewater generated by the Project.

Municipal solid waste (MSW) is the amount of material that is disposed of by land filling, recycling, or composting. CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the California Department of Resources Recycling and Recovery (CalRecycle) data for individual land uses. If waste disposal information was not available, waste generation data was used. CalEEMod uses the overall California Waste Stream composition to generate the necessary types of different waste disposed into landfills. CalEEMod quantifies the GHG emissions associated with the decomposition of the waste, which generates methane based on the total amount of degradable organic carbon. CalEEMod also quantifies the CO₂ emissions associated with the combustion of methane, if applicable. Default landfill gas concentrations were used as reported in Section 2.4 of AP-42.⁶⁶ The Intergovernmental Panel on Climate Change (IPCC) has a similar method to calculate GHG emissions from MSW in its 2006 Guidelines for National Greenhouse Gas Inventories.

Planting trees will sequester CO₂ and is considered to result in a one-time carbon-stock change. Trees sequester CO₂ while they are actively growing. The amount of CO₂ sequestered depends on the type of tree. CalEEMod uses default annual CO₂ accumulation per tree for specific broad species classes.

⁶⁶ See AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, prepared by the Office of Air Quality Planning and Standards, U.S. EPA, January 1995.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, roto-tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were processed using OFFROAD 2007 and CARB’s Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003).

Existing Project Site GHG Emissions

The Project site currently consists of 123 mobile home units. As such, GHG emissions are currently generated by on-road motor vehicles, energy (electricity and natural gas), water, and generation of solid waste and wastewater. The GHG emissions generated by the existing uses at the Project site have been estimated utilizing CalEEMod 2013.2.2 recommended by the SCAQMD and are shown in **Table 4.7-5**. As shown, GHG emissions generated by existing conditions at the Project site are approximately 1,268.54 MTCO_{2e} per year.

Table 4.7-5 Existing Greenhouse Gas Emissions

Emissions Source	Estimated Project CO _{2e} Emissions (Metric Tons per Year)
Energy (Electricity and Natural Gas)	198.97
Area	28.86
Mobile (Motor Vehicles)	958.93
Solid Waste Generation	25.74
Water Demand	56.04
Existing Project Site Total	1,268.54

Calculation data and results provided in the Greenhouse Gas Emissions Technical Report (PES, December 2015) included in **Appendix 6-1** to this EIR.

Project GHG Emissions

The Project would include the operation of 55,600 square feet of commercial/retail/restaurant uses, 75,000 square feet of assisted living facilities (up to 120 beds), and 580 multi-family units. The GHG emissions resulting from operation of the Project, which involves the usage of on-road mobile vehicles, electricity, natural gas, water, landscape equipment, and generation of solid waste and wastewater, were calculated under two separate scenarios to illustrate the effectiveness of the Project’s GHG reduction measures and design features recommended in the City’s adopted CAP. These scenarios are characterized as the Project Without GHG Reduction Measures (i.e., “BAU Scenario” as defined in the City’s CAP) and the Project With GHG Reduction Measures. Emissions of operational GHGs are shown in **Table 4.7-6** below.

Table 4.7-6 Project Operational Greenhouse Gas Emissions

Emissions Source	Estimated Project-Generated CO ₂ e Emissions (Metric Tons per Year)	
	Project Without GHG Reduction Measures (BAU Scenario as defined in City's CAP)	Project With GHG Reduction Measures
Area	235.54	164.29
Energy	1,952.82	1,530.37
Mobile (Motor Vehicles)	11,404.89	10,377.78
Solid Waste Generation	245.63	221.07
Water Consumption	348.02	273.24
Construction Emissions*	143	143
Project Total	14,329.90	12,709.75
Less Existing Project Site	1,268.54	1,268.54
Project Net Increase	13,061.36	11,441.21
Project break from BAU scenario as defined in City's CAP (%)	1,620.15	12.4%

*Consistent with SCAQMD recommendations, the total construction GHG emissions were amortized over 30 years and added to the operation of the Project.

CalEEMod data provided in Appendices A through C of the Supplemental CalEEMod Greenhouse Gas Data (**Appendix 6-2** to this EIR).

As shown, the net increase in GHG emissions generated by the Project Without GHG Reduction Measures Scenario (“BAU Scenario” defined in the City’s CAP) would be 13,061.36 MTCO₂e per year, and the net increase in GHG emissions generated by the Project With GHG Reduction Measures Scenario would be 11,441.21 MTCO₂e per year. This represents an approximate 12.4% reduction in GHG emissions as a result of the Project’s GHG reduction measures and design features as recommended in the City’s adopted CAP. This reduction is generally consistent with the overall 12% reduction expected in the CAP. The Project’s primary GHG reduction measures and design features include, but are not limited to, the following.

- **Land Use Transportation:** The Project would be consistent with primary land use goals of the CAP including, but not limited to, mixed-use design and the promotion of active transportation (i.e., non-motorized transportation such as walking and bicycling). Specifically, the Project’s traffic analysis indicates the Project’s mixed-use nature reduces motor vehicle trips by approximately 9% due to internal capture. This design feature would result in a reduction of approximately 2,378,560 vehicle miles traveled (VMT) compared to a project without similar design features.
- **Pedestrian Network Improvements:** The Project would create and enhance opportunities for non-vehicular travel and encourage pedestrian mobility by providing an internal pedestrian circulation system that links residential neighborhoods to on-site recreation areas, regional trail systems, and neighborhood retail/commercial areas.
- **Low-Flow Water Fixtures:** The Project would include low-flow and/or high efficiency water fixtures such as low-flow toilets, urinals, showerheads, faucets, and high-efficiency clothes-washers and dishwashers in residential and commercial buildings.
- **Vegetation and Landscape Irrigation Systems:** The Project would include drought-tolerant landscaping and would implement efficient landscape irrigation techniques,

such as “smart” irrigation technology, to reduce water use and its associated GHG emissions. “Smart” irrigation systems rely on weather, climate and soil moisture information to adjust watering frequency, hence maintaining the vegetation is adequately moist while conserving water.

- **Energy Reduction:** The Project would include energy efficient appliances, high-efficiency lighting, and solar panels. The Project would be built to meet and exceed California’s 2013 Green Building Standards Code (CALGreen).
- **Alternative Fuel Vehicles:** The Project would provide on-site electric vehicle (EV) charging stations, supporting and promoting the use of electric vehicles.

Consistency with GHG-Reducing Plans, Policies, and Regulations

The City’s adopted CAP defines a local threshold of significance for GHG emissions for project level submittals that trigger review by the California Environmental Quality Act. Because goals, objectives and policies approved under the General Plan are forecast to meet the GHG emission reduction targets mandated by AB 32, development projects that are able to demonstrate consistency with the General Plan and zoning ordinance will by association demonstrate consistency with the CAP and AB 32. This threshold of significance is consistent with the SCAQMD’s Tier 2 draft threshold noted above and will be the primary threshold of significance for the Project. As such, if a Project can demonstrate consistency with the General Plan and zoning ordinance, then that Project would by association be consistent with a City’s CAP and result in a less than significant project-level impact.

The Project site has a General Plan and zoning designations of MXN (Mixed Use Neighborhood) and Urban Residential 3 (UR-3). These zones are intended for mixed-use development, which is encouraged to create neighborhoods that integrate residential uses with complementary commercial uses. The MXN zone allows for a maximum density of 18 dwelling units per acre. The Project would include the demolition and removal of all existing uses and the development of a mixed-use Project consisting of 55,600 square feet of commercial/retail/restaurant uses, 75,000 square feet of assisted living facilities, and 580 multi-family units. Thus, the Project would be consistent with the General Plan and zoning designation for the site and would not exceed the allowable density of 18 dwelling units per acre. Therefore, because the Project is consistent with the General Plan and zoning ordinance, the Project is by association consistent with the City’s CAP.

Table 4.7-6 underscores that the Project’s mixed-use design, walkability, and location would reduce motor vehicle related GHG emissions compared to a project without these components. Specifically, as discussed in detail in the Project’s traffic study, the Project’s mixed-use design, walkability and urban location would reduce motor vehicle trips by approximately 9% compared to a Project without these features, which results in a reduction of approximately 2,378,560 vehicle miles traveled (VMT) annually compared to a project without similar design features. As noted in

the Scoping Plan, SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Through the SB 375 process, regions will work to integrate development patterns and the transportation network in a way that achieves the reduction of GHG emissions while meeting housing needs and other regional planning objectives. SB 375 reflects the importance of achieving significant additional reductions of greenhouse gas emissions from changed land use patterns and improved transportation to help achieve the goals of AB 32. Specifically, SB 375 requires CARB to develop regional reduction targets for GHGs, and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California's 18 MPOs have been tasked with creating Sustainable Community Strategies (SCS) in an effort to reduce the region's VMT in order to help meet AB 32 targets through integrated transportation, land use, housing and environmental planning. Thus, the Project's reduction in regional VMTs through its mixed-use design, walkability, and location would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs through integrated transportation, land use, housing and environmental planning.

Based on the information provided above, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and these impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.7-7 Cumulative Impacts

Although the Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically are relatively very small in comparison to state or global GHG emissions and, consequently would, in isolation, have no significant direct impact on climate change. The Project's GHG emissions would not be considered to be substantial when compared to California's statewide GHG emissions.

Given the Project's mixed-use design, walkability, location, compliance with CALGreen, and consistency with the City's CAP and associated GHG reduction measures, the Project would be

consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 375 and AB 32's goal of achieving 1990 GHG emission levels by 2020. Similarly, related projects would also be subject to these emissions reduction goals and objectives, and related projects would be required to demonstrate consistency on a case-by-case basis. Therefore, the Project's generation of GHG emissions would not make a cumulatively considerable contribution to GHG emissions and climate change. Thus, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.7-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to determine consistency with Goals and Policies.

Santa Clarita Climate Action Plan, August 2012. This source is necessary to determine consistency with the Climate Action Plan.

Pomeroy Environmental Services, Greenhouse Gas Emissions Technical Report, December 2015.

4.8 Hazards and Hazardous Materials

4.8-1 Summary

Environmental Data Resources, Inc. conducted a search of available environmental records for the property and published an EDR Summary Radius Map Report dated September 23, 2014 (Attachment A to **Appendix 7** in this EIR). A summary of properties that could not be mapped by EDR but were identified as being potentially within the site vicinity (orphan properties) is included in the EDR report. None of the orphan properties are immediately adjacent to the Project site. The pertinent findings of the government database review are summarized as follows:

- The site is not within a designated 500-year flood zone or a designated National Wetlands area.
- The site is not listed in any of the databases search by EDR.
- The site is not located within 1.0 mile of a federal Superfund property.
- One property is listed as a dry cleaner in a small retail center located at 16507 Soledad Canyon Road, west of the site across Sand Canyon Road. The property is not listed as a generator of hazardous waste.
- Five addresses are listed on the LUST (Leaking Underground Storage Tank) List.

Nonetheless there are mobile homes that are original to the park, and could contain some asbestos materials. Construction workers could be at risk during earth moving activities. Residents on or adjacent to the hazardous materials sites could be exposed to hazardous materials. Therefore, the hazardous materials sites have the potential to pose a significant hazard to the public or the environment. Mitigation has been included to address this concern. With mitigation, the Project would not result in a significant impact.

Finally, during construction the Project could potentially impact evacuation routes. Therefore, the inclusion of a mitigation measure requiring a traffic control plan would be imposed on the Project. With mitigation, the Project would not result in a significant impact.

4.8-2 Introduction

Camp Dresser & McKee, Inc. (CDM) conducted a Phase I Environmental Site Assessment (ESA) on July 1, 2008 of the property located identified with Assessor's Parcel Numbers (APNs) 2839-006-052, -053, -054, -058, -059, -060, -063, and 2839-005-035, hereafter referred to as the subject property. APNs 2839-006-052 and -053 are associated with 28504 Sand Canyon Road, and APN 2839-006-059 is associated with 16133 Soledad Canyon Road. APNs 2839-006-054, -058, -059, -060, -063, and 2839-005-035 have no street address. The objective of this Phase I ESA is to identify the presence or likely presence of hazardous substances and petroleum products from on-site or off-site sources that, by their location or proximity to the subject property, could represent recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), and

areas of environmental concern at the subject property to the extent that information used to make such assessments is reasonably ascertainable.

An update to the ESA was prepared by JHA Environmental on January 13, 2015 (**Appendix 7** to this EIR). For purposes of this section we will rely primarily on the JHA report prepared in 2015.

4.8-3 Existing Conditions

1. Hazardous Materials

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 §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.

As will be discussed in more detail below, hazardous materials and wastes are defined and regulated in the United States by federal, state, and local regulations, including those administered by the U.S. Environmental Protection Agency (U.S. EPA), the California Environmental Protection Agency (Cal/EPA), the U.S. Occupational Safety and Health Administration, the U.S. Department of Transportation, the U.S. Nuclear Regulatory Commission, and various other agencies.

Hazardous materials include hazardous wastes and in the discussion below (except as noted) hazardous materials refers to both hazardous materials and wastes.

Public health is potentially at risk whenever hazardous materials are, or would be, used and when hazardous wastes are disposed of, including transportation of hazardous materials and wastes. It is necessary to differentiate between the “hazard” of these materials and the acceptability of the “risk” they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The California Department of Toxic Substances Control (DTSC) determines the risk to health and public safety by the probability of exposure, in addition to the inherent toxicity of a material.

Factors that can influence the health effects when human beings are exposed to hazardous materials or wastes include: the dose the person is exposed to, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

2. Hazardous Waste Generation and Management

There are four general categories of waste management: source reduction, recycling, treatment, and residuals disposal. All of these activities can occur on-site at the location where they are generated. Recycling, treatment, and disposal can also occur off-site but require additional intermediate support to store and transport the waste.

The generation and handling of hazardous waste in the City is overseen by multiple agencies including: U.S. EPA, the California Department of Toxic Substances Control, the California Department of Resources, Recycling and Recovery (CalRecycle), the Los Angeles County Department of Public Works, Sanitation Districts of Los Angeles County, and the City's fire department. Businesses that generate hazardous waste are either Large-Quantity Generators (e.g., heavy industrial or commercial facilities) or Small-Quantity Generators (e.g., dry cleaners, automotive repair shops). These businesses require an EPA identification number used to monitor and track hazardous waste activities.

Certain land uses can indicate that there is potential for generating hazardous materials or waste, or that existing hazardous materials or waste may be present (for example: industrial uses, gas stations, and dry cleaners). Hazardous materials can also be used and generated during construction activities. Common hazardous materials that are typically present on construction sites include oil, transmission fluids, fuels, solvents, paints, asphalt, and adhesives. A variety of federal, state, and local regulations require best management practices to be implemented to ensure that these wastes are not released into the environment.

3. Transportation of Hazardous Materials

The transportation of hazardous materials within the State of California is subject to various federal, state, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit loading or delivery of such materials (*California Vehicle Code* §31602(b), §32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials.

Several risks are associated with the transportation of hazardous materials. Transport of hazardous materials via truck, rail, and other modes involves a degree of risk of accident and release. The use of hazardous materials and the generation of hazardous waste in the construction and maintenance of the transportation system are other avenues for risk or exposure. Past disposal of hazardous materials in a manner that creates residual contamination of soil or water can be a

source of risk when such sites are disturbed during construction of transportation projects and development. Each of these avenues is discussed below.

Hazardous materials move through the City by a variety of modes: truck, rail, air, and pipeline. Any given shipment of hazardous materials can involve one or more movements, or trip segments, that can occur by different modes. For instance, a shipment might arrive at a port by ship (out of the City) and be picked up by a truck, with a transfer to rail, and a final delivery by truck again (for a total of four movements). Each movement of hazardous materials implies a degree of risk, depending on the material being moved, the mode of transport, and numerous other factors.

Vehicles transporting hazardous materials through the City use many of the same freeways, arterials, and local streets as other traffic in the region (State Route 14, Interstate 5). This creates a risk of accidents and associated release of hazardous materials that could create a risk for drivers and for people living, working, and going to school along these routes. A similar risk exists for use of rail for hazardous materials transport. Rail line maintenance is the responsibility of each private company that owns and operates each line. Rail routes pass through urban areas and near sensitive land uses such as schools, hospitals, and residential areas. Rail shipments through urban areas and on local rail spurs usually travel at slower speeds than in rural areas reducing the possibility of major safety related accidents. In addition, shipping by rail is often safer than shipping by truck, because rail tankers can reduce the number of trucks on the road hauling hazardous materials to one-quarter to one-tenth, thus reducing the chances of trucking related accidents.

Pipelines tend to be protected because they are buried and result in relatively low risk, although they could be affected by seismic or other activity that could cause rupture. According to the USDOT, Hazardous Materials Information System, in 2014, highways accounted for the largest share of hazardous materials incidents, with a total of 15,156 incidents or 88% of total incidents. Air accounted for 8% of total hazardous materials incidents, followed by rail and water transport.

In addition to the CHP-designated routes, the City has designed various roadways as truck routes to provide for the regulated movement of trucks through the City (**Figure 4.8-1, Major Truck Routes Affecting the Project Site**). These transportation routes are used to transport hazardous materials (among other materials/freight) from suppliers to users. Transportation accidents involving hazardous materials could occur on any of the routes, potentially resulting in explosions, physical contact by emergency response personnel, environmental degradation, and exposure to the public via airborne exposure. The roadways identified as truck routes within the Project area include State Route 14 (SR-14), Sand Canyon Road, and Soledad Canyon Road.

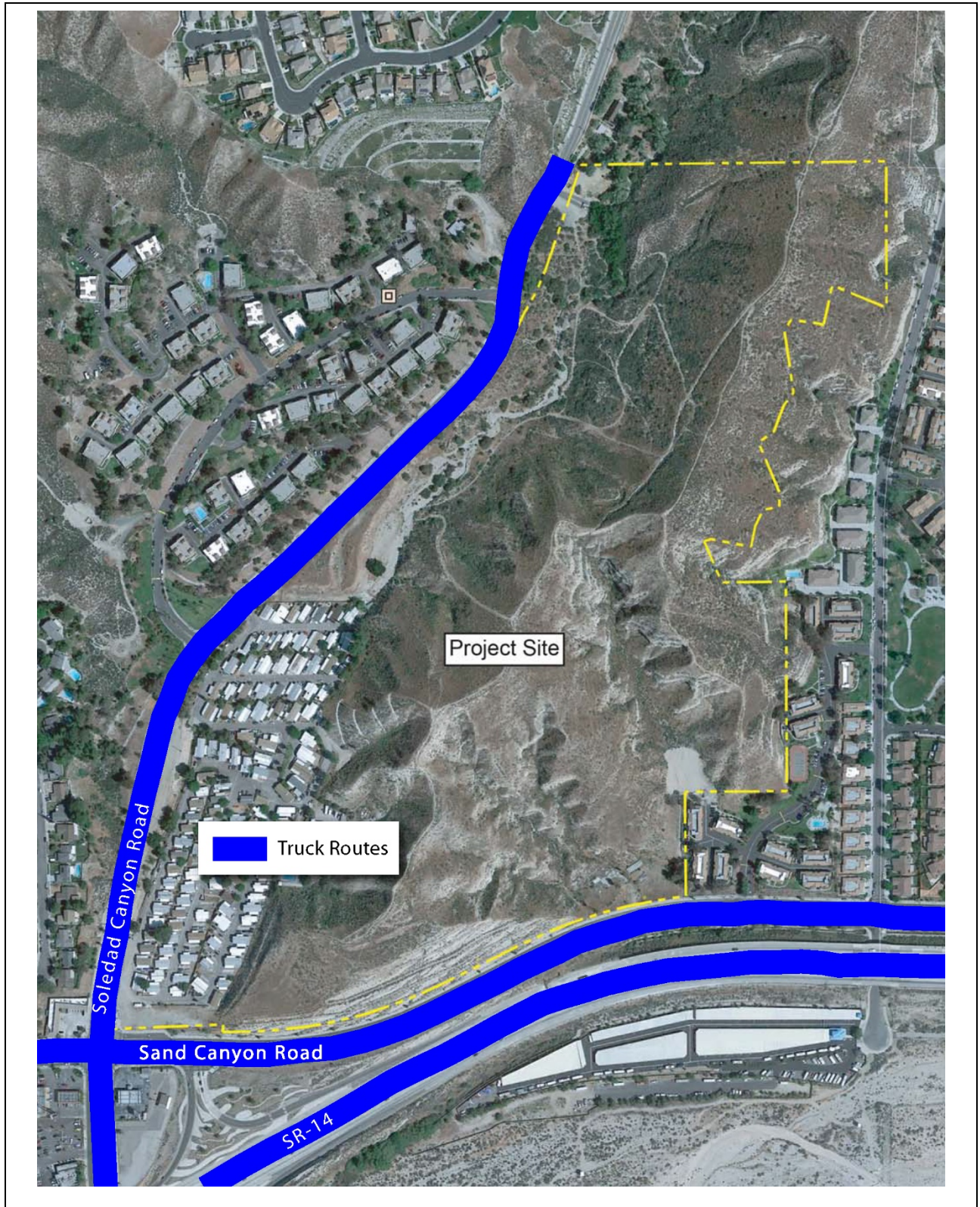


Figure 4.8-1 Major Truck Routes Affecting the Project Site

4. Project History

The subject property was undeveloped dating back to 1900, based on aerial and topographic maps. In 1961, a mobile home park in the southwestern portion of the property was developed with 70 units, according to Mr. Barge, the general manager of the mobile home park. In 1965, an additional 20 units were added to the mobile home park. In 1975, an additional 46 units were added to the mobile home park for a total of 136 units, according to Mr. Barge. A single-family house was located in the southeast portion of the property. The house, which has been demolished, was also used as a dog kennel. The remainder of the property has been undeveloped.

The Los Angeles County Tax Assessor's Office to access ownership records on May 8, 2008. Records indicate the subject property at 28504 Sand Canyon Road was sold to the Canyon Breeze Village Company in 1976. Canyon Breeze Village Company owned the property until 1999 when that portion of the property was sold to Sand Canyon Gateway, LLC. Records indicate the property was sold to Robert Symonds in 2006, and then to Sand Canyon Plaza, LLC, then which is the current owner. Other parcels included in the subject property have the same general past ownership. Records prior to 1983 could not be accessed; however, the records listed the transfers of properties, which in some cases was prior to 1983.

The original redevelopment of the site, planned following the date of the 2008 Phase I ESA, was delayed by the economic recession in 2009. In 2010, except for 16 mobile homes that were privately owned and occupied, 107 mobile homes were removed and 102 remodeled mobile homes were relocated from Las Vegas, Nevada, to the site. Once installed on-site, the mobile homes were advertised as rental units.

Historical Use of Adjacent Properties

According to topographical and aerial photographs, the majority of the surrounding property to the north, west and east of the subject property was undeveloped until housing developments or single family houses were built to the west of the subject property sometime between 1960 and 1968, and to the east sometime between 1976 and 1988. A portion of the northern and eastern adjacent properties remains undeveloped, based on topographical maps and aerial photographs.

The properties adjacent to subject property to the south included two gasoline/service stations. Based on records reviewed a gasoline/service station at 28522 Sand Canyon Road (currently, a Chevron station) has been in operation since at least 1964 and at 28529 Sand Canyon Road (currently, a 76 gas station) since at least 1976. Currently, gasoline stations continue to operate at these locations. An auto service center also operates at the 76 gas station. Additional gasoline stations (a Shell gasoline station and an ARCO gasoline station) are located in this area, farther south and do not adjoin the property. A commercial building is located to the southwest of the subject property and includes retail businesses, such as a liquor store and a medical equipment store. An additional commercial building south of the property includes a restaurant and a supermarket. Refer to **Figure 4.8-2, Vicinity Map Showing Gasoline Service Stations**.

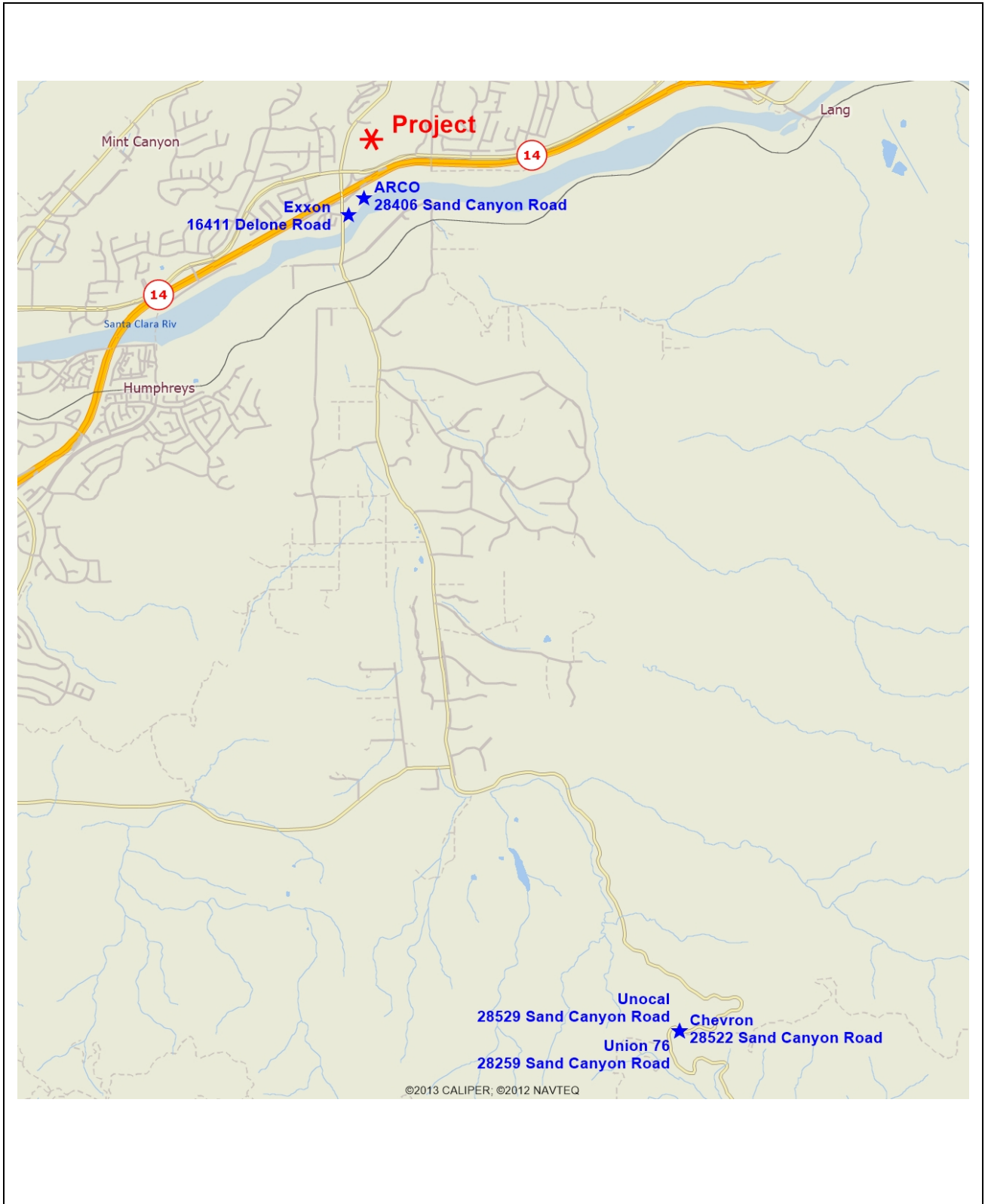


Figure 4.8-2 Vicinity Map Showing Gasoline Service Stations

Historical Aerial Photographs

Historical aerial photographs of the subject property and surrounding area for the years 1928, 1947, 1952, 1968, 1976, 1989, 1994, 2002, and 2005 were obtained from EDR. Copies of these photographs and maps are presented in CDM, Appendix C. The following aerial photographs were reviewed for the Phase I ESA.

- 1928 Aerial Photo: The subject property is undeveloped. Adjoining properties also appear to be undeveloped. This photograph depicts possible agricultural land uses east and southwest of the subject property.
- 1947 Aerial Photo: The subject property is undeveloped, with the same possible agricultural uses described in the 1928 Aerial Photo above. Several structures, which appear to be dwellings, are depicted in the southwestern area of the subject property where the mobile home park is currently located. Additionally, Sand Canyon Road, which currently forms the western property boundary, was constructed by this time. A road south of the property is depicted in this photo and appears to be in an area currently developed with the Antelope Valley Freeway (CA-14).
- 1952 Aerial Photo: The subject property and the surrounding properties appear to be similar to the 1947 aerial photograph, with no significant changes in property use.
- 1968 Aerial Photo: The subject property is undeveloped land with an apparent mobile home park on the southwestern portion of the subject property. A single-family house is depicted on the southeast portion of the subject property. Tract housing has been constructed adjacent to the subject property, near the western boundary. Soledad Canyon Road has been constructed along the southern boundary of the subject property. Additionally, freeway entrances/exits have been constructed for the Antelope Valley Freeway, which has also been constructed, south of Soledad Canyon Road. Land south of the freeway is undeveloped.
- 1976 Aerial Photo: The subject property and surrounding area appear to be similar to the 1968 aerial photograph, with the exception of two commercial buildings southwest of the subject property (intersection of Soledad Canyon/Sand Canyon Roads). These buildings were located where gasoline stations are currently present.
- 1989 Aerial Photo: The mobile home park has added additional mobile homes north of the existing mobile homes. The area surrounding the subject property now consists mostly of residential developments. Single-family homes or tract housing now border the eastern portion of the property as well as to the northwest of the property. Additional commercial development appears to the southwest of the subject property, across from the intersection of Soledad Canyon Road and Sand Canyon Road.
- 1994 Aerial Photo: The subject property and surrounding area appear to be developed similar to the 1989 aerial photograph.
- 2002 Aerial Photo: The subject property and surrounding area appear to be developed similar to the 1994 aerial photograph. However, land clearing activities northwest of the

- subject property have been conducted. Structures, apparent single family homes, located north of the subject property are also depicted in this aerial photograph.
- 2005 Aerial Photo: The subject property now shows many mobile homes removed from the southern portion of the mobile home park. The remaining property and surrounding areas appear to be similar to the 2002 aerial photograph. New residential homes appear where cleared land was depicted in the 2002 aerial photograph northwest of the subject property.

Federal and State Database Review

JHA reviewed a current government database report, prepared by Environmental Data Resources (EDR) of Shelton, Connecticut of available federal, state and county agency databases to identify government regulated properties having known recognized environmental conditions and potential environmental concerns within the site vicinity. The radii of investigation for the Federal and State agency lists were selected in accordance with the ASTM Standards for Environmental Site Assessments. The government databases reviewed are described in detail in the EDR report. The EDR report also includes maps illustrating the location of the listed properties relative to the site. A copy of the EDR Radius Summary Report, dated September 23, 2014, is provided in Attachment A of the JHA report. The pertinent findings of the government database review are summarized as follows:

- The site is *not* within a designated 500-year flood zone or a designated National Wetlands area.
- The site is *not* listed in any of the databases search by EDR.
- The site is *not* located within 1.0 mile of a federal Superfund property.
- One property is listed as a dry cleaner in a small retail center located at 16507 Soledad Canyon Road, west of the site across Sand Canyon Road. The property is *not* listed as a generator of hazardous waste.
- There are five addresses listed on the LUST (Leaking Underground Storage Tank) List. Four are listed as case closed by the regulatory agency, and one is listed as in remediation but eligible for closure. All the properties are gasoline service stations located at either the intersection of Sand Canyon Road and Soledad Canyon Road or at Sand Canyon Road and the Antelope Valley Freeway (Highway 14). The properties are located southwest and down-gradient from the site.
- The same addresses are listed on the UST, Historical UST, SWEEPs UST, and FINDS Lists for having active or former (historical) underground storage tanks.

Based on the database review, the Project site is *not* identified on any of the databases searched by EDR and is *not* within 1.0 mile of a federal Superfund property. There is a low probability that the other listed properties have impacted the Project site because of either/or their regulatory status (case closed), their down-gradient locations, and/or their distances from the site.

1. Fire Hazards

A majority of the City is urbanized and developed, allowing for limited open space. However, as shown in **Figure 4.8-3**, the northern portion of the City is located in a Very High Fire Hazard Severity Zone (VHFHSZ). The Project site is located in an urbanized area in the City with a limited buffer and is not located within a VHFHSZ. Fire hazards are discussed in **Section 4.15, Fire Protection**.

2. Landfills

Landfills can have adverse impacts on surrounding properties, the ground, and groundwater below the landfill. The concern from these facilities is related to the kinds of materials disposed of in them, which can consist of non-hazardous waste (Class III), hazardous waste (Class I), or a combination of both (Class II). The California Integrated Waste Management Board (CIWMB) maintains the SWIS database of information regarding active, inactive, and closed landfills, and transfer and composting stations. The database is published annually. SWIS is also known as Solid Waste Fills/Land Fills (SWF/LF). No SWF/LF site was listed within the ASTM search distance of 1 mile.

3. Asbestos-Containing Materials

“Asbestos” is a common name for a group of naturally occurring fibrous silicate minerals that are made up of strong durable fibers, which vary in size and physical shape. Asbestos is strong, incombustible, and corrosion resistant. Because of its physical properties, asbestos was used in many commercial products in construction and many other industries since before the 1940s and up until the early 1970s. Asbestos is commonly found in various manmade products including insulation, ceiling and floor tiles, roof shingles, cement, and automotive brakes and clutches.

Asbestos fibers are relatively stable in the environment, because asbestos is a mineral. Asbestos fibers do not evaporate into air. Asbestos-Containing Materials (ACMs) are building materials containing more than 1% asbestos (some state and regional regulators impose a 0.10% threshold). ACMs that can be crushed into a powder are termed “friable asbestos.” When ACM become friable, there is chance that asbestos fibers can become suspended in air.

Under these conditions, airborne asbestos fibers represent the most significant risk to human health. Asbestos particles do not migrate through soil. Asbestos fibers do not dissolve in water, but under certain conditions could become waterborne and accumulate in stream beds and sediment. Asbestos is a potential health concern, because long-term, chronic inhalation exposure to high levels of asbestos can cause lung diseases including asbestosis, mesothelioma, and/or lung cancer. Many of the existing structures present within the City were built prior to 1978, when a majority of ACMs were banned by the U.S. EPA. Further, as ACMs manufactured before 1978 remained on store shelves, structures constructed immediately after 1978 could contain ACMs. Therefore, the potential for ACMs is considered high. Several federal, state, and local agencies regulate asbestos. Generally, worker exposure is regulated by the federal Occupational Safety and Health Administration (OSHA) and its California state counterpart, Cal/OSHA.

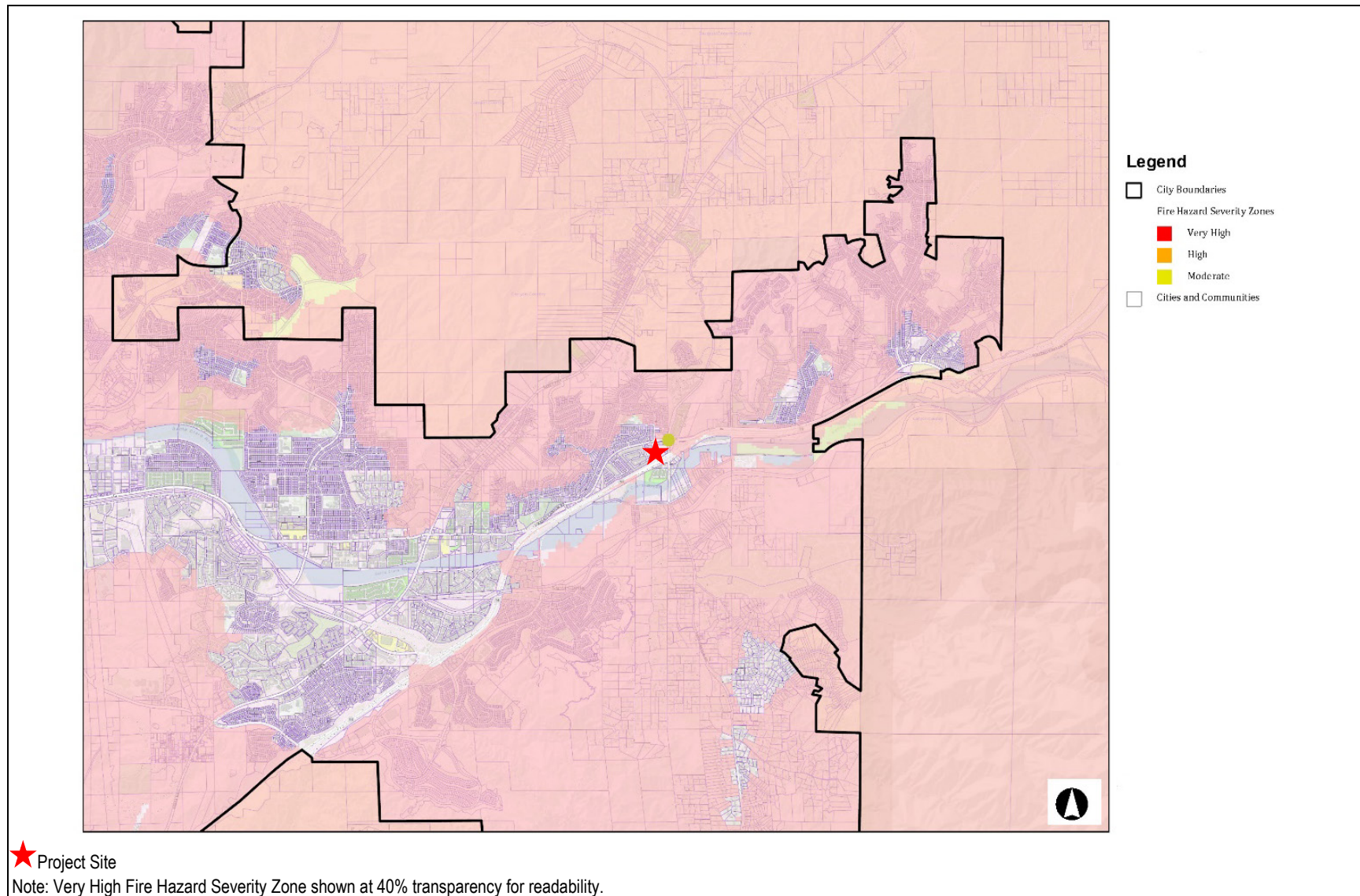


Figure 4.8-3 Very High Fire Hazard Severity Zone (VHFHSZ)

4. Lead-Based Paints

Until 1978, when the U.S. Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80% of all housing built prior to 1978 contains some lead-based paint (LBP). Similar to the use of ACMs, LBP manufactured prior to 1978 remained on store shelves and was available for purchase after the use of LBP was outlawed. The mere presence of lead in paint may not constitute a material to be considered hazardous. In fact, if in good condition (no flaking or peeling), most intact LBP is not considered to be a hazardous material. In poor condition, LBPs can create a potential health hazard for building occupants, especially children. Many of the existing structures present within the City, including those in the Project area were not built prior to 1978.

5. Airport Hazards

There are no airports in or adjacent to the City of Santa Clarita.

4.8-4 Regulatory Setting

1. Federal

Clean Air Act

The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the United States Environmental Protection Agency (U.S. EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. One of the goals of the Act was to set and achieve NAAQS in every state by 1975 to address the public health and welfare risks posed by certain widespread air pollutants.

Setting these pollutant standards was coupled with directing the states to develop state implementation plans (SIPs) applicable to appropriate industrial sources in the state, in order to achieve these standards. The Act was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS, since many areas of the country had failed to meet the deadlines.

Section 112 of the Clean Air Act addresses emissions of hazardous air pollutants. The 1990 Clean Air Act Amendments revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An "area source" is any stationary source that is not a major source. For major sources, Section 112 requires that U.S. EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as

“maximum achievable control technology” or “MACT” standards. Eight years after the technology-based MACT standards are issued for a source category; U.S. EPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk. (All impacts related to air quality are addressed in **Section 4.3, Air Quality**.)

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the CWA, U.S. EPA has implemented pollution control programs such as setting wastewater standards for industry. Water quality standards for all contaminants in surface waters were also established. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. U.S. EPA’s National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. These impacts are discussed in detail in **Section 4.9, Hydrology and Water Quality**.

Environmental Protection Agency Regulations

The U.S. EPA’s mission is to protect human health and the environment. The U.S. EPA takes action to reduce risks associated with exposure to chemicals in commerce, indoor and outdoor environments, and products and food. The U.S. 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 U.S. EPA, as well as efforts to reduce urban air toxics.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA” or “Superfund”) provides a federal “superfund” to clean up uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, U.S. EPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. U.S. EPA cleans up orphan sites when potentially responsible parties cannot be identified or located, or when they fail to act. Through various enforcement tools, U.S. EPA obtains private party cleanup

through orders, consent decrees, and other small party settlements. U.S. EPA also recovers costs from financially viable individuals and companies once a response action has been completed.

The U.S. EPA is authorized to implement the Act in all 50 states and U.S. territories. Superfund site identification, monitoring, and response activities in states are coordinated through the state environmental protection or waste management agencies.

The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. This included Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA); this act is discussed in further detail below.

Superfund Amendments and Reauthorization Act of 1986

The Superfund Amendments and Reauthorization Action (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions, clarifications, and technical requirements were added to the legislation, including additional enforcement authorities.

Hazardous Material Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (DOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

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 *Code of Federal Regulations* (CFR) §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 *Code of Federal Regulations* (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.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) gives 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 per 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 or treated/disposed of 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 the program is at least as stringent as RCRA. In California, the U.S. EPA has delegated RCRA enforcement to the State of California.

Department of Transportation Regulations

The Secretary of the Federal 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 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.

Toxic Substances Control Act

Congress enacted the Toxic Substances Control Act (TSCA) of 1976 to give U.S. EPA the ability to track the approximately 75,000 industrial chemicals currently produced or imported into the United States. The U.S. EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. The U.S. EPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

Research and Special Programs Administration Regulations

The Research and Special Programs Administration Regulations (RSPA) regulations cover definition and classification of hazardous materials, communication of hazards to workers and the public, packaging, and labeling requirements, operational rules for shippers, and training. They apply to interstate, intrastate, and foreign commerce by air, rail, ships, and motor vehicles, and cover hazardous waste shipments. The Federal Highway Administration (FHWA) is responsible for highway routing of hazardous materials and highway safety permits. The U.S. Coast Guard regulates bulk transport by vessel. The hazardous material regulations include emergency response provisions, including incident reporting requirements. Reports of major incidents go to the National Response Center, which in turn is linked with CHEMTREC, a service of the chemical manufacturing industry that provides details on most chemicals shipped in the U.S.

Emergency and Community Right to Know Act

The Emergency and Community Right to Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. EPCRA was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. EPCRA establishes requirements for federal, state, and local governments, tribes and industry regarding emergency planning and “Community Right-to-Know” reporting on hazardous and toxic chemicals. The Community Right-to-Know provisions help increase the public’s knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district.

2. State of California

California Environmental Protection Agency and California Department of Toxic Substances Control Regulations

The California EPA (Cal/EPA) includes the 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, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff ensure that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

DTSC regulates hazardous waste in California primarily under the authority of RCRA and the *California Health and Safety Code*. The DTSC regulates hazardous waste, cleans up existing contamination, and researches ways to reduce the hazardous waste produced in California. In addition, the DTSC develops legislation, coordinates with lawmakers, and responds to constituent complaints. The regulations spell out what those who handle hazardous waste must do to comply with the laws.

Statewide, DTSC cleans-up or oversees approximately 220 hazardous substance release sites at any given time and completes an average of 125 cleanups each year. Ensuring compliance through inspection and enforcement is an important part of effectively regulating hazardous waste. DTSC conducts roughly 200 inspections a year. DTSC's Criminal Investigations Branch has the only law enforcement officers in the Cal/EPA. These peace officers, with the powers of arrest, and search and seizure, investigate alleged criminal violations of the Hazardous Waste Control Law. They work closely with district attorneys' offices, the federal Environmental Protection Agency, the Federal Bureau of Investigation, and law enforcement personnel in other states.

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include:

- details, including floor plans, of the facility and business conducted at the site;
- an inventory of hazardous materials that are handled or stored on-site;
- an emergency response plan; and
- a safety and emergency-response training program for new employees with annual refresher courses.

California Occupational Safety and Health Administration Regulations

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 Regulations

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.

Accidental Release Prevention Law

The state's Accidental Release Prevention Law provides for consistency with federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) regarding accidental chemical releases and allows local oversight of both the state and federal programs.

State and federal laws are similar in their requirements; however, the California threshold planning quantities for regulated substances are lower than the federal quantities. Local agencies may set lower reporting thresholds or add additional chemicals to the program. The Accidental Release Prevention Law is implemented by the Certified Unified Program Agency (CUPA) and requires that any business, where the maximum quantity of a regulated substance exceeds the specified threshold quantity, register with the County as a manager of regulated substances and prepare a risk management plan. A risk management plan must contain an off-site consequence analysis, a 5-year accident history, an accident prevention program, an emergency response program, and a certification of the truth and accuracy of the submitted information. Businesses submit their plans to the CUPA, which makes the plans available to emergency response personnel. The business plan must identify the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location.

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 Resource Conservation and Recovery Act program. The act is implemented by regulations contained in Title 26 of the *California Code of Regulations* (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.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a CUPA. The Program Elements consolidated under the Unified Program are: Hazardous Waste Generator and On-site Hazardous Waste

Treatment Programs (aka Tiered Permitting); Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC); Hazardous Materials Release Response Plans and Inventory Program (aka “Hazardous Materials Disclosure” or “Community-Right-To-Know”); California Accidental Release Prevention Program (Cal ARP); UST Program; and Uniform Fire Code Plans and Inventory Requirements. The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. However, health concerns pertaining to the release of hazardous materials are similar to those relating to hazardous waste.

Hazardous Waste Source Reduction and Management Review Act of 1989

This Act requires generators of 12,000 kilograms per year of typical/operational hazardous waste to conduct an evaluation of their waste streams every 4 years and to select and implement viable source reduction alternatives. This Act does not apply to non-typical hazardous waste (such as asbestos and polychlorinated biphenyls).

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* §25163 and Title 22, Chapter 13, of the CCR. Specifically, §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 requirements that 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

3. Regional

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) works with the California Air Resources Board (CARB) and is responsible for developing and implementing rules and regulations regarding air toxics on a local level. The SCAQMD establishes permitting requirements, inspects emission sources, and enforces measures through educational programs and/or fines. The SCAQMD and regulations related to air quality are discussed in detail in **Section 4.3, Air Quality**.

4. City of Santa Clarita

General Plan

The City'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. Applicable goals and policies from the City's General Plan Safety Element are listed below.

Hazardous Materials

Goal S 4: Protection of public safety and property from hazardous materials.

Objective S 4.1: Identify sites that are contaminated with chemicals and other hazardous materials, and promote clean-up efforts.

Policy S 4.1.1: Continue to support clean-up efforts and re-use plans for the Whittaker-Bermite property.

Policy S 4.1.2: Coordinate with other agencies to address contamination of soil and groundwater from hazardous materials on various sites, and require that contamination be cleaned up to the satisfaction of the City and other responsible agencies prior to issuance of any permits for new development.

- Objective S 4.2: Cooperate with other agencies to ensure proper handling, storage, and disposal of hazardous materials.
- Policy S 4.2.1: On the Land Use Map, restrict the areas in which activities that use or generate large amounts of hazardous materials may locate, to minimize impacts to residents and other sensitive receptors in the event of a hazardous materials incident.
- Policy S 4.2.2: Through the development review process, ensure that any new development proposed in the vicinity of a use that stores or generates large amounts of hazardous materials provides adequate design features, setbacks, and buffers to mitigate impacts to sensitive receptors in the event of a hazardous materials incident.
- Policy S 4.2.3: Require businesses to verify procedures for storage, use, and disposal of hazardous materials.
- Policy S 4.2.4: Cooperate with other agencies to hold regular events to promote safe disposal of small amounts of household hazardous waste, including e-waste, by Santa Clarita Valley residents.

4.8-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to hazards and hazardous materials are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Project could result in significant impacts due to hazards and hazardous materials if any of the following would occur.

-
- Haz-1** Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Haz-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 into the environment?
- Haz-3** Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- Haz-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 the environment?
- Haz-5** For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?
- Haz-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?
-

-
- Haz-7** Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?
- Haz-8** Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
-

4.8-6 Impacts Analysis

- Haz-1** Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Project-specific, parcel-level future land uses would be limited, because the Project is limited to residential units and commercial development. Development of the Project site would increase density and population within the area. Routine transportation of hazardous materials, including through traffic, poses a risk to residents within the City as a result of potential accidents involving trucks, rail, and other modes that are used to transport hazardous materials and wastes and are shared with the public. Future development could result in the construction of residential and commercial uses.

The proposed land uses do not generally involve the routine use, transport, or disposal of significant amounts of hazardous materials, including hazardous chemical, radioactive, and biohazardous materials.

The operation of land uses that use, create, or dispose of hazardous materials is regulated and monitored by federal, state, and local regulations and policies. Specifically, future development within the City of Santa Clarita would be subject to compliance with the programs administered by nearby agencies (the County of Los Angeles). The owners or operators of businesses that handle or store hazardous materials equal to or above the reportable quantities would be subject to compliance with regulatory agencies. These programs, as well as other federal, state, and local regulations and policies, provide a high level of protection to the public and the environment. Compliance with appropriate regulations and policies would limit the impact from routine use, transport, or disposal of significant amounts of hazardous materials to less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Haz-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 into the environment?

Construction

Development anticipated with the Project does not have the potential to result in development in areas where there are leaking underground storage tank (LUST) cleanup sites or other types of cleanup actions. Therefore, the impact to construction workers or the public would be less than significant.

Operation

Businesses that store large quantities of hazardous materials (e.g., fuel storage facilities, chemical warehouses) can be subject to accidents that result from transporting, pumping, pouring emptying, injecting, spilling, and dumping or disposing of hazardous materials and wastes and that could be released into the environment. The severity of potential effects varies with the activity conducted and the concentration and type of waste involved. However, as discussed above, the land uses proposed as part of the Project would not significantly increase the amount of hazardous materials used as it is a residential and commercial project only. No industrial uses are proposed with the Project. Additionally, federal, state, and local regulations and policies governing the use of hazardous materials strictly regulate the proper handling of such materials and their containers to ensure that accidents involving the release of toxic materials into the environment do not occur. Compliance with appropriate regulations and policies would limit the impact from release of hazardous materials to less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Haz-3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The residential and commercial uses associated with the Project uses would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste; and therefore, would not impact any existing or proposed schools within one-quarter mile of the project site. Thus, no impacts would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

Haz-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 the environment?

Following a review of government databases, the ESA concluded the following:

- The site is *not* listed in any of the databased search by EDR.
- The site is *not* located within 1.0 mile of a federal Superfund property.
- One property is listed as a dry cleaner in a small retail center located at 16507 Soledad Canyon Road, west of the site across Sand Canyon Road. The property is *not* listed as a generator of hazardous waste.
- There are five addresses listed on the LUST (Leaking Underground Storage Tank) List. Four are listed as case closed by the regulatory agency, and one is listed as in remediation but eligible for closure. All the properties are gasoline service stations located at either the intersection of Sand Canyon Road and Soledad Canyon Road or at Sand Canyon Road and the Antelope Valley Freeway (Highway 14). The properties are located southwest and down-gradient from the site.
- The same addresses are listed on the UST, Historical UST, SWEEPs UST, and FINDS Lists for having active or former (historical) underground storage tanks.

In addition, the Project site is not identified on any of the databases searched by EDR and is not within 1.0 mile of a federal Superfund property. There is a low probability that the other listed properties have impacted the Project site.

Nonetheless the mobile homes that are original to the park could contain some asbestos materials. Construction workers could be at risk during earth moving activities. Residents on or adjacent to the hazardous materials sites could be exposed to hazardous materials. Therefore, the hazardous materials sites have the potential to pose a significant hazard to the public or the environment. The impact to the public and the environment from these hazardous materials sites would be potentially significant. **Mitigation Measure MM Haz-1** would be implemented to reduce this impact to less than significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM Haz-1 The structures on-site were constructed prior to 1981. Based on the age of construction, building materials in on-site structures may include asbestos containing materials (ACM), and certain building materials are presumed to contain ACM (PACM), unless testing has shown otherwise. As of October 1, 1995, OSHA made building owners responsible for complying with the asbestos construction standard, for buildings built in 1981 or earlier. The building owner is responsible for identifying the presence, location and quantity of asbestos containing building materials, if warranted. The building owner must tell employees, other employers, and tenants in the building of the presence and location of asbestos or presumed asbestos containing materials (PACM). If the building owner intends to demolish or remodel the structure(s), the building owner shall hire a California Certified Asbestos Consultant for assistance in compliance.

Level of Significance After Mitigation

With implementation of **Mitigation Measure MM Haz-1**, impacts would be less than significant.

Haz-5 For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?

Haz-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?

The Project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not expose people residing or working on the Project site to excessive safety hazard impacts from airports or private air strips. Therefore, no impacts would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

Haz-7 Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

Construction activities associated with development of the Project could reduce the number of lanes or temporarily close certain street segments, including those used for evacuation routes. Construction equipment and vehicles may block or slow traffic. Possible street closures and slower traffic during construction could interfere with emergency response including evacuations. However, construction would be temporary and would affect a limited number of streets or intersections at any one time. Additionally, the Los Angeles County Sheriff's Department, which provides guidance for the City's planned response to extraordinary emergency situations associated with natural disasters, terrorism, technological incidents, and nuclear defense operations, would continue to be implemented. However, the impact to the City of Santa Clarita evacuation routes from construction of the Project would be potentially significant. Implementation of Mitigation Measure **MM Haz-2** would reduce the impact to less than significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM Haz-2 Prior to construction, the Project Applicant shall prepare a Traffic Control Plan for review and approval by the City Traffic Engineer that shall be implemented during the construction phase.

Level of Significance After Mitigation

With implementation of **Mitigation Measure MM Haz-2**, impacts would be less than significant.

Haz-8 Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The project site and surrounding areas are predominately built out and no wildlands occur within or immediately adjacent to the project site. The risk of wildfire is greatest in the non-urbanized portion of the City and Los Angeles County where vegetation, varied topography, and slopes are all present. The Project area is exposed to a lesser amount of threat because of its developed character. The Project site is located in close proximity to fire stations and response times would be within the Los Angeles County Fire Department's desired range of five minutes. As shown in **Figure 4.8-3**, the project site is within a Very High Fire Hazard Severity Zone (VHFHSZ). In addition, the Project would be subject to compliance with the Los Angeles County Fire Department's development conditions. Refer to Section **4.15, Fire Protection**, for additional analysis. Implementation of the recommended Mitigation Measures **MM PS-4** through **MM PS-6** would reduce impacts to less than significant in this regard.

Level of Significance Before Mitigation

Impacts would be less than potentially significant.

Mitigation Measures

Refer to Mitigation Measures **MM PS-4** through **MM PS-6**. No additional mitigation measures are required.

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM PS-4** through **MM PS-6**, impacts would be less than significant.

4.8-7 Cumulative Impacts

Implementation of Project would result in development that has the potential to occur on or adjacent to sites that use hazardous materials or are listed as hazardous, which could place construction workers and residents at-risk. Construction-related hazardous materials impacts would generally be site-specific and limited to the duration of the construction activity, and would continue to be highly regulated under federal, state, and local regulations. Therefore, there would not be a cumulatively considerable contribution to a cumulatively significant impact.

Residential development as part of the cumulative projects may be located in proximity or adjacent to facilities that use, store, transport, and dispose hazardous materials, which could increase an individual's exposure to hazardous materials. The cumulative projects that would use, store, transport, and dispose hazardous materials would also be required to comply with

hazardous materials laws which are designed to avoid and minimize adverse impacts on public health, safety, and the environment. Each cumulative project has been or would be subject to environmental review and if significant impacts are identified, mitigation measures would be implemented to avoid or reduce the impacts. Therefore, the cumulative impact would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.8-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This source is necessary to determine consistency with Goals and Policies.

JHA Environmental, Phase I Environmental Site Assessment Update Report, January 13, 2015.

4.9 Hydrology and Water Quality

4.9-1 Summary

Project drainage patterns would change slightly as compared to the existing condition. The tributary area for Drainage Basin A would increase, while the tributary area for Drainage Basin B would decrease due to Project grading. The surface runoff drainage pattern in Drainage Basin B would remain similar to the existing condition. Surface runoff in Drainage Basin A would be conveyed overland to a system of catch basins that discharge to an underground storm drain system. The storm drain system would convey flows to a system of above-ground infiltration basins and underground infiltration units, via a system of grated inlets, low flow pipes, and splitter boxes. The infiltration basins and the underground units would be off-line from the main storm drain system to avoid damage from very large erosive flows. Overflow devices (above-ground basins) and bypass systems (underground units) would be installed to convey high flow events.

Despite an increase in imperviousness, the Project would result in overall net reduction in peak flowrates for the 5-, 10-, 25-, and 50-year 24-hour storms. This is due to generally longer flow paths, flatter slopes, and longer times of concentration in Drainage Basin A for the post-development (Project) condition and a smaller drainage area in Drainage Basin B for the Project condition. Runoff that discharges from the Project area above the 25-year storm event would be discharged to the storm water drainage system that ultimately discharges to the Santa Clara River (SCR). Direct discharges to the Santa Clara River are exempt from the hydromodification requirements in the MS4 Permit. Even though hydromodification controls are not required to be implemented, the Project exceeds the hydromodification performance standard in the MS4 Permit to infiltrate runoff from at least the 2-year 24-hour event. All BMP design work would be done in compliance with Los Angeles County drainage requirements and the Los Angeles County MS4 Permit requirements. Consequently, no significant unavoidable Project or cumulative Project impacts to hydrology or water quality would occur.

4.9-2 Introduction

This section evaluates the hydrology and water quality impacts of the Project. The analysis presented in this section is based on the calculations, analysis, and conclusions contained in the following technical studies (included in **Appendix 8** to this EIR): 1) Water Quality Technical Report, Geosyntec Consultants, June 2016; 2) Sand Canyon Plaza Hydrology Technical Memorandum, Alliance Land Planning & Engineering, January 2016; 3) Drainage Concept/Hydrology, City of Santa Clarita, Tract No. 053074, MTD No. 1697, Sand Canyon Plaza, Alliance Land Planning & Engineering, July 2016; and 4) LID/Water Quality, City of Santa Clarita, Sand Canyon Plaza, Alliance Land Planning & Engineering, July 2015.

The Water Quality Technical Report (WQTR) (**Appendix 8-1** to this EIR) assesses the potential impacts of the proposed Sand Canyon Plaza Mixed-Use Project (the Project) on water quality and stream channel hydromodification in the Project's receiving waters. To evaluate potential impacts of the Project on water quality, pollutants of concern are identified based on regulatory and other considerations. Potential changes in water quality are addressed for pollutants of concern based on literature information and professional judgment. Impacts consider Best Management Practices (BMPs) selected to be consistent with the Los Angeles County Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit. The level of significance of impacts is evaluated considering significance criteria that include predicted runoff quality for Project conditions versus existing conditions; MS4 Permit and Construction General Permit requirements; and reference to receiving water quality benchmarks, including Total Maximum Daily Load (TMDL) waste load allocations and water quality standards from the Basin Plan and California Toxics Rule.

Potential hydrologic impacts related to storm water runoff volumes and peak flow rates from the 50-year storm event are addressed in the Drainage Concept/Hydrology, City of Santa Clarita, Tract No. 053074, MTD No. 1697 report (**Appendix 8-3** to this EIR) and the Sand Canyon Plaza Hydrology Technical Memorandum (**Appendix 8-2** to this EIR). Water quality discharge flow rates, volumes, and BMP sizing are addressed in the LID/Water Quality, City of Santa Clarita, Sand Canyon Plaza report (**Appendix 8-4** to this EIR).

4.9-3 Existing Conditions

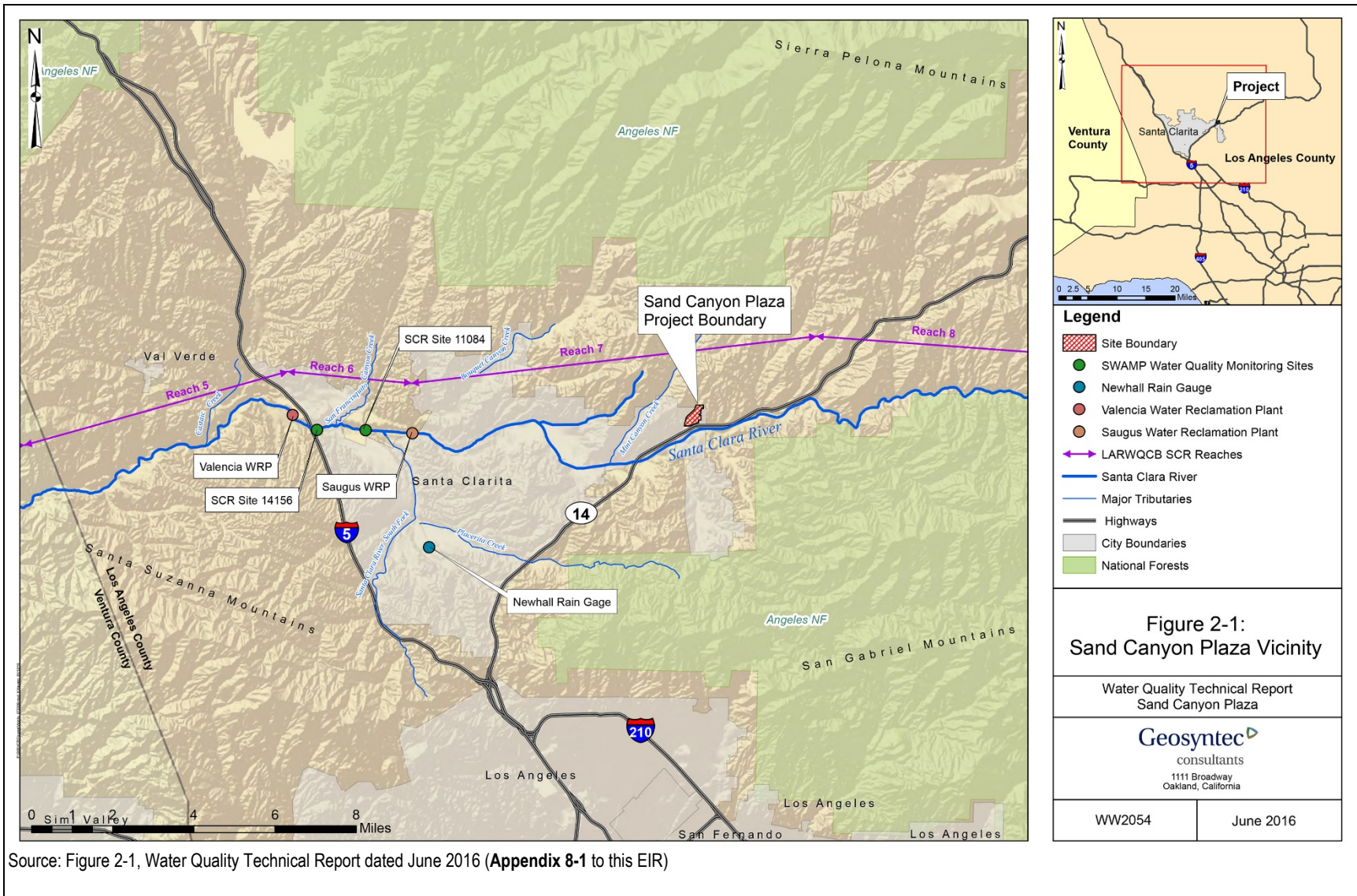
The Project location is shown in **Figure 4.9-1, Sand Canyon Plaza Vicinity Map**. The Project site is located on the northeast corner of the intersection of Sand Canyon Road at Soledad Canyon Road in the City of Santa Clarita (approximately 87 acres). Highway 14 (Antelope Valley Freeway) is located immediately to the south of the Project area.

A portion of the site is currently developed with 123 mobile homes that will be removed as part of the proposed development. Remaining portions of the site are currently undeveloped.

1. Topography and Drainage

The Project site elevation ranges from approximately 1,600 feet above mean sea level (AMSL) to approximately 1,820 feet AMSL.

A ridge runs across the Project site from northeast to southwest, separating the site into two primary drainage basins, Drainage Basin A and Drainage Basin B (**Figure 4.9-2**). The flow direction is generally north to south in both drainage basins.



Source: Figure 2-1, Water Quality Technical Report dated June 2016 (Appendix 8-1 to this EIR)

Figure 4.9-1 Sand Canyon Plaza Vicinity Map

The predominant flow direction in Basin A is north to south and is conveyed by a combination of natural channels and reinforced box culvert segments. The main conveyance through the existing Project site is a dirt channel that runs south along Sand Canyon Road. A portion of 6-foot-wide by 5-foot-high reinforced concrete basin (RCB), per PD 1307, conveys flow beneath the developed portion of the site. Runoff outlets the Project site at the corner of Sand Canyon Road and Soledad Canyon Road directly into an existing double 8-foot-wide by 4-foot-high RCB culvert per Miscellaneous Transfer Drain No. 432. Runoff is then conveyed southwest through existing off-site storm sewer infrastructure and ultimately runs into the Santa Clara River located approximately 2,000 feet to the south of the Project site.

The predominant flow direction in Basin B is also north to south, but is conveyed by a combination of sheet flow from hillside areas and existing underground storm drain pipes to the southeast. Flow from Basin B outlets at the corner of Soledad Canyon Road and Prairie Lane.

Off-site runoff onto the Project site is generated by natural and developed areas that comprise the remainder of the watershed. Off-site areas that contribute runoff to the Project site are as follows:

1. MTD 1684 – Thompson Ranch – Located north of the Project site, a 66-inch reinforced concrete pipe (RCP) conveys a 50-year design flow of approximately 310 cubic feet per second (cfs) and a 48-inch RCP conveys approximately 182 cfs.
2. PD 2526 – Located northwest of the Project site, a 4-inch RCP conveys a 50-year design flow of approximately 227 cfs.
3. PD 1975 – Located west of the site, a 4-inch RCP (Line A), a 2-inch RCP (Line K), and a 3-inch RCP (Line M) combine to convey a 50-year design flow of approximately 191 cfs.

Surface Receiving Water Bodies and Beneficial Uses

Santa Clara River Watershed

The Project site comprises approximately 87 acres within the 650-square-mile Upper Santa Clara River watershed and the approximately 1,634-square-mile Santa Clara River Watershed. The Project is located just north of Reach 7⁶⁷ of the Santa Clara River, which extends from Bouquet Canyon Road to the Lang gaging station (**Figure 4.9-1, Sand Canyon Plaza Vicinity Map**, page [4.9-3](#)). The portion of the Santa Clara River watershed that is located generally upstream or east of the Project is approximately 191 square miles in area. The watershed drains portions of the Angeles National Forest, which comprise approximately 40% of the watershed area at this location. The approximately 87-acre Project area represents a very small fraction of the 191-square-mile upstream watershed and the entire 1,634-square-mile Santa Clara River watershed.

⁶⁷ The SCR 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 Regional Water Quality Control Board (LARWQCB) and one established by the United States Environmental Protection Agency (EPA). Both of these reach classifications are used by the LARWQCB and the EPA in various documents, which at times is a source of confusion. This report will use the LARWQCB reach numbers.

The Santa Clara River watershed drains an area in the Transverse mountain range of Southern California and is illustrated in **Figure 4.9-2, Watershed Drainage Basins** page [4.9-4](#) above). The river flows generally west from its headwaters near Acton to its terminus at the Pacific Ocean near the City of Ventura, approximately 60 miles downstream of the Project. The Santa Clara River exhibits some perennial flow in its easternmost stretches within the Angeles National Forest, then flows intermittently westward within Los Angeles County. The principal tributaries of the upper river watershed (upstream of the Los Angeles/Ventura County boundary, but all downstream of the Project location) are Castaic Creek, Bouquet Canyon Creek, San Francisquito Creek, and the South Fork of the Santa Clara River. Placerita Creek is a large tributary draining the westernmost end of the San Gabriel Mountains; it joins the South Fork, which flows directly into the Santa Clara River. Castaic Creek is a south-trending creek that confluences with the Santa Clara River downstream of the City of Santa Clarita. Castaic Lake is a Department of Water Resources-owned reservoir located along the course of Castaic Creek. San Francisquito Canyon Creek is an intermittent stream in the watershed adjacent to Bouquet Canyon to the southeast. Elevations within the watershed range from sea level at the river mouth to 8,800 feet at the summit of Mount Pinos in the northwest corner of the watershed.

The Santa Clara River Reach 7 at the Project location is generally dry except after periods of heavy rainfall, generally occurring during the winter months. The principal sources of water contributing to the base flow of the Santa Clara River, where regular surface flows are present (approximately 8 miles downstream of the Project location), are: 1) groundwater from the Alluvial aquifer basin, which seeps into the riverbed near and downstream of Round Mountain (located just below the mouth of San Francisquito Creek); 2) tertiary-treated water discharged to the Santa Clara River from two existing Los Angeles County Sanitation District Water Reclamation Plants (WRPs), the Saugus WRP, located near Bouquet Canyon Road bridge, and the Valencia WRP, located immediately downstream of Interstate 5 (I-5); and 3) in some years, flood flows released by the Department of Water Resources from Castaic Lake into Castaic Creek during winter and spring months.

The Saugus WRP, located near Bouquet Canyon Road bridge, has a permitted dry weather average design capacity of 6.5 million gallons per day (mgd), creating surface flows from the outfall to near McBean Parkway. The Valencia WRP outfall is located immediately downstream of the I-5 bridge, and has a permitted dry weather average design capacity of 21.6 mgd, which generates surface flows extending into the far eastern portion of Ventura County (these flows generally terminate at the "Dry Gap" within Ventura County). The combined average treated discharge from both WRPs between January 2004 and June 2007 was approximately 20 mgd.

Flows

A study of the response of the river to several different anthropogenic and natural disturbances concluded that the Santa Clara River, as with many streams in semi-arid Southern California, is highly episodic. Concepts of “normal” or “average” sediment-supply and flow conditions have limited value in this “flashy” environment, where episodic storm and wildfire events have enormous influence on sediment and storm flow conditions.

Reach 7 of the Santa Clara River is a losing stream where surface water infiltrates into the groundwater aquifer below. A dry gap section is located upstream of the Saugus WRP and extends as far upstream as the Lang gage (i.e., the upstream end of the reach) seasonally. Flow at the Lang Gage is ephemeral and highly variable. For the gaged period between 1952 and 2005, annual mean flow at the Lang gage ranged between 0.04 and 52.3 cubic feet per second.

Santa Clara River Beneficial Uses

The Water Quality Control Plan for the Los Angeles Region (Basin Plan) (LARWQCB, 1994, as amended) lists beneficial uses of major water bodies within this region as demonstrated in **Table 4.9-1** below. Santa Clara River Reach 7 is listed and has specific beneficial uses assigned to it.

Table 4.9-1 Santa Clara River Beneficial Uses

Water Body	Beneficial Uses														
	MUN	IND	PROC	AGR	GWR	FRSH	REC1	REC2	WARM	COLD	WILD	RARE	MIGR	SPWN	WET*
Santa Clara River (Hydrologic Unit 403.51)	P*	E	E	E	E	E	E	E	E		E	E			E

*Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

E – Existing beneficial use; P – Potential beneficial use; *Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemptions at a later date.

Source: Water Quality Control Plan for the Los Angeles Region (Basin Plan) (LARWQCB, 1994, as amended)

As identified in **Table 4.9-1**, the existing and potential beneficial uses of Santa Clara River Reach 7 include the following:

- MUN: Community, military, or individual water supply systems including, but not limited to, drinking water supply (a potential beneficial use)
- IND: Industrial activities that do not depend primarily on water quality
- PROC: Industrial activities that depend primarily on water quality
- AGR: Agricultural supply waters used for farming, horticulture, or ranching
- GWR: Groundwater recharge for natural or artificial recharge of groundwater
- FRSH: Freshwater replenishment for natural or artificial maintenance of surface water quantity or quality.
- REC1: Water contact recreation involving body contact with water and ingestion is reasonably possible

- REC2: Non-contact water recreation for activities in proximity to water, but not involving body contact
- WARM: Warm freshwater habitat to support warm water ecosystems
- WILD: Wildlife habitat waters that support wildlife habitats
- RARE: Waters that support rare, threatened, or endangered species and associated habitats
- WET: Wetland ecosystems

2. Existing Surface Water Quality

The Project site is located in Santa Clara River Reach 7. Flows in the Santa Clara River are highly episodic in nature, and this characteristic can affect surface water quality considerably. Very limited information is available to characterize surface water quality in the most upstream reaches of the Santa Clara River. No current water quality monitoring data are available for Santa Clara River Reach 7 or upstream. The closest water quality data were collected downstream from the Project area.

1. **Surface Water Ambient Monitoring Program (SWAMP) Southern California Stormwater Monitoring Council.** Two sites (1 sample event at each site). The data were accessed via California Environmental Data Exchange Network (CEDEN) (<http://www.ceden.org/>).
2. **Saugus WRP Receiving Water Monitoring.** Data are available at in-stream sampling point located approximately 100 feet downstream of Discharge Point 001 (plant effluent monitoring station). This sampling location is located on the Reach 6/Reach 7 border and is dominated by effluent from the WRP. These data were accessed via the California Integrated Water Quality System (CIWQS) (<http://www.waterboards.ca.gov/ciwqs/>).

The data summary is provided in **Table 4.9-2** below. Almost none of the measured constituents exceeded the Basin Plan water quality objectives. The main exception is chloride, which is a known contaminant of concern in the Santa Clara River watershed. According to the RWQCB, high levels of chloride in Santa Clara River Reaches 3, 5, and 6 are causing impairment of listed beneficial uses for agricultural irrigation. Irrigation of salt-sensitive crops, such as avocados and strawberries, with water containing elevated levels of chloride can result in reduced crop yields. A chloride TMDL was approved for these reaches in 2005. Chloride comprises a large proportion of the TDS, which was also somewhat elevated.

Table 4.9-2 Santa Clara River Water Quality Monitoring Data Summary

Constituent	Water Quality Standard (Santa Clara River Reach 7)	LACSD Saugus WRP ¹ RSW-002D			SWAMP ² Site #11084			SWAMP ² Site #14156		
		# Samples	# Detects	Average	# Samples	# Detects	Average	# Samples	# Detects	Average
TSS (mg/L)	See footnote (3)	49	3	1.46	1	1	1.1	1	1	0.50
TDS (mg/L)	800	49	49	626	1	1	835	1	1	855
Hardness (mg/L as CaCO ₃)	N/A	78	78	203	1	1	366	1	1	412
Chloride (mg/L)	100	210	210	125	1	1	130	1	1	108
Total Phosphorus (mg/L)	See footnote (4)	20	20	0.30	1	1	0.36	1	1	0.21
Ammonia-N (mg/L)	2.58 ⁵	210	209	1.09	1	1	0.02	1	1	0.01
Nitrate-N (mg/L)	5 ⁶	211	211	5.74	1	1	1.74	1	1	1.64
Nitrite-N (mg/L)	5 ⁶	211	209	0.08	1	1	0.03	1	1	0.01
TKN (mg/L)	See footnote (4)	210	210	1.91	--	--	--	--	--	--
Dissolved Aluminum (µg/L)	N/A	--	--	--	1	1	4.38	1	1	2.63
Total Aluminum (µg/L)	1000 ⁷	--	--	--	1	1	12.4	1	1	7.85
Dissolved Copper (µg/L)	26 ⁸	19	19	6.82	1	1	2.99	1	1	2
Total Copper (µg/L)	27 ⁸	19	19	7.49	1	1	4.24	1	1	2
Dissolved Lead (µg/L)	140 ⁸	19	19	0.133	1	1	0.023	1	0	0.0075
Total Lead (µg/L)	200 ⁸	19	19	0.152	1	1	0.031	1	1	0.015
Dissolved Zinc (µg/L)	210 ⁸	19	19	54.9	1	1	5.96	1	1	3.29
Total Zinc (µg/L)	220 ⁸	19	19	56.3	1	1	8.30	1	1	3.38
Dissolved Iron (µg/L)	N/A	49	49	18.3	1	1	143	1	1	6.39
Total Iron (µg/L)	N/A	49	49	25.2	1	1	575	1	1	17.4
Dissolved Antimony (µg/L)	N/A	49	48	0.42	--	--	--	--	--	--
Total Antimony (µg/L)	6 ⁷	49	48	0.43	--	--	--	--	--	--
Dissolved Arsenic (µg/L)	N/A	17	17	0.87	1	1	2.7	1	1	2.34
Total Arsenic (µg/L)	10 ⁷	17	17	0.90	1	1	2.56	1	1	2.34
Dissolved Chromium (µg/L)	N/A	17	17	0.28	1	1	0.5	1	1	0.89
Total Chromium (µg/L)	50 ⁷	17	17	0.35	1	1	0.39	1	1	0.9
Dissolved Mercury (µg/L)	N/A	19	5	0.0074	--	--	--	--	--	--
Total Mercury (µg/L)	2 ⁷	19	8	0.0092	--	--	--	--	--	--
Dissolved Nickel (µg/L)	N/A	--	--	--	1	1	6.92	1	1	14.9
Total Nickel (µg/L)	100 ⁷	--	--	--	1	1	6.57	1	1	14.5
Dissolved Selenium (µg/L)	N/A	17	17	0.45	1	1	1.49	1	1	3.88
Total Selenium (µg/L)	50 ⁷	17	17	0.46	1	1	1.52	1	1	3.78
Dissolved Silver (µg/L)	12 ⁸	17	0	0.013	1	1	0.09	1	0	0.01
Total Silver (µg/L)	14 ⁸	17	1	0.016	1	1	0.02	1	0	0.01
Dissolved Cadmium (µg/L)	N/A	49	34	0.038	1	1	0.09	1	1	0.1
Total Cadmium (µg/L)	5 ⁷	49	35	0.042	1	1	0.09	1	1	0.11
Chlorpyrifos (µg/L)	0.02 ⁹	16	0	0.0015	--	--	--	--	--	--
Diazinon (µg/L)	0.08 ⁹	16	0	0.002	--	--	--	--	--	--
Cyanide (µg/L)	150 ⁷	49	43	2.41	--	--	--	--	--	--
Total coliform ¹⁰ (MPN/100 mL)	N/A	205	205	49	--	--	--	--	--	--
Fecal coliform ¹⁰ (MPN/100 mL)	N/A	250	118	1.53	--	--	--	--	--	--
E.Coli ¹⁰ (MPN/100 mL)	126 ¹¹	256	91	1.27	--	--	--	--	--	--

1 LACSD Saugus WRP data from CIWQS. Data represent in-stream sampling location RSW-002D: Santa Clara River, approximately 100 feet downstream of Discharge Point 001 (effluent sampling station). Data accessed September 24, 2015. Sample dates from June 7, 2011 through June 20, 2015. Average concentrations were calculated assuming non-detect concentrations were equivalent to half of the associated sample detection limit.

2 SWAMP data from CEDEN. Data represent two in-stream sampling locations in the Santa Clara River collected by the Southern CA Stormwater Monitoring Coalition. Data accessed July 27, 2015. Sample dates June 9, 2009 (Site 14156) and June 9, 2010 (Site 11084). Average concentrations were calculated assuming non-detect concentrations were equivalent to half of the associated sample detection limit.

3 Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.

4 Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance

Constituent	Water Quality Standard (Santa Clara River Reach 7)	LACSD Saugus WRP ¹ RSW-002D			SWAMP ² Site #11084			SWAMP ² Site #14156		
		# Samples	# Detects	Average	# Samples	# Detects	Average	# Samples	# Detects	Average

- or adversely affects beneficial uses
- 5 30-day average, early life stages of fish present, based on average pH (7.4) and average temperature of 25 °C observed at RSW-002D (pH and temperature data are not available for Santa Clara River Reach 7).
- 6 Water quality objective for nitrate+nitrite-N in Santa Clara River Reach 7.
- 7 Maximum Contaminant Level (MCL) for MUN beneficial use.
- 8 Water quality standards for metals are acute (maximum one hour average concentration) California Toxics Rule (CTR) criteria for the average hardness value (203 mg/L) observed at RSW-002D.
- 9 Criterion developed by the California Department of Fish and Wildlife.
- 10 Bacteria averages are represented as Geometric Means.
- 11 E. Coli shall not exceed a geometric mean of 126/100 mL nor a single sample limit of 235/100 mL (REC-1 beneficial use).
- indicates no data available.
- N/A – not applicable (there is no water quality standard for this constituent).
- mg/L – milligrams per liter, µg/L – micrograms per liter, MPN/100 ml – most probable number per 100 milliliters.

The average concentration of nitrate was also above its water quality objective (5.74 mg/L downstream of Saugus WRP). Nitrate is also known to be associated with runoff from agricultural areas. The Basin Plan nitrate + nitrite-N water quality objective for Santa Clara River Reach 5 and Reach 7 is 5 mg/L, and for Reach 6 is 10 mg/L.

Santa Clara River Water Quality Comparison to Criteria

Table 4.9-3 through Table 4.9-6 provide a comparison of Santa Clara River water quality to the water quality criteria.

Table 4.9-3 Comparison of Observed Total Phosphorus Concentrations in the Santa Clara River with Water Quality Criteria

Constituent	Basin Plan Water Quality Objectives	California Toxics Rule Criteria	Observed Average Concentrations in Santa Clara River* (mg/L)
Total Phosphorus	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses	N/A	0.30

*Average concentration measured by LACSD at RSW-002D, in the Santa Clara River approximately 100 feet downstream of the Saugus WRP discharge point. Sample dates from 11/5/13-6/16/15.

Table 4.9-4 Comparison of Observed Concentrations of Nitrogen Compound Concentrations in the Santa Clara River with Water Quality Objectives and TMDLs

Constituent	Basin Plan Water Quality Objectives (mg/L)	Waste Load Allocations for MS4 Discharges into the Santa Clara River Reach 7 (mg/L)	Observed Average Concentrations in Santa Clara River ¹ (mg/L)
Nitrate-N + Nitrite-N	5	6.8 ²	5.74 (Nitrate-N) 0.08 (Nitrite-N)
Ammonia-N	2.58 ³	1.75	1.09
Total Nitrogen	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses	NA	7.73

1 Average concentration measured by LACSD at RSW-002D, in the Santa Clara River approximately 100 feet downstream of the Saugus WRP discharge point. Sample dates from 6/7/11 – 6/30/15.

2 30-day average.

3 30-day average, ELS present, based on average pH (7.4) and average temperature of 25 °C observed at RSW-002D (pH and temperature data are not available for Santa Clara River Reach 7).

Table 4.9-5 Comparison of Observed Trace Metal Concentrations in the Santa Clara River with Water Quality Criteria

Constituent	California Toxics Rule Criteria ² (µg/L)	Observed Average Concentrations in Santa Clara River ¹ (µg/L)
Dissolved Copper	26	6.82
Total Lead	200	0.152
Dissolved Zinc	210	54.9

1 Average concentration measured by LACSD at RSW-002D, in the Santa Clara River approximately 100 feet downstream of the Saugus WRP discharge point. Sample dates from 7/12/11 – 6/16/15.

2 Hardness = 203 mg/L, based on average observed value at RSW-002D. Lead criterion is for total recoverable lead.

Table 4.9-6 Comparison of Observed Chloride Concentrations in the Santa Clara River with Water Quality Criteria

Constituent	Santa Clara River Reach 7 TMDL Waste Load Allocation & Basin Plan Water Quality Objective (mg/L)	Observed Average Concentrations in Santa Clara River* (mg/L)
Chloride	100	125

*Average concentration measured by LACSD at RSW-002D, in the Santa Clara River approximately 100 feet downstream of the Saugus WRP discharge point. Sample dates from 6/7/11 – 6/30/15.

Surface Water Pollutants of Concern

Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna. Identification of the pollutants of concern is also based on Basin Plan beneficial uses

and water quality objectives, CTR criteria, and current 303(d) listings and TMDLs in the Santa Clara River, as well as pollutants that have the potential to cause toxicity or bioaccumulate in the receiving waters.

- **Sediments (TSS and Turbidity).** Excessive erosion, transport, and deposition of sediment in surface waters are a significant form of pollution resulting in major water quality problems. Sediment imbalances impair waters' designated uses. Excessive sediment can impair aquatic life by filling interstitial spaces of spawning gravels, impairing fish food sources, filling rearing pools, and reducing beneficial habitat structure in stream channels. In addition, excessive sediment can cause taste and odor problems in drinking water supplies and block water intake structures.
- **Nutrients (Phosphorus and Nitrogen (Nitrate + Nitrite, Ammonia, and Total Nitrogen)).** Nutrients are inorganic forms of nitrogen (nitrate, nitrite and ammonia) and phosphorus. Organic forms of nitrogen are associated with vegetative matter such as particulates from sticks and leaves. Inorganic forms of nitrogen include nitrate, nitrite and ammonia. Total Nitrogen (TN) is a measure of all nitrogen present, including inorganic and particulate forms. Phosphorus can be measured as total phosphorus (TP) or as dissolved phosphorus. Dissolved phosphorus is the more bioavailable form of phosphorus. TP is often composed mostly of soil-related particulate phosphorus. There are several sources of nutrients in urban areas, mainly fertilizers in runoff from lawns, pet wastes, failing septic systems, atmospheric deposition from industry and automobile emissions, and soil erosion. Nutrient over-enrichment is especially prevalent in agricultural areas where manure and fertilizer inputs to crops significantly contribute to nitrogen and phosphorus levels in streams and other receiving waters. Eutrophication due to excessive nutrient input can lead to changes in algae, benthic, and fish communities; extreme eutrophication can cause hypoxia or anoxia, resulting in fish kills. Surface algal scum, water discoloration, and the release of toxins from sediment can also occur. TMDLs have been developed and adopted into the Basin Plan for nitrogen compounds in the Santa Clara River, including nitrate/nitrite and ammonia.
- **Trace Metals (Copper, Lead, and Zinc).** The primary sources of trace metals in storm water are typically commercially available metals used in transportation (e.g., automobiles), buildings, and infrastructure. Metals are also found in fuels, adhesives, paints, and other coatings. Copper, lead, and zinc are the most prevalent metals typically found in urban runoff. Other trace metals, such as cadmium, chromium, and mercury, are typically not detected in urban runoff or are detected at very low levels (LACDPW, 2000). Metals are of concern because of the potential for toxic effects on aquatic life and the potential for ground water contamination. High metal concentrations can lead to bioaccumulation in fish and shellfish and affect beneficial uses of receiving waters.

- **Iron.** Iron was included in the 2010 Section 303(d) List for Santa Clara River Reach 5 (.). The listing referenced exceedances from Saugus and Valencia WRP receiving water quality monitoring. The EPA National Recommended Water Quality Criterion (1976) for iron is 1.0 mg/L for freshwater aquatic life. The EPA criterion is based on three studies that were conducted between 1948 and 1967 which observed fish toxicity effects at iron levels of 1 to 2 mg/L at low and unknown pH levels.
The presence of iron in the Santa Clara River is due to the fact that it is an abundant element in the earth's crust (the fourth most abundant element by weight); iron silicate minerals are a component of most rocks, including basalt. Iron is an important component in soil adhesion, and is additionally important biologically. Vertebrate animals utilize iron's oxidation-reduction mechanisms to transport oxygen in the bloodstream. Iron pollution sources include industrial wastewater, mine leachate, and groundwaters with high iron content. At low pH levels (below 5.5), iron from these sources complexes with hydroxide, and forms precipitates which can coat gills of fish and cement streambeds, making them unsuitable for spawning.
- **Chloride:** High levels of chloride in Santa Clara River Reaches 3, 5 and 6 have caused listings for impairment. Chloride levels in some areas exceed water quality standards associated with groundwater recharge. Chloride TMDLs have been developed and adopted into the Basin Plan. The major sources of elevated chloride are dry-weather discharges from WRPs, which contribute about 70% of the chloride load. Minor point sources are dewatering operations, and uncontrolled swimming pool and water ride discharges.
- **Pesticides.** Pesticides (including herbicides, insecticides and fungicides) are chemical compounds commonly used to control insects, rodents, plant diseases, and weeds. Excessive application of a pesticide in connection with agriculture cultivation or landscaping may result in runoff containing toxic levels of its active component. Pesticides may be classified as organochlorine pesticides or organophosphorus pesticides, the former being associated with persistent bioaccumulative pesticides (e.g., DDT and other legacy pesticides) which have been banned. The Santa Clara River estuary is listed as impaired for legacy pesticides, including chlorinated pesticides. Santa Clara River Reaches 6, 3, 1, and the estuary are also listed for toxicity, which can be a byproduct of pesticides. Toxic organophosphorus pesticides include diazinon and chlorpyrifos whose uses also are being banned or restricted by EPA. The current pesticides of concern for water quality are pyrethrums; parathyroids (bifenthrin, cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, and permethrin); carbaryl; malathion; and imidacloprid.
- **Pathogens (Bacteria, Viruses, and Protozoa).** Elevated pathogens are typically caused by the transport of domestic animal, wildlife, or human fecal wastes from the watershed. Runoff that flows over land such as urban runoff can mobilize pathogens,

including bacteria and viruses. Even runoff from natural areas can contain pathogens (e.g., from wildlife). Other sources of pathogens in urban areas include pets, septic systems, and leaky sanitary sewer pipes. The presence of pathogens in runoff can impair receiving waters and contaminate drinking water sources. Historically, fecal indicator bacteria (FIB) such as fecal coliform have been used to indicate the presence of pathogens due to the difficulty of monitoring for pathogens directly. More recently, the scientific community has questioned the use of certain indicator organisms, as there are various confounding factors that affect the reliability of some FIB as pathogen indicators in storm water runoff. The Basin Plan objective is now based on the use of E. Coli as a pathogen indicator in fresh waters designated for water contract recreation (REC-1) beneficial use, including the Santa Clara River. Santa Clara River Reaches 5, 6, and 7 and the Santa Clara River Estuary are identified as impaired by high fecal coliform counts from point and nonpoint sources. An Indicator Bacteria TMDL was approved by the LARWQCB for the Santa Clara River Estuary and Reaches 3, 5, 6, and 7 on July 8, 2010.

- **Petroleum Hydrocarbons (Oil and Grease and PAHs)**, The sources of oil, grease, and other petroleum hydrocarbons in urban areas include spillage fuels and lubricants, discharge of domestic and industrial wastes, atmospheric deposition, and runoff. Runoff can be contaminated by leachate from asphalt roads, wearing of tires, and deposition from automobile exhaust. Also, do-it-yourself auto mechanics may dump used oil and other automobile-related fluids directly into storm drains. Petroleum hydrocarbons, such as polycyclic aromatic hydrocarbons (PAHs), can bioaccumulate in aquatic organisms from contaminated water, sediments, and food and are toxic to aquatic life at low concentrations. Hydrocarbons can persist in sediments for long periods of time and result in adverse impacts on the diversity and abundance of benthic communities. Hydrocarbons can be measured as total petroleum hydrocarbons (TPH), oil and grease, or as individual groups of hydrocarbons, such as PAHs.
- **Trash and Debris**. Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic debris (such as leaves, grass cuttings, and food waste) are general waste products on the landscape that can be entrained in urban runoff. The presence of trash & debris may have a significant impact on the recreational value of a water body and aquatic habitat. Excess organic matter can create a high biochemical oxygen demand in a water body and thereby lower its water quality. Also, in areas where stagnant water exists, the presence of excess organic matter can promote septic conditions resulting in the growth of undesirable organisms and the release of odorous and hazardous compounds such as hydrogen sulfide.
- **Bioaccumulation**. Certain pollutants, such as pesticides, selenium, and mercury, have a tendency to bioaccumulate. The Basin Plan and the CTR criteria set forth toxicity objectives for receiving water levels of substances that bioaccumulate in aquatic

resources to prohibit concentrations of toxic substances that are harmful to human health and adversely affect beneficial uses.

- **Methylene Blue Activated Substances (MBAS).** MBAS are related to the presence of detergents in water. Positive results may indicate the presence of wastewater or be associated with urban runoff 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.
- **Toxicity.** Certain pollutants in storm water runoff have the potential to be highly toxic to aquatic organisms resulting in effects such as impaired reproduction or mortality. The Basin Plan water quality objective for toxicity is:

All surface waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Other constituents that are listed in the Basin Plan, but for reasons explained below, are not pollutants of concern for the Project.

- **BOD (Biochemical Oxygen Demand) and Dissolved Oxygen.** Adequate levels of dissolved oxygen are necessary to support aquatic life. High levels of oxygen demanding substances discharged to receiving waters can depress oxygen levels to levels of concern. Oxygen demanding substances are compounds that can be biologically degraded through aerobic processes. The presence of oxygen demanding substances can deplete oxygen supplies in waters and can contribute to algae growth. Nutrients in fertilizers and food wastes in trash are examples of likely oxygen demanding compounds to be present on the Project site. Other biodegradable organic materials include human and animal waste and vegetative matter. Biodegradable pollutants are largely subsumed by the nutrients and trash and debris categories above, and therefore will not be discussed as a separate constituent category.
- **Chemical Constituents.** Chemical constituents in excessive amounts in drinking water are harmful to human health. The Basin Plan objective for chemical constituents states: "Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use." As Santa Clara River Reach 5 is not designated with a municipal water supply designated use, chemical constituents are not a pollutant of concern for the Project.
- **Temperature.** Increase in temperature can result in lower dissolved oxygen levels, impairing habitat and other beneficial uses of receiving waters. Discharges of wastewater can also cause unnatural and/or rapid changes in temperature of receiving waters, which can adversely affect aquatic life. Elevated temperatures are typically associated with discharges of process wastewaters or non-contact cooling waters. As the beneficial uses in the receiving waters for the Project include warm freshwater

habitat to support warm water ecosystems, temperatures of storm water runoff in the Project are not of concern.

- **Total Residual Chlorine.** Total residual chlorine can be present in wastewater treatment plant discharges, or may be present in dry weather urban runoff from the emptying of swimming pools that have not been dechlorinated. Chlorine is a strong oxidant and is therefore very toxic to aquatic life. Municipal pools and private pools in areas served by a municipal sanitary system are required to be discharged into the sanitary system, and therefore, total residual chlorine would not be present in runoff from the Project.
- **Color, Taste, and Odor.** The Basin Plan contains narrative objectives for color, taste, or odor that causes a nuisance or adversely affects beneficial uses. Undesirable tastes and odors in water may be a nuisance and may indicate the presence of a pollutant(s). Odor associated with water can result from decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Other potential sources of odor causing substances, such as industrial processes, will not occur as part of the Project. Color in water may arise naturally, such as from minerals, plant matter, or algae, or may be caused by industrial pollutants. Project land uses will not include industrial land uses. Therefore, color-, taste-, or odor-producing substances are not pollutants of concern for the Project.
- **Exotic Vegetation.** Non-native (exotic) vegetation typically provides little habitat value and can out compete native vegetation that is more suitable habitat for aquatic and terrestrial organisms. The Basin Plan objective for exotic vegetation states: “Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects designated beneficial uses.”
- **Mineral Quality: TDS, Sulfate, Boron, and SAR.** Mineral quality in natural waters is largely determined by the mineral assemblage of soils and rocks near the land surface. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan, except chloride and nitrogen, are not believed to be constituents of concern due to the absence of river impairments and/or, as with TDS, anticipated post-development runoff concentrations well below the Basin Plan objectives. Therefore, these constituents are not considered pollutants of concern for the Project. **Table 4.9-7** provides a comparison of Mineral Basin Plan Objectives in Los Angeles County.

Table 4.9-7 Comparison of Mineral Basin Plan Objectives with Mean Measured Values in Los Angeles County

Mineral	Los Angeles Basin Plan Water Quality Objective for Santa Clara River Reach 7 (mg/L)	Range of Mean Concentration in Urban Runoff ¹ (mg/L)
Total Dissolved Solids	800	53 - 226
Sulfate	150	7 - 35
Boron	1.0	0.16 - 0.25
Sodium Adsorption Ratio ²	5	0.4 - 1.9

¹ Source: LACDPW, 2000. Land uses include SFR, MFR, commercial, education, transportation, light industrial, and mixed residential.

² Sodium adsorption ratio (SAR) predicts the degree to which irrigation water tends to enter into cation-exchange reactions in soil.

- pH.** The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of “pure” water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Aquatic organisms can be highly sensitive to pH. The Basin Plan objective for pH is:

The pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge.

Mean runoff concentrations in the Los Angeles County storm water monitoring data ranged from 6.5 for mixed- and single-family residential land uses to 7.0 for commercial land use. Therefore, pH in the Santa Clara River is not expected to be affected by runoff discharges from the Project.

- PCBs.** PCBs are highly toxic persistent chemicals that have been historically released into the environment from industrial uses, such as transformers, but are no longer produced in the United States. Due to their persistence, PCBs can still be detected in urban runoff due to historic industrial sources of these chemicals. The Project area did not historically include PCB-producing land uses. Therefore, PCBs are not a pollutant of concern for the Project.
- Radioactive Substances.** Radioactive substances typically occur at very low concentrations in natural waters. Some activities such as mining or certain industrial activities (e.g., energy production, fuel reprocessing) can increase the amount of radioactive substances impairing beneficial uses. The Project does not include industrial or other activities that would be a source of any radioactive substances, and development would stabilize any naturally radioactive soils, though unlikely to be present in the Project area. Therefore, radioactive substances are not a pollutant of concern for the Project.

3. Groundwater

Groundwater Beneficial Uses

Less than 1% of the Project area is within a designated groundwater basin, as designated in the Basin Plan. A very small area in the southeast portion of the Project overlaps the Santa Clara – Mint Canyon subbasin of the Santa Clarita Valley Groundwater Basin, East Subbasin. Beneficial uses for groundwater for this subbasin are shown in **Table 4.9-8**.

Table 4.9-8 Beneficial Uses of Ground Waters

Groundwater Basin	MUN	IND	PROC	AGR
DWR 4-4.07 – Santa Clara – Mint Canyon	E	E	E	E

E-Existing Beneficial Use

MUN: Community, military, or individual water supply systems including, but not limited to, drinking water supply

Source: Water Quality Control Plan for the Los Angeles Region (Basin Plan) (LARWQCB, 1994 as amended)

IND: Industrial activities that do not depend primarily on water quality; PROC: Industrial activities that depend primarily on water quality; AGR: Agricultural supply waters used for farming, horticulture, or ranching.

Groundwater Subbasin and Existing Groundwater Quality

There are no groundwater quality data available for the Project site. The Project 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 sole source of local groundwater for urban water supply in the Santa Clarita Valley is the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin No. 4-4.07). The East Subbasin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium generally underlies the Santa Clara River and its several tributaries, to maximum depths of about 200 feet, and the Saugus Formation underlies practically the entire Upper Santa Clara River area, to depths of at least 2,000 feet. The alluvium is underlain by bedrock units consisting of the Mint Canyon Formation in the Project area and other geologic units in the eastern and northern portions of the Santa Clarita Valley. These deep bedrock units yield little water and are not considered viable for groundwater development.

Groundwater quality in the alluvial aquifer portion of the East Subbasin is characterized by a transition from a calcium bicarbonate signature in the east to a calcium sulfate signature in the west. Average concentrations of TDS are approximately 550 to 600 mg/L in the eastern and central portions of the East Subbasin with peak concentrations of 1,000 mg/L west of Interstate 5. In the Saugus Formation aquifer, groundwater signature is characterized as calcium bicarbonate and sulfate in the southeast, calcium sulfate in the central and west portions, and calcium bicarbonate further west. TDS ranges from approximately 500 to 900 mg/L. Dissolved mineral content in the Saugus Formation aquifer has increased slightly over the last 50 years. Some high nitrate concentrations have been observed in parts of the East Subbasin and TDS in the western portion of the East Subbasin may be too high for domestic use.

4.9-4 Regulatory Setting

1. Federal

Clean Water Act

In 1972, the Federal Water Pollution Control Act [later referred to as the Clean Water Act (CWA)] was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to waters of the United States from any point source. In 1987, the CWA was amended to require that the United States Environmental Protection Agency (EPA) establish regulations for permitting of municipal and industrial storm water discharges under the NPDES permit program. The EPA published final regulations regarding storm water discharges on November 16, 1990. The regulations require that municipal separate storm sewer system discharges to surface waters be regulated by a NPDES permit.

In addition, the CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents – such as lead, suspended sediment, and fecal coliform bacteria – or narrative statements which represent the quality of water that support a particular use. Because California did not establish a complete list of acceptable water quality criteria, U.S. EPA established, in the California Toxics Rule (CTR), numeric water quality criteria for certain toxic constituents in receiving waters with human health or aquatic life designated uses (40 CFR 131.38).

CWA Section 303(d) – TMDLs

When designated beneficial uses of a particular receiving water body are being compromised by water quality, Section 303(d) of the CWA requires identifying and listing that water body as “impaired”. Once a water body has been deemed impaired, a TMDL must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (with a “factor of safety” included). Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

The site discharges runoff to Santa Clara River Reach 7. **Table 4.9-9** below, lists the water quality impairments for the Santa Clara River, including reaches upstream of the Project location (although impairments upstream of the Project do not affect the Project), as reported in the 2010 CWA Section 303(d) List of Water Quality Limited Segments. Reach 7 of the Santa Clara River (Bouquet Canyon Road to above Lang Gaging Station) is listed for coliform bacteria. Reach 6 (West Pier Highway 99 to Bouquet Canyon Road) is listed for chloride, coliform bacteria, chlorpyrifos, diazinon, toxicity, iron, and copper.

Reach 5 of the Santa Clara River is listed for chloride, coliform bacteria, and iron. Santa Clara River Reach 3, approximately 25 miles downstream of the Project location and below the Dry Gap in Reach 4, is listed for ammonia, chloride, TDS, and toxicity. Santa Clara River Reach 1, approximately 30 miles downstream of the Project location, is listed for toxicity. The Santa Clara River estuary, located approximately 40 miles downstream of the Project location, is listed for coliform bacteria, chlorinated legacy pesticides,⁶⁸ toxaphene, toxicity, and nitrate.

Table 4.9-9 2010 CWA Section 303(d) Listings for the Santa Clara River Mainstem

River Reach or Tributary	Geographic Description and Distance from Project to Upstream End of Reach	Pollutants	TMDL Completion	Potential Sources
7	Bouquet Canyon Rd to above Lang Gaging Station (5 miles upstream)	Coliform Bacteria	TMDL Adopted 2012	Nonpoint and Point Sources
6	West Pier Hwy 99 to Bouquet Cyn. Rd (Directly upstream of Project site)	Chloride Coliform Bacteria Chlorpyrifos Diazinon Toxicity Iron Copper	TMDL Adopted 2005 TMDL Adopted 2012 Requires TMDL/2019 Requires TMDL/2019 Requires TMDL/2019 Requires TMDL/2021 Requires TMDL/2021	Nonpoint and Point Sources Nonpoint and Point Sources Source Unknown Source Unknown Source Unknown Source Unknown Nonpoint and Point Sources
5	Blue Cut Gaging Station to West Pier Hwy 99 (Project location)	Chloride Coliform Bacteria Iron	TMDL Adopted 2005 TMDL Adopted 2012 2021	Nonpoint and Point Sources Nonpoint and Point Sources Source Unknown
3	Freeman diversion dam to "A" street (25 miles)	Ammonia Chloride Total Dissolved Solids Toxicity	TMDL Adopted 2004 TMDL Adopted 2002 Requires TMDL/2015 Requires TMDL/2021	Nonpoint and Point Sources Nonpoint and Point Sources Source Unknown Source Unknown
1	Estuary to Highway 101 Bridge (30 miles)	Toxicity	Requires TMDL/2019	Source Unknown
--	Estuary (40 miles)	Coliform Bacteria ChemA Toxaphene Toxicity Nitrate	TMDL Adopted 2012 Requires TMDL/2019 Requires TMDL/2019 Requires TMDL/2019 Requires TMDL/2021	Nonpoint Source Source Unknown Nonpoint Source Source Unknown Source Unknown

The Los Angeles Regional Water Quality Control Board (LARWQCB) has adopted nitrogen compounds (nitrate plus nitrite-nitrogen and ammonia), chloride, and indicator bacteria TMDLs in the Basin Plan. The waste load allocations for municipal storm water discharges into Reach 7 of the Santa Clara River are summarized in **Table 4.9-10**.

Table 4.9-10 TMDL Waste Load Allocations for MS4 Permittees Discharging to Santa Clara River Reach 7

Impairing Pollutant	Numeric Water Quality Objective	Waste Load Allocation					
Indicator Bacteria (Resolution R10-006)	Numeric Targets (numeric targets are 10% smaller to incorporate a margin of safety) <table border="1"> <thead> <tr> <th>Constituent</th> <th>Santa Clara River Reach 7 Requirement</th> </tr> </thead> <tbody> <tr> <td>E. Coli</td> <td>235/100 mL</td> </tr> </tbody> </table>	Constituent	Santa Clara River Reach 7 Requirement	E. Coli	235/100 mL	Waste load allocations are given in terms of allowable exceedance days. The numeric targets may not be exceeded more than the number of allowable exceedance days allotted in the tables below.	
		Constituent	Santa Clara River Reach 7 Requirement				
		E. Coli	235/100 mL				
Interim Allowable Exceedance Days (Dry Weather/Wet Weather deadline 3/21/16)							
		Time Period	Annual Allowable Exceedance Days of the				

⁶⁸ Legacy pesticides are persistent bioaccumulative pesticides (e.g., DDT) that have been banned.

Impairing Pollutant	Numeric Water Quality Objective		Waste Load Allocation		
	(Single Sample) E. Coli (Geometric Mean)	126/100 mL		Single Sample Objective (days)	
			Daily Sampling	Weekly Sampling	
			Dry Weather	17	3
			Wet Weather	61	9
			Final Allowable Exceedance Days (Dry Weather deadline 3/21/23; Wet Weather deadline 3/21/29):		
			Annual Allowable Exceedance Days of the Single Sample Objective (days)		
			Time Period	Daily Sampling	Weekly Sampling
			Dry Weather	5	1
			Wet Weather	16	3

Santa Clara River Bacteria TMDL

The Regional Water Board approved a Basin Plan amendment on July 8, 2010, to incorporate a TMDL for Indicator Bacteria for Reaches 5, 6, and 7 of the Santa Clara River and for the Santa Clara River Estuary (Resolution #R10-006). The TMDL, in effect as of March 21, 2012, provides allowable exceedance day-based WLAs for MS4 dischargers for E. coli in Reaches 3, 5, 6 and 7, and for fecal coliform, enterococcus, and total coliform in the Santa Clara River Estuary. These WLAs have been incorporated into the Los Angeles County MS4 Permit (Order No. R4-2012-0175). The Indicator Bacteria TMDL MS4 WLAs are applied in the form of allowable exceedance days as illustrated along with the TMDL implementation schedule in **Table 4.9-7** below.

Table 4.9-11 E. Coli: TMDL Implementation Schedule for Santa Clara River

Deadline	Limitations	Requirements
March 21, 2016	Receiving water limitations interim dry weather (single sample)	Annual allowable exceedance days: 17 days if daily sampling, 3 days if weekly sampling.
March 21, 2016	Receiving water limitations interim wet weather (single sample)	Annual allowable exceedance days: 61 days if daily sampling, 9 days if weekly sampling.
March 21, 2023	Effluent limitations dry weather	Daily maximum concentration not to exceed 235 MPN/CFU per 100 mL and geometric mean not to exceed 125 MPN/CFU per 100 mL.
March 21, 2023	Receiving water limitations final dry weather (single sample)	Annual allowable exceedance days: 5 days if daily sampling, 1 days if weekly sampling.
March 21, 2023	Receiving water limitations final dry weather (geometric mean)	Geometric mean not to exceed 126/100 mL
March 21, 2029	Effluent limitations wet weather	Daily maximum concentration not to exceed 235 MPN/CFU per 100 mL, and geometric mean not to exceed 125 MPN/CFU per 100 mL.
March 21, 2029	Receiving water limitations final wet weather (single sample)	Annual allowable exceedance days: 16 days if daily sampling, 3 days if weekly sampling.
March 21, 2029	Receiving water limitations final wet weather (geometric mean)	Geometric mean not to exceed 126/100 mL

Note: Applicable to Santa Clara River Reach 5.

The Regional Water Board indicated in the TMDL implementation schedule that they would reconsider the TMDL if, prior to 4 years after the effective date of the TMDL, one of the following occurs: 1) monitoring or any voluntary local reference system studies justify a revision, or 2) EPA

publishes revised recommended bacteria criteria that affect the TMDL, or 3) the Regional Water Board adopts a separate Basin Plan amendment, suspending recreational uses in the Santa Clara River during high flows.

California Toxics Rule

The California Toxics Rule (CTR) is a federal regulation issued by the EPA providing water quality criteria for potentially toxic constituents in receiving waters with human health or aquatic life designated uses in the State of California (EPA, 2000). EPA adopted the CTR in 2000 to create legally applicable water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries to protect human health and the environment for all purposes and programs under the Clean Water Act. The CTR aquatic life criterion were derived using a CWA Section 304(a) method that produces an estimate of the highest concentration of a substance in water which does not present a significant risk to the aquatic organisms in the water and their uses (EPA, 2000). The CTR water quality criteria provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or under protection. In this document, the CTR criteria are used as one type of benchmark to evaluate the potential impacts of the Project on water quality of the receiving waters.

The CTR's numerical aquatic life criteria are expressed as short-term (acute) and long-term (chronic) averages, rather than one number, in order that the criterion more accurately reflect toxicological and practical realities (EPA, 2000). Due to the intermittent nature of storm water runoff (especially in Southern California), the acute criteria are considered to be more applicable to storm water conditions than chronic criteria and therefore are used in assessing Project impacts. For example, the average storm duration for all storms in the 40-year Newhall rain gauge record is 7.1 hours. Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time (one hour) without deleterious effects; chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects.

CTR criteria are applicable to the receiving water body and therefore the metals criteria, which are expressed as a function of receiving water hardness, must be calculated based upon the probable hardness values of the Project's receiving waters for evaluation of acute (and chronic) toxicity criteria. At higher hardness values for the receiving water, copper, lead, and zinc are more likely to be complexed (bound with) components in the water column. This in turn reduces the bioavailability and resulting potential toxicity of these metals. The average wet weather was used to approximate CTR criteria for metals.

Federal Antidegradation

The Federal Antidegradation Policy (40 CFR §131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the *Code of*

Federal Regulations, state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: 1) existing in-stream water uses; 2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and 3) water quality in waters considered an outstanding national resource. State permitting actions must be consistent with the Federal Antidegradation Policy.

Discharge of Fill or Dredge Materials

Section 404 of the CWA is a program that regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development (including physical alterations to drainages to accommodate storm drainage, stabilization, and flood control improvements), water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. USEPA and the United States Army Corps of Engineers have issued Section 404(b)(1) Guidelines (40 CFR 230) that regulate dredge and fill activities, including water quality aspects of such activities. Subpart C Sections 230.20 thru 230.25 contains water quality regulations applicable to dredge and fill activities. Among other topics, these guidelines address discharges which alter substrate elevation or contours, suspended particulates, water clarity, nutrients and chemical content, current patterns and water circulation, water fluctuations (including those that alter erosion or sediment rates), and salinity gradients.

Section 401 of the CWA requires that any person applying for a federal permit or license which may result in a discharge of pollutants into waters of the United States must obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations, and restrictions. Subject to certain limitations, no license or permit may be issued by a federal agency until the Section 401 certification has been granted. Further, no license or permit may be issued if certification has been denied. CWA Section 404 permits and authorizations are subject to Section 401 certification by the Regional Water Quality Control Boards (RWQCBs).

2. State of California

California Porter-Cologne Act

The federal CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs and allows EPA to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and the RWQCBs power to

protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. To implement state and federal law, the Basin Plan establishes beneficial uses for surface water and groundwater in the region, and sets forth narrative and numeric water quality standards to protect those beneficial uses. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

California Antidegradation

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Anti-Degradation Policy applies to all waters of the state, not just surface waters. Under the policy, whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality must be maintained and discharges to that water body must not unreasonably affect any present or anticipated beneficial use of the water resource.

Basin Plan

The applicable Basin Plan (LARWQCB, 1994, as amended) provides numeric and narrative criteria for a range of water quality constituents applicable to certain receiving water bodies and groundwater basins within the Los Angeles region. Specific criteria are provided for the larger, designated water bodies within the region, as well as general criteria or guidelines for ocean waters, bays and estuaries, inland surface waters, and ground waters. Those waters not specifically listed (generally smaller tributaries) are assumed to have the same beneficial uses as the streams, lakes, or reservoirs to which they are tributary. In general, the narrative criteria require that degradation of water quality does not occur due to increases in pollutant loads that will adversely impact the designated beneficial uses of a water body. For example, the Los Angeles Basin Plan requires that "Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors". Water quality criteria apply within receiving waters as opposed to applying directly to runoff; therefore, water quality criteria from the Basin Plan are utilized as benchmarks as one

method to evaluate the potential ecological impacts of Project runoff on the receiving waters of the Project.

The Basin Plan also contains water quality criteria for groundwater basins. For example, the Basin Plan requires that “Ground waters shall not contain taste or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses.”

Trash Amendments

On April 7, 2015, the State Water Resources Control Board (State Water Board) adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Part 1 Trash Provision of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries. Together, the amendments are collectively called the “Trash Amendments.” The State Water Board’s objective for the Trash Amendments is to provide statewide consistency for the Water Boards’ regulatory approach to reduce environmental issues associated with trash in state waters, while focusing limited resources on high trash generating areas.

The Trash Amendments prohibit the discharge of trash⁶⁹ to surface waters of the state, or the deposition of trash where it may be discharged into surface waters of the state, and require systems to control mobilization and discharge of trash from areas with high trash generation rates (called “priority land uses”). The Trash Amendments provide a compliance schedule for retrofit of existing developed areas that discharge to municipal separate storm sewer systems. The Trash Amendments will be implemented through revision of MS4 and other NPDES permits in the future.

Permits and Policies

Construction General Permit

Pursuant to the CWA Section 402(p), requiring regulations for permitting certain storm water discharges, the SWRCB issued a statewide general permit for storm water discharges from construction sites (Water Quality Order 2009-0009-DWQ, State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (NPDES No. CAR000002; adopted by the SWRCB on September 2, 2009)).

Under the Construction General Permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or to be covered by the Construction General Permit. Coverage under the

⁶⁹ “Trash” means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

Construction General Permit is accomplished by completing a construction site risk assessment to determine appropriate coverage level; preparing a Storm Water Pollution Prevention Plan (SWPPP), including site maps, a Construction Site Monitoring Program (CSMP), and sediment basin design calculations; for projects located outside of a Phase I or Phase II permit area, completing a post-construction water balance calculation for hydromodification controls; 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 BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water 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.

MS4 Permit

In 2012, the Los Angeles Regional Water Quality Control Board issued a revised NPDES Permit and Waste Discharge Requirements (Order No. R4-2012-0175; NPDES Permit No. CAS004001) under the CWA and the Porter-Cologne Act for discharges of urban runoff in public storm drains in Los Angeles County. The Permittees are the Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the coastal watersheds of the County. This permit regulates storm water discharges from MS4s in the Project area.

- **Watershed Management Program.** The MS4 Permit details specific minimum control measures requirements. The permittees may implement the specific requirements in the MS4 Permit, or may implement customized requirements as set forth in an approved Watershed Management Program in lieu of the specific requirements. Preparation of a Watershed Management Program is voluntary and is intended to allow the permittees to address the highest watershed priorities, including complying with the receiving water limitations and TMDL provisions in the permit, by customizing the specific control measures contained in the permit.

The County of Los Angeles, the Los Angeles County Flood Control District, and the City of Santa Clarita have elected to prepare an Enhanced Watershed Management Program (EWMP) for the Upper Santa Clara River watershed. An EWMP is a Watershed Management Program that comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area in the watershed, for collaboration among the Permittees and other partners on multi-benefit regional projects. These projects, wherever feasible, should retain storm water runoff from the 85th percentile, 24-hour storm event and all non-storm water runoff for the drainage areas tributary to the projects, while also achieving other benefits such as flood control and water supply. In drainage areas within the EWMP area where retention of the 85th

- percentile, 24-hour storm event is not feasible, the EWMP should include a Reasonable Assurance Analysis to demonstrate that applicable water quality-based effluent limitations and receiving water limitations will be achieved through implementation of other watershed control measures. The draft EWMP must be submitted to the Regional Water Board in June 2015. The County must continue to implement their existing storm water management program until the EWMP is approved by the Regional Water Board Executive Officer.
- **Planning and Land Development Program Requirements.** The MS4 Permit details specific requirements for new development and significant redevelopment projects, including selection, sizing, and design criteria for low impact development (LID), treatment control, and hydromodification control BMPs. These requirements (i.e., Project Performance Criteria) are as follows:
 - Projects shall control pollutants, pollutant loads, and runoff volume emanating from the project site by: 1) minimizing the impervious surface area and 2) controlling runoff from impervious surfaces through infiltration, bioretention, and/or rainfall harvest and use.
 - Except where technically infeasible, projects shall retain the Stormwater Quality Design Volume (SWQDv) on-site. The SWQDv is defined as the runoff from the 0.75-inch, 24-hour rain event or the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map, whichever is greater. The SWQDv for the Project is 1.1 inches.
 - Where it is technically infeasible to retain 100% of the SWQDv on-site, the project must biofilter 1.5 times the portion of the SWQDv that is not reliably retained on-site. Alternatively, the project may retain the portion of the SWQDv that is not reliably retained on-site at an offsite location and provide onsite treatment of the project's storm water runoff.
 - Bioretention⁷⁰ and biofiltration⁷¹ systems must meet the design specifications provided in Attachment H to the MS4 Permit unless otherwise approved by the Regional Water Board Executive Officer. Projects that discharge to a receiving water body that is impaired for nitrogen compounds must design and maintain biofiltration systems to achieve enhanced nitrogen removal capability.
 - When evaluating the potential for onsite retention, each Project must consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and use.

70 As defined in the MS4 Permit, a bioretention BMP may not include an underdrain. When a bioretention BMP is designed or constructed with an underdrain, it is regulated by the MS4 Permit as biofiltration.

71 Biofiltration is defined in the MS4 Permit to include only systems designed to facilitate incidental infiltration or achieve the equivalent pollutant reduction as biofiltration BMPs with an underdrain (subject to Executive Officer approval). Biofiltration BMPs include bioretention systems with an underdrain and bioswales.

- Technical infeasibility may result from conditions including:
 - An in-situ saturated soil infiltration rate less than 0.3 inches per hour (and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to achieve reliable performance of infiltration or bioretention BMPs in retaining the SWQDv on-site).
 - Depth to seasonal high groundwater is within five to ten feet of the surface.
 - Locations within 100 feet of a groundwater well used for drinking water.
 - Brownfield development sites where infiltration poses a risk of causing pollutant mobilization.
 - Other locations at or near properties that are contaminated or store hazardous substances underground, where pollutant mobilization is a documented concern.
 - Locations with potential geotechnical hazards.
 - Smart growth, infill, or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the on-site volume retention requirement.
- If a project is complying with the Project Performance Standards via retention at an offsite location, then onsite treatment BMPs must be designed and implemented to meet specific benchmark effluent limitations contained in the MS4 Permit and to ensure that the treated discharge does not cause or contribute to an exceedance of water quality standards at the downstream MS4 outfall. These treatment BMPs may include sand filters or other proprietary BMPs with a demonstrated treatment efficiency equivalent to a sand filter. The sizing of a flow-through treatment BMP must be based on a rainfall intensity of 0.2 inches per hour or the one-year, one-hour rainfall intensity as determined from the most recent Los Angeles County isohyetal map, whichever is greater.
- Projects that discharge to natural drainage systems must implement hydrologic control measures (i.e., hydromodification controls) to prevent accelerated downstream erosion and to protect stream habitat. Hydromodification control in natural drainage systems must be achieved by maintaining the Erosion Potential (Ep) in the natural drainage system at a value of 1, unless an alternative value can be shown to protect the natural drainage system from erosion, incision, and sedimentation and to prevent damage to stream habitat.
- Hydromodification control may include one or a combination of onsite, regional or sub-regional hydromodification control BMPs, LID BMPs, or stream and riparian buffer restoration measures. Any in-stream restoration measure cannot adversely affect the beneficial uses of the natural drainage system.
- Natural drainage systems that are subject to the hydromodification control requirements in the MS4 Permit include all drainages that have not been

improved (e.g., channelized or armored with concrete, shotcrete, or rip-rap) and drainage systems that are tributary to a natural drainage system, except as specifically exempted in the MS4 Permit. Exemptions include:

- Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility, storm drain, or transportation network.
- Redevelopment projects in the urban core that do not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project condition.
- Projects that have any increased discharge directly or via a storm drain to a sump, lake, area under tidal influence, into a waterway that has a 100-year peak flow (Q_{100}) of 25,000 cfs or more, or other receiving water that is not susceptible to hydromodification impacts. The Project would discharge to the Santa Clara River via the storm drain system, and therefore the Project meets the exemption requirement.
- Projects that discharge directly or via a storm drain into concrete or otherwise engineered (not natural) channels (e.g., channelized or armored with rip rap, shotcrete), which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts.
- Projects disturbing 50 acres or more within natural drainage systems are presumed to meet the hydromodification control Project Performance Criteria based on demonstration of one of the following conditions:
 - The site infiltrates on-site at least the runoff from a 2-year, 24-hour storm event, or
 - 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-hour rainfall events. These conditions must be substantiated by hydrologic modeling acceptable to the Regional Water Board Executive Officer, or
 - The Erosion Potential (E_p) in the receiving water channel will approximate 1, as determined by a Hydromodification Analysis Study and the equation presented in Attachment J to the MS4 Permit.

General Waste Discharge Requirements for Dischargers of Groundwater from Construction and Project Dewatering

The Los Angeles Regional Water Quality Control Board reissued a General NPDES Permit and General WDRs (Order No. R4-2013-0095, NPDES No. CAG994004) which supersedes the former dewatering permit (Order No. R4 2008-032). This permit governs construction-related dewatering discharges within the project development areas (the "General Dewatering Permit.") This permit addresses discharges from temporary dewatering operations associated with construction and

permanent dewatering operations associated with development. The discharge requirements include provisions mandating notification, sampling and analysis, and reporting of dewatering and testing-related discharges. The General Dewatering Permit authorizes such construction-related activities so long as all conditions of the permit are fulfilled. Compliance with the requirements of the General Dewatering Permit is used as one method to evaluate Project construction-related impacts on surface water quality.

Lake or Streambed Alteration Agreement (LSAA)

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires the proponent of a project that may impact a river, stream, or lake to notify the CDFW before beginning the project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Section 1602 of the *California Fish and Game Code*⁷² requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the CDFW before beginning the project. Similarly, under section 1602 of the *Fish and Game Code*, before any State or local governmental agency or public utility begins a construction project that will: 1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; 2) use materials from a streambed; or 3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, it must first notify the CDFW of a proposed project. If the CDFW determines that the project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required. In this case, the Applicant will be required to enter into a Streambed Alteration Agreement with CDFW prior to grading activities.

California Green Building Standards Code (CALGreen Code)

In January 2013, the State of California enacted the third revision of the California Green Building Standards Code (CALGreen Code) as part 11 of the California Building Standards Code (Title 24). CALGreen measures are designed to improve public health, safety, and general welfare by utilizing design and construction methods that reduce the negative environmental impact of development and encourage sustainable construction practices.

CALGreen provides mandatory direction to developers of all new construction and renovations of residential and non-residential structures with regard to all aspects of design and construction,

72 While the name of the Department has changed to the California Department of Fish and Wildlife (CDFW), the regulations are still referred to as the *California Fish and Game Code*.

including but not limited to site drainage design, storm water management, and water use efficiency. Required measures are accompanied by a set of voluntary standards that are designed to encourage developers and cities to aim for a higher standard of development.

Under CALGreen, all residential and non-residential sites are required to be planned and developed to keep surface water from entering buildings and to incorporate efficient outdoor water use measures. Construction plans are required to show appropriate grading and surface water management methods such as swales, water collection and disposal systems, French drains, water retention gardens, and other water measures which keep surface water away from buildings and aid in groundwater recharge. Plans should also include outdoor water use plans that utilize weather or soil moisture controlled irrigation systems. In addition to the above-mentioned requirements, non-residential structures are also required to develop an irrigation water budget for landscapes greater than 2,500 square feet that conforms to the local water efficient landscape ordinance or to the DWR Model Water Efficient Landscape Ordinance where no local ordinance is applicable.

3. County

Los Angeles County Low Impact Development Standard Manual

The Los Angeles County LID Standards Manual outlines storm water runoff quantity and quality control development principles, technologies, and design standards for achieving the LID Standards of Chapter 17.95 of the City of Santa Clarita municipal code. The LID Standards Manual requires that Designated Projects prioritize the selection of BMPs to retain 100% of the SWQDv on-site through infiltration, evapotranspiration, storm water runoff harvest and use, or a combination thereof, unless it is demonstrated that it is technically infeasible to do so. The Manual states that BMPs should be implemented in the following order of preference:

- Infiltration and/or bioretention.
- Storm water runoff harvest and use.

Designated Projects that are unable to fully retain the SWQDv on-site through retention-based storm water quality control measures must implement alternative compliance measures (e.g., on-site biofiltration, off-site groundwater replenishment, off-site infiltration and/or bioretention, and off-site retrofit). Prior to off-site mitigation, the portion of the SWQDv that cannot be reliably retained on-site must be treated to meet effluent quality standards.

The LID Standards Manual outlines site conditions where infiltration may be technically infeasible:

- Locations where the corrected in-situ infiltration rate is less than 0.3 inches per hour, as determined according to the most recent Geotechnical and Materials Engineering Division Policy GS 200.1, and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to achieve reliable performance of retention-based storm water quality control measures for the SWQDv on-site.

- Locations where seasonal high groundwater is within 10 feet of the surface.
- Within 100 feet of a groundwater well used for drinking water.
- Brownfield development sites or other locations where pollutant mobilization is a documented concern.
- Locations with potential geotechnical hazards.
- Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite retention requirement;
- Locations where infiltration may cause adverse impacts to biological resources.
- Locations where infiltration may cause health and safety concerns.

The LID Standards Manual also outlines site conditions where storm water runoff harvest and use may be technically infeasible:

- Projects that would not provide sufficient irrigation or (where permitted) domestic grey water demand for use of stored storm water runoff due to limited landscaping or extensive use of low water use plant palettes in landscaped areas.
- Projects that are required to use recycled water for landscape irrigation.
- Projects in which the harvest and use of storm water runoff would conflict with local, state, or federal ordinances or building codes.
- Locations where storage facilities may cause potential geotechnical hazards as outlined in the geotechnical report.
- Locations where storage facilities may cause health and safety concerns.

Chapter 17.95 of the City's municipal code and the LID Standards Manual also contain requirements for hydromodification control. Projects disturbing 50 acres or more must demonstrate the project infiltrates on site at least the runoff from a 2-year, 24-hour storm event, or the runoff flow rate, volume, velocity, and duration for the post-development condition for the 2-year, 24-hour hour rainfall event. The LID Manual provides for the following exemptions from hydromodification control requirements:

- Projects that replace, maintain, or repair existing, publicly-maintained flood control facilities, storm drains, or transportation networks;
- Redevelopment projects in an urbanized area that do not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to pre-project conditions;
- Projects that have any increased discharge directly or via a storm drain to a sump, lake, area under tidal influence, waterway that has an estimate 100-year peak flow of 25,000 cubic feet per second or more, or other receiving water that is not susceptible to hydromodification impacts;
- Projects that discharge directly or through a storm drain into concrete or other engineered channels (e.g., channelized or armored with riprap, shotcrete), which in turn

- discharge into a sump area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts;
- Non-designated projects that disturb less than one acre or create less than 10,000 square feet of new impervious area; and
 - Single family homes that incorporate LID BMPs in accordance with the LID Standards Manual.

4. City of Santa Clarita

Green Building Standards Code

In 2013, the City of Santa Clarita adopted by reference the 2013 California Green Building Standards Code (CalGreen).

City Standard Urban Storm Water Mitigation Plan Implementation

The City of Santa Clarita has adopted revised post-construction storm water requirements for development and redevelopment projects (Chapter 17.95) to comply with the current MS4 Permit. The City's requirements took effect on January 1, 2016. The requirements aim to lessen the water quality impacts of development by using smart growth practices and integrating LID design principles to mimic predevelopment hydrology through infiltration, evapotranspiration and rainfall harvest, and use. The City has adopted by reference previously adopted Standard Urban Stormwater Mitigation Plan (SUSMP) requirements and the Los Angeles County Low Impact Development Standards Manual (LACDPW, 2014).

Chapter 17.95 applies to:

- Development projects 1 acre or larger that add more than 10,000 square feet of impervious surface area, and
- Redevelopment projects that create more than 5,000 square feet of impervious surface (10,000 if single-family home).

Requirements of Chapter 17.95 include:

- No new development shall increase the peak rate of discharge of stormwater from the developed site if this increase would make downstream erosion more probable.
- Subdivisions shall:
 - Concentrate or cluster new development on portions of the site while leaving the remaining land in a natural undisturbed condition;
 - Limit clearing and grading of native vegetation to the minimum extent practicable, consistent with the construction of lots, and to allow access and provide fire protection; and
 - Preserve riparian areas and wetlands.

- The site for every planning priority project shall be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or rainfall harvest, and use.

To meet these standards, applicable development projects shall retain the Stormwater Quality Design Volume (SWQDv) on-site. The SWQDv is defined as the runoff from:

1. The 85th percentile 24-hour runoff event as determined from the Los Angeles County 85th percentile precipitation isohyetal map; or
2. The volume of runoff produced from a 0.75 inch, 24- hour rain event, whichever is greater.

Landscaping and Irrigation Standards

Water efficient landscape requirements set forth in Chapter 17.51 of the City of Santa Clarita municipal code that apply to new and redevelopment projects include the following:

- Plant materials emphasize drought-tolerant and/or native species.
- Turf areas shall not exceed 50% or 20% of the total landscaped area for single-family and multi-family development, respectively.

In addition, a water efficient landscape worksheet must be prepared for landscape irrigation use that conforms to the DWR Model Water Efficient Landscape Ordinance.

4.9-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to hydrology and water quality are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to hydrology and water quality if any of the following could occur.

-
- Hyd-1** Would the project violate any water quality standards or waste discharge requirements?
- Hyd-2** Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
- Hyd-3** 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?
-

-
- Hyd-4** 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?
- Hyd-5** 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?
- Hyd-6** Would the project otherwise substantially degrade water quality?
- Hyd-7** 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?
- Hyd-8** Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?
- Hyd-9** 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?
- Hyd-10** Would the project be subject to inundation by seiche, tsunami, or mudflow?
- Hyd-11** Would the project result in changes in the rate of flow, currents, or the course and direction of surface water and/or groundwater?
- Hyd-12** Would the project result in other modification of a wash, channel creek, or river?
-

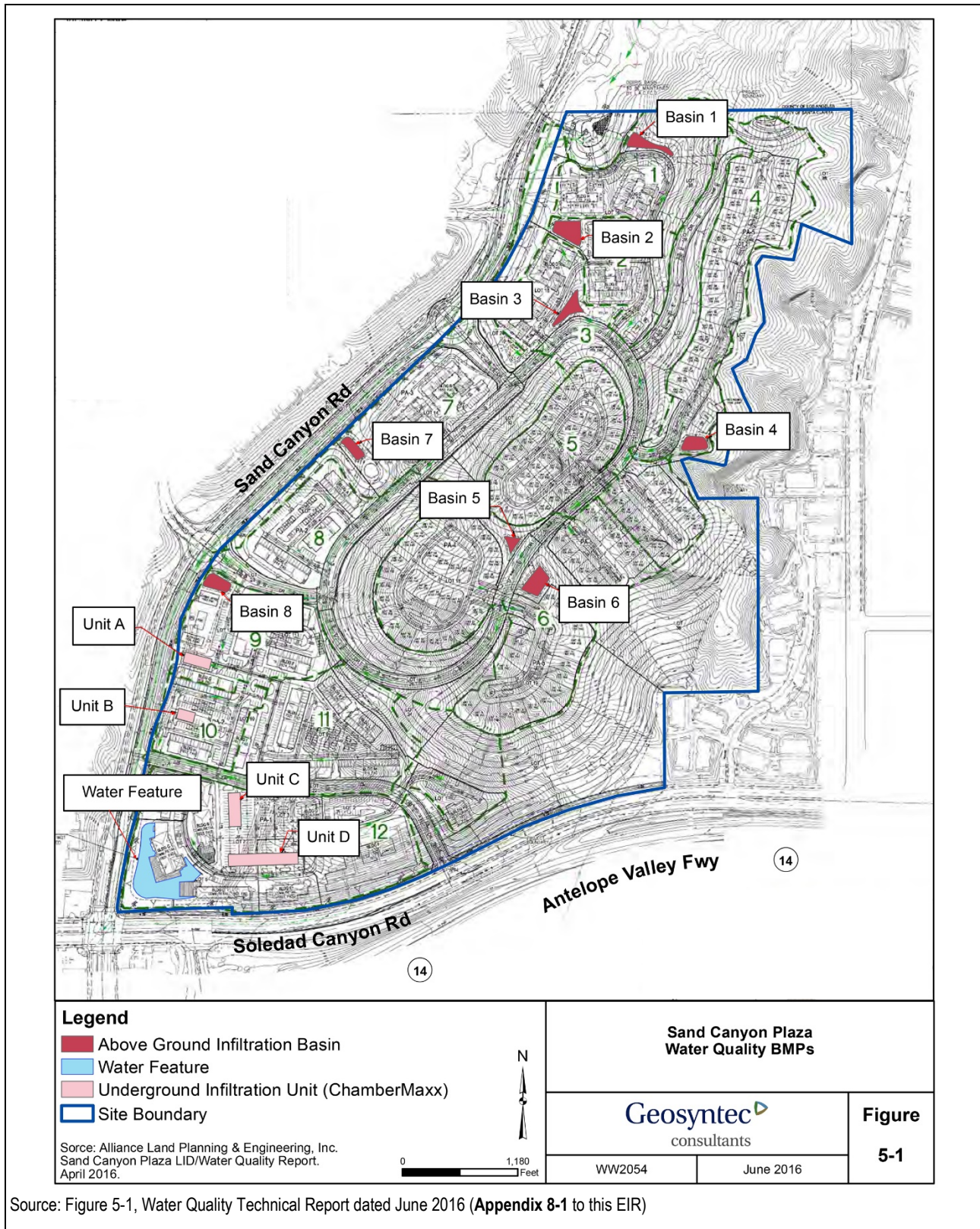
4.9-6 Impacts Analysis

Project Overview

The Project includes development of the property with a mixed-use community consisting of approximately 130,600 square feet of commercial uses (including 55,600 square feet of general retail/restaurants and a 75,000-square foot assisted living facility), 312 apartment units, 122 townhome units, and 146 condominium units, for a total of 580 residential units.

Surface runoff in Drainage Basin A will be conveyed overland to a system of catch basins that discharge to an underground storm drain system. The storm drain system will convey flows to a system of above-ground infiltration basins and underground infiltration units, via a system of grated inlets, low flow pipes and splitter boxes. The infiltration basins and underground units will be offline from the main storm drain system to avoid damage from very large erosive flows. Overflow devices (above-ground basins) and bypass systems (underground units) will be installed to convey high flow events. Refer to **Figure 4.9-3**.

All BMP design work will be done in compliance with Los Angeles County drainage requirements and the Los Angeles County MS4 Permit requirements.



Source: Figure 5-1, Water Quality Technical Report dated June 2016 (Appendix 8-1 to this EIR)

Figure 4.9-3 Project Water Quality Best Management Practices

- Hyd-3** 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?
- Hyd-4** 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?
- Hyd-5** 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?
- Hyd-11** Would the project result in changes in the rate of flow, currents, or the course and direction of surface water and/or groundwater?
- Hyd-12** Would the project result in other modification of a wash, channel creek, or river?

Hydrology/Drainage

The developed condition flow patterns remain mostly unchanged when compared to those of the existing condition. The Project site would continue to consist of two major drainage basins, Basin A and Basin B, and would continue to convey the majority of flow to the southwest corner of the site at Soledad Canyon Road and Sand Canyon Road.

Basin A would increase in overall size while Basin B would decrease in overall size due to Project grading. Surface runoff in Basin A would be conveyed overland to a system of catch basins and underground storm drains. A system of aboveground infiltration basins and underground infiltration chambers would mitigate increases in developed condition runoff volumes as well as serve the developed site for water quality purposes. Basin B would remain as it is in the existing condition except for the reduction in overall watershed size, thereby reducing storm water flows.

Summary tables below are the results of hydrologic modeling for the existing and developed conditions of Basin A and Basin B. **Table 4.9-13** and **Table 4.9-15**, respectively compare peak flow rates and runoff volumes from the existing condition to the developed condition.

Table 4.9-12 Existing and Developed Condition Peak Flow

Basin	Area (acres)	50-Year	25-Year	10-Year	5-Year	2-Year
		----- cubic feet per second -----				
Existing Condition						
A	727.8	841.5	722.4	566.5	440.7	251.9
B	54.6	102.8	83.8	60.3	42.6	20.3
Total	782.4	944.3	806.2	626.8	483.4	272.1
Developed Condition						
A	746.8	873.3	749.9	583.6	447.7	259.9
B	35.3	65.9	50.4	35.6	25.2	11.8
Total	782.1	939.2	800.3	619.2	472.9	271.7

Table 4.9-13 Peak Flow Comparison

Basin	Area (acres)	50-Year	25-Year	10-Year	5-Year	2-Year
		----- cubic feet per second -----				
Existing	782.4	944.3	806.2	626.8	483.4	272.1
Developed	782.1	939.2	800.3	619.2	472.9	271.7
Difference	-0.3	-5.1	-5.9	-7.6	-10.5	-0.5

Despite an increase in imperviousness, the proposed condition yields an overall net reduction in peak flowrate from both Basin A and Basin B. This is attributed to generally longer flow paths, flatter slopes, longer times of concentration/infiltration in Basin A, and a smaller area within Basin B.

Table 4.9-14 Existing and Developed Condition Runoff Volume

Basin	Area (acres)	50-Year	25-Year	10-Year	5-Year	2-Year
		----- acre-feet -----				
Existing Condition						
A	727.8	153.0	130.92	102.45	81.07	51.01
B	54.6	10.78	9.24	7.26	5.77	3.56
Total	782.4	163.82	140.16	109.71	86.84	54.57
Developed Condition						
A	746.8	161.46	138.27	108.44	85.83	53.44
B	35.3	6.36	5.46	4.31	3.43	2.02
Total	782.1	167.82	143.73	112.75	89.26	55.46

Table 4.9-15 Runoff Volume Comparison

Basin	Area (acres)	50-Year	25-Year	10-Year	5-Year	2-Year
		----- acre-feet -----				
Existing	782.4	163.82	140.16	109.71	86.84	54.57
Developed	782.1	167.82	143.73	112.75	89.26	55.46
Difference	-0.3	4.00	3.57	3.04	2.42	0.89

As expected, runoff volumes increase throughout all the storm events. The 25-Year developed condition volume is shown to increase 3.57 acre-feet (af) above that of the existing condition. Through the use of on-site water quality improvements already incorporated into the Project design, this small increase would result in less than significant impacts.

Hydromodification

In terms of peak flow, a net overall decrease of 5.9 cubic feet per second (cfs) for the Project has been calculated for the 25-Year event. Individually however, the 25-Year event shows that peak flows from Basin A would increase by 27.5 cfs and peak flows from Basin B would decrease by 33.4 cfs. The increase in Basin A flow and decrease in Basin B flow are attributed to the change in drainage basin due to Project grading. In the developed condition, Basin A would increase by approximately 19.0 acres and Basin B would decrease by approximately 19.0 acres.

The majority of Basin A would outlet into the existing double 8-foot-wide by 4-foot-high RCB located at the southeast corner of Soledad Canyon Road and Sand Canyon Road. This double RCB immediately transitions into a triple 5-foot-wide by 4-foot-high RCB that run beneath the intersection to the southwest corner. A small portion of Basin A would outlet into an existing 24-inch RCP that runs west in Soledad Canyon Road and confluences with the triple 5-foot-wide by 4-foot-high RCB. The design flow rate reported on MTD 1432 for the triple 5-foot-wide by 4-foot-high RCB is 670.4 cfs, which accommodates Project flows.

Basin B would outlet into various 24-inch and 30-inch reinforced concrete pipe (RCP) located at the intersection of Soledad Canyon Road and Prairie Lane. Developed condition peak flows for all storm events are calculated to decrease in Basin B, so there would be no impact in flow or volume generated from Basin B affecting the downstream drainage system.

For Basin A, the 25-year overall site runoff volume increase of 3.57 af would achieve existing condition levels through the system of aboveground infiltration basins and underground infiltration chambers. The Project would provide approximately 3.58 af of storage via 13 separate structures located across the site. Aboveground infiltration basins would be utilized at single-family residential and outlet points at upstream portions of the site. Underground 'ChamberMaxx' infiltration units would be utilized at commercial and multi-family residential areas at the downstream portions of the Project site. Lastly, the water feature located at the corner of Sand Canyon Road and Soledad Canyon Road would also be used to mitigate storm water volume generated by the 25-year event. **Table 4.9-16** summarizes the 25-Year runoff volume with improvements planned for the Project.

A system of splitters and low flow pipes would route runoff into each structure where the design volume would be retained until complete sub-surface percolation has occurred. All aboveground infiltration basin would be equipped with an overflow device for higher flow events and would be designed per Los Angeles County Sedimentation Manual standards. Similarly, all underground infiltration units would be equipped with a bypass system that routes higher flows directly into the main storm drain system.

Table 4.9-16 Summary of Q25 Runoff Volume

Drainage Area	Existing Condition (acre-feet)	Developed Condition (acre-feet)	Difference (acre-feet)
Basin A	130.92	138.27	7.35
Basin B	9.24	5.46	-3.78
Total	140.16	143.73	3.57

Impact Conclusion

Urbanization modifies natural watershed and stream hydrologic and geomorphic processes by introducing increased volumes and duration of flow via increased runoff from impervious surfaces and drainage infrastructure. Potential changes to the hydrologic regime may include increased runoff volumes, frequency of runoff events, long-term cumulative duration, or increased peak

flows. Urbanization may also introduce dry weather flows where only wet weather flows existed prior to development. These changes are referred to as “hydromodification.” A change to a site’s hydrologic regime would be considered a condition of concern if the change could have a significant impact on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects.

The Los Angeles County MS4 Permit exempts projects that discharge directly or via a storm drain into the Santa Clara River from the hydromodification control requirements; therefore, the Project is not subject to MS4 Permit hydromodification requirements. One of the hydromodification control requirements in the MS4 Permit is to infiltrate on-site at least the runoff from a 2-year, 24-hour storm event. The Project would infiltrate increases in runoff volume for the 25-year storm event, which exceeds the hydromodification standard in the MS4 Permit. Consequently, there are no hydromodification impacts associated with the Project.

Hydrologic modeling shows that the overall peak flows for the Project would decrease for the developed condition flood events. However, overall runoff volumes for Basin A would increase slightly. This increase is not beyond the capacity of the existing downstream storm system due to the improved infiltration gained through the above-ground and underground basins proposed across the Project site.

Overall runoff volume for the Project would increase in the developed condition flood events. The aboveground infiltration basins and underground infiltration units would also be used to ensure that the 25-year runoff volume to levels consistent with the existing condition. Therefore, the Project would result in less than significant hydrologic impacts.

LID Best Management Practices

LID Site Design BMPs

The purpose of site design and low impact development is to mimic the pre-developed hydrologic regime to the extent feasible. The primary goals of site design and LID BMPs are to maintain a landscape functionally equivalent to pre-development hydrologic conditions, and to minimize the generation of pollutants of concern.

Site design principles that would be incorporated into the Project, if feasible, include the following:

- **Minimize Impervious Area/Maximize Permeability** – Principles include preserving natural open space, reducing impervious surfaces such as roads, using more permeable paving materials, reducing street widths, using minimal disturbance techniques during development to avoid soil compaction, reducing the land coverage of buildings by building taller and narrower footprints, minimizing the use of impervious materials such as decorative concrete in landscape design, and incorporating detention or infiltration into landscape design. The Project would incorporate many of the concepts

- listed above (reduced street widths, retaining of open space and incorporation of infiltration into landscape design).
- **Minimize Directly Connected Impervious Areas (DCIAs)** – Minimizing DCIA can be achieved by directing runoff from impervious areas to vegetated areas (e.g., landscaped areas or vegetated treatment control BMPs) or to LID BMPs. The Project would incorporate this principle into its design.
 - **Conserve Natural Areas** – Conserving and protecting native soils, vegetation, and stream corridors helps to mimic the site's pre-development hydrologic regime. This may be accomplished by clustering development within portions of the site to conserve as much natural open space as possible, planting additional vegetation, using native and/or non-native drought tolerant and non-invasive vegetation in parking lot islands and other landscape areas, and preserving and/or restoring riparian areas and wetlands. Of the approximately 87 acres comprising the Project site, approximately 30% would be retained as open space/landscaped area.
 - **Select Appropriate Building Materials** – Use of appropriate building materials reduces the generation and discharge of pollutants of concern in runoff (and is therefore also a source control BMP). For example, restricting the use of architectural copper on the outside of buildings and reducing the use of galvanized materials would reduce the impact of copper and zinc to storm water runoff. Architectural copper would not be used on the Project.
 - **Protect Slopes and Channels** – Protecting slopes and channels reduces the potential for erosion and preserves natural sediment supply. The Project, through its drainage design, would protect slopes and channels from potential erosion.

LID Treatment Control BMPs

Aboveground infiltration basins are proposed to be used at the residential and outlet points at upstream portions of the Project site (total of eight). Underground infiltration units would be utilized at commercial and multi-family residential areas at the downstream portions of the Project site (total of four). The Project infiltration BMPs would be designed to fully capture trash and debris from runoff discharges in accordance with the State Water Board's Trash Amendments trash capture requirements. In addition to the proposed infiltration BMPs, a decorative water feature is being proposed to treat runoff from adjacent rooftops and walkways in the commercial area.

Within the developed area of the Project, a system of above ground infiltration basins and underground proprietary infiltration units (ChamberMaxx) would be used to treat all water quality flows prior to discharge into the main storm drain system. A mixture of grated inlets and splitter boxes would be used to separate out water quality flows from higher flow runoff events. Grated inlets would be placed upstream of storm drain catch basins and intercept water quality flows before they are able to reach the catch basin inlet. Dedicated low flow pipes would route water quality flows directly to the treatment basin or underground unit. Higher flows would bypass the grated inlet at street level and be routed directly into the high flow catch basin inlet.

Splitter boxes would be placed in-line with high flow storm drain lines and would route low flows out of the main storm drain system after flow has already been captured at a catch basin inlet. Each splitter box would be equipped with two outlet pipes; a low flow outlet pipe would be set with an invert at the bottom of the splitter box, a high flow outlet pipe would be set with an invert at the top of the low flow pipe. When flow exceeds the capacity of the low flow pipe, high flows would bypass through to the main storm drain line. All above ground infiltration basins and underground infiltration units would be offline from the main line storm drain system.

Runoff volumes that would be infiltrated for the water quality (85th percentile storm event) and the 2-, 5-, 10-, 25-, and 50-year 24-hour recurrence intervals were calculated using methods prescribed in the Los Angeles County Hydrology Manual (HydroCalc, and LAR04 [Modified Rational Method]). The Project would provide approximately 3.58 acre-feet of storm water runoff storage volume in twelve separate infiltration BMPs located throughout the site. Additional storage would be provided by the water feature located in Planning Area 1. This storage capacity is sufficient to mitigate increases in the 25-year 24-hour storm event runoff volume resulting from development of the Project. This level of infiltration exceeds the MS4 Permit criterion to infiltrate the water quality design storm volume on-site. The Project infiltration BMPs would be designed to fully capture trash and debris from runoff discharges in accordance with the State Water Board's Trash Amendments trash capture requirements.

Infiltration BMP locations and tributary drainage area are shown on **Figure 4.9-3, Project Water Quality Best Management Practices** (page [4.9-36](#)).

Impact Conclusion

Water quality modeling shows that the capacity of the proposed above ground infiltration basins and underground proprietary infiltration units is adequate for treatment of all site runoff at Project site.

The Project would not result in hydrologic impacts related to stream channel hydromodification. Runoff from the 25-year 24-hour storm would be infiltrated on-site. Project runoff above the 25-year storm would be discharged directly to a storm drain system that flows directly to the Santa Clara River. Discharges to the Santa Clara River are exempt from the hydromodification requirements in the MS4 Permit, therefore the Project is exempt. However, the Project would implement a more protective performance standard than what is required by the MS4 Permit.

Project BMPs include LID site design, source control, and LID treatment control BMPs in compliance with the MS4 Permit, City Municipal Code, and LID Manual requirements. Sizing criteria contained in the MS4 Permit and LID Manual would be met for all LID BMPs because the Project's BMPs would be designed to infiltrate runoff volumes up to the 25-year storm event. Thus, less than significant impacts would occur.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Hyd-1	Would the project violate any water quality standards or waste discharge requirements?
Hyd-5	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?
Hyd-6	Would the project otherwise substantially degrade water quality?

Construction BMP Implementation

Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap or filter sediment after it has been mobilized. As part of the Project, a SWPPP would be developed as required by, and in compliance with, the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-2009-DWQ (NPDES No. CAS000002) (Construction General Permit). The Construction 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 BAT/BCT. The following types of BMPs would be implemented as-needed during construction.

Erosion Control

- 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).
- Containment and secure protection of stockpiled materials from wind and rain at all times, unless actively being used.
- 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.

Sediment Control

- Perimeter protection to prevent sediment discharges (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 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).

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.
- Incorporation of a spill response and prevention program as part of the SWPPP, including availability of conspicuously located spill response materials at all times on-site.

Non-Storm Water Management

- BMPs or good housekeeping practices to reduce or limit pollutants at their source before they are exposed to storm water, including such measures as: water conservation practices, vehicle and equipment cleaning and fueling practices, and street sweeping. All such measures will be recorded and maintained as part of the Project SWPPP.
- If construction dewatering or discharges from other specific construction activities such as water line testing, and sprinkler system testing are required, compliance with the requirements of the LARWQCB's General WDRs under Order No. R4-2013-0095 (NPDES No. CAG994004) governing construction-related dewatering discharges.

Training and Education

- Inclusion of Construction General Permit defined “Qualified SWPPP Developers” (QSD) and “Qualified SWPPP Practitioners” (QSP). QSDs and QSPs shall have required certifications and shall attend State Board sponsored training.
- Training of individuals responsible for SWPPP implementation and permit compliance, including contractors and subcontractors.
- Signage (bilingual, if appropriate) to address SWPPP-related issues (such as site cleanup policies, BMP protection, and washout locations).

Inspections, Maintenance, Monitoring, and Sampling

- Performing routine site inspections and inspections before, during (for storm events > 0.5 inches), and after storm events.
- Preparing and implementing Rain Event Action Plans (REAPs) prior to any storm event with 50% probability of producing 0.5 inches 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 Project construction, BMPs would be implemented in compliance with the Construction 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. All discharges from qualifying storm events would be sampled for turbidity and pH and results would be compared to Numeric Action Levels (250 NTU and 6.5-8.5, respectively) to ensure that BMPs are functioning as intended. 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. Therefore, compliance with the BAT/BCT performance standard ensures effective control of construction water quality impacts over time.

Prior to the issuance of preliminary or precise grading permits, the landowner or subsequent project applicant would provide the County 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 Regional Water Quality Control Board, or a letter from either agency stating that the NOI has been filed and a copy of the site's applicable Waste Discharge identification (WDID) number.

On this basis, the impact of Project construction-related runoff is considered less than significant.

Source Control Best Management Practices

Table 4.9-17 below summarizes the source control requirements of the LID Standards Manual that would be incorporated into the Project.

Table 4.9-17 County LID Standards Manual Source Control Requirements to be Implemented for the Project

Source Control Requirement	Criteria/ Description
Minimize Storm Water Pollutants of Concern	<ul style="list-style-type: none"> Incorporate a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in runoff to the MEP.
Storm Drain Messaging and Signage	<ul style="list-style-type: none"> All storm drain inlets and catch basins within the Project area must be marked with prohibitive language and/or graphical icons to discourage illegal dumping. Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the Project area. Legibility of stencils and signs must be maintained.
Outdoor Material Storage Areas	<ul style="list-style-type: none"> Where Project plans include outdoor areas for storage of materials that may contribute pollutants to the storm water conveyance system measures to mitigate impacts must be included.
Outdoor Trash Storage and Waste Handling Areas	<p>All trash containers must meet the following structural or treatment control BMP requirements:</p> <ul style="list-style-type: none"> Trash container areas must have drainage from adjoining roofs and pavement diverter around the areas. Trash container areas must be screened or walled to prevent offsite transport of trash.
Outdoor Loading/ Unloading Dock Areas	<ul style="list-style-type: none"> Cover loading dock areas or design drainage to minimize run-on and runoff of storm water Direct connections to storm drains from depressed loading docks (truck wells) are prohibited
Outdoor Vehicle/ Equipment Repair/ Maintenance Areas	<ul style="list-style-type: none"> Repair/maintenance bays must be indoors or designed in such a way that does not allow storm water run-on or contact with storm water runoff. Design a repair/maintenance bay drainage system to capture all wash water, leaks, and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/ maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.
Outdoor Vehicle/ Equipment/ Accessory Wash Areas	<ul style="list-style-type: none"> Self-contained and /or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.

Source Control Requirement	Criteria/ Description
Fuel and Maintenance Area	<ul style="list-style-type: none"> The fuel dispensing area must be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited. The fuel dispensing areas must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff. At a minimum, the concrete fuel dispensing area must extend 6.5 feet from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.
Landscape Irrigation Practices	<ul style="list-style-type: none"> Implement Integrated Pest Management (IPM) practices. Do not allow irrigation runoff from the landscaped area to drain directly to storm drain system. Minimize use of fertilizer, pesticides, and herbicides on landscaped areas. Plan sites with sufficient landscaped area and dispersal capacity (e.g., ability to receive irrigation water without generating runoff). Consult a landscape professional regarding appropriate plants, fertilizer, mulching applications, and irrigation requirements (if any) to ensure healthy vegetation growth.
Building Materials Selection	<ul style="list-style-type: none"> Wood that is pressure treated with arsenate, copper, and chromium compounds may be replaced with alternative building materials. Minimize or avoid the use of copper and galvanized metals on buildings and in fencing. Reduce the use of pesticides around foundations through the use of alternative barriers where feasible.
Animal Care and Handling Facilities	<ul style="list-style-type: none"> Site animal care and handling facilities away from the storm drain system and receiving waters. Manage grazing to prevent impacts to receiving waters. Manage horse access and horse waste to prevent pollutants from entering the storm drain system or receiving waters.
Outdoor Horticultural Areas	<ul style="list-style-type: none"> Do not allow wash water from horticulture areas to drain directly to the storm drain system or receiving waters.

Pre- and Post-Project Water Quality Conditions for TSS, Metals, Nutrients, and Chloride

The Project would convert developed and undeveloped land to urban land uses. Land use runoff quality data are available from Los Angeles County. The Los Angeles County Department of Public Works (LACDPW) monitored storm water runoff quality from various land uses throughout the County on an annual basis beginning in 1995 through 2001. For each year of monitoring several storm event mean concentrations (EMCs) are reported and included in the County's annual water quality report to the LARWQCB. A summary of representative EMC for different land used based on the Los Angeles County data is provided in **Table 4.9-18**. Note that the land use runoff concentrations are representative of runoff concentrations without the implementation of source control or LID BMPs. Therefore, runoff from the Project is predicted to be lower, with implementation of source control and LID site design BMPs. In addition, runoff from the Project would be treated by infiltration BMPs, which mitigate increases in runoff volumes (to prevent any increases in pollutant loading to receiving waters) and also provide treatment prior to discharge to groundwater.

Table 4.9-18 Average Concentrations from Los Angeles County Land Use EMC Data

Land Use Units	TSS mg/L	TP mg/L	NH3 mg/L	NO3 mg/L	NO2 mg/L	TKN mg/L	DCu µg/L	TCu µg/L	TPb µg/L	DZn µg/L	TZn µg/L	Cl mg/L	TFe µg/L	DFe µg/L
Commercial	67	0.40	0.29	1.21	0.55	3.4	12	31	12	153	237	50	4,942	357
Transportation	78	0.68	0.37	0.74	0.09	1.8	32	53	9.2	222	292	6.3	1,212	185
Multi-Family Residential	40	0.23	0.50	1.5	0.11	1.8	7.4	12	4.5	78	125	23	965	204
Single Family Residential	124	0.40	0.49	0.78	0.09	3.0	9.4	19	11	27	72	5.4	1,429	103
Vacant / Undeveloped	217	0.12	0.11	1.2	0.02	1.0	0.6	11	3.0	28	26	6.7	2,725	152

Source: Analysis derived from LACDPW, 2000. These data represent runoff concentrations in land uses with no BMP implementation.

Based on the Los Angeles County data, the TSS concentration is predicted to decrease as a result of the Project. The decrease can be attributed to higher EMCs observed in monitoring data from open space land uses (the existing condition for the site) compared with urban land uses. Concentrations of phosphorus and nitrogen compounds, as well as chloride are expected to increase slightly in development condition compared to open space. Metals concentrations are expected to increase with urbanization.

Because the Project would infiltrate runoff produced from storm events up to and including the 25-year 24-hour storm event, the Project would not discharge runoff to the Santa Clara River up to this design storm. Therefore, the Project would not adversely impact concentrations of pollutants of concern in the Santa Clara River, causing exceedance of water quality objectives. Project impacts associated with TSS, nutrients (nitrogen and phosphorus), metals and chloride would be less than significant.

Turbidity

Discharges of turbid runoff are primarily of concern during the construction phase of Project development. The Construction Storm Water Pollution Prevention Plan (SWPPP) must contain sediment and erosion control BMPs pursuant to the Construction General Permit, and those BMPs must effectively control erosion and discharge of sediment, along with other pollutants, per the Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT) standards.⁷³ Additionally, fertilizer control and non-visible pollutant

⁷³ BAT/BCT are Clean Water Act technology-based standards that are applicable to construction site storm water discharges. Federal law specifies factors relating to the assessment of BAT including: age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; the cost of achieving effluent reduction; non-water quality environmental impacts (including energy requirements); and other factors as the Administrator deems appropriate. Clean Water Act §304(b)(2)(B). Factors relating to the assessment of BCT include: reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived; comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources; the age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; non-water quality environmental impact (including energy requirements); and other factors as the Administrator deems appropriate. Clean Water Act §304(b)(4)(B). The Administrator of U.S. EPA has not issued regulations specifying BAT or BCT for construction site discharges.

monitoring and trash control BMPs in the SWPPP would combine to help control turbidity during the construction phase.

In the post-development condition, placement of impervious surfaces would serve to stabilize soils and to reduce the amount of erosion that may occur from the Project during storm events, and would therefore decrease turbidity in runoff from the Project. Project BMPs, including source controls (such as common area landscape management and common area litter control) and LID and treatment control BMPs in compliance with the MS4 Permit and LID Manual requirements, would prevent or reduce the release of organic materials and nutrients (which might contribute to algal blooms) to receiving waters. Based on implementation of the construction phase and post-construction Project BMPs, runoff discharges from the Project would not cause increases in turbidity which would result in adverse effects to beneficial uses in the receiving waters. Based on these considerations, the water quality impacts of the Project on turbidity are considered less than significant.

Pesticides

Site development involves remedial grading which would stabilize soils and prevent their transport from the Project site, actually reducing the potential for discharge of sediments to which historical pesticides may have adsorbed⁷⁴ in pre-development conditions.

In the post-developed condition, pesticides may be applied to common landscaped areas and residential lawns and gardens. With no agricultural uses planned for the Project, diazinon would not be used at the Project site. The 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 in the Project area is not expected, with the possible exception of emergency fire ant eradications, until such time as reasonable alternative products are available and only with appropriate application practices in accordance with the landscape pesticide management program.

Given that many pesticides exhibit toxicity at very low concentrations, the most effective control strategy is source control, and compliance with the DPR regulations limiting outdoor applications. Source control measures such as education programs for owners, occupants, and employees 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, including historical pesticides that may be present at the site, 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

74 To “adsorb” means to accumulate on the surface.

or filtered out of the water column in the LID and treatment control BMPs. Treatment in the LID infiltration BMPs would prevent the discharge of runoff containing pesticides.

For common area landscaping, an Integrated Pest Management (IPM) Program would be incorporated. The goal of an IPM Program is to keep pest levels at or below threshold levels, reducing risk and damage from pest presence, while eliminating the risk from the pest control methods used. IPM programs achieve these goals through the use of low risk management options by emphasizing use of natural biological methods and the appropriate use of selective pesticides. IPM programs also incorporate environmental consideration by implementing procedures that minimize intrusion and alteration of biodiversity in ecosystems. As part of the IPM program, careful consideration would be made as to the appropriate type of pesticides for use on the Project site. While pesticide use is likely to occur due to maintenance of landscaped areas, particularly in the residential portions of the development, careful selection, storage, and application of these chemicals for use in common areas per the IPM Program would help prevent adverse water quality impacts from occurring.

Based on the incorporation of LID site design, source control, and LID treatment control (infiltration) BMPs pursuant to MS4 Permit and LID Manual requirements, potential post-development impacts associated with pesticides are expected to be less than significant.

Transport of legacy pesticides adsorbed to existing site sediments may be a concern during the construction phase of development. Construction-related impacts are addressed later in this section. The Construction SWPPP must contain sediment and erosion control BMPs pursuant to the Construction General Permit, and those BMPs must effectively control erosion and the discharge of sediment along with other pollutants per the BAT/BCT standards. Based on these sediment controls, construction-related impacts associated with pesticides are expected to be less than significant.

Pathogens

The primary sources of pathogen indicators from the Project development would likely be sediment, pet wastes, wildlife, and regrowth in the storm drain itself. Other sources of pathogens and pathogen indicators, such as cross connections between sanitary and storm sewers, are unlikely given modern sanitary sewer installation methods and inspection and maintenance practices.

The Project, consistent with the MS4 permit requirements and LID Manual, includes a comprehensive set of LID site design, source control, and LID treatment control BMPs, (i.e., infiltration facilities). The infiltration BMPs would prevent the discharge of runoff containing pathogen indicators to the Santa Clara River. Therefore, it is anticipated that the Project would not result in substantial changes in pathogen or FIB concentrations in receiving waters causing a violation of the water quality standards or waste discharge requirements or otherwise

substantially degrade water quality in the receiving waters. Water quality impacts related to pathogens would be reduced to a less-than-significant level.

Petroleum Hydrocarbons

Various forms of petroleum hydrocarbons (oil and grease) are common constituents associated with urban runoff; however, these constituents are difficult to measure and are typically measured with grab samples, making it difficult to develop reliable EMCs.

PAHs in urban runoff are primarily associated with transportation activities and are expected to increase with development. Source control BMPs that address petroleum hydrocarbons include educational materials on oil disposal and recycling programs, spill control at fueling facilities, carpooling, and public transportation alternatives to driving. Supplemental to this strategy would be the utilization of LID treatment controls that would infiltrate Project runoff; therefore, there would be no discharge of runoff containing PAHs to the Santa Clara River.

During the construction phase of the Project, hydrocarbons in site runoff could result from construction equipment/vehicle fueling or spills. Construction-related impacts are addressed later in this section. However, pursuant to the Construction General Permit, the Construction Storm Water Pollution Prevention Plan must include BMPs that address proper handling of petroleum products on the construction site, such as proper petroleum product storage and spill response practices, and those BMPs must effectively prevent the release of hydrocarbons to runoff per the Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology standards. PAHs that are adsorbed to sediment during the construction phase would be effectively controlled via the erosion and sediment control BMPs. For these reasons, construction-related impacts related to hydrocarbons on water quality are considered less than significant. Also, based on the integrated source control and LID treatment (infiltration) strategy, the effect of the Project on petroleum hydrocarbons in the receiving waters is considered less than significant.

Trash and Debris

Urbanization could significantly increase trash and debris loads if left unchecked. However, the Project's BMPs, including source control, and LID 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 or businesses and reporting the violations to the owner/HOA for investigation. Catch basin inserts would be provided for high use parking lots. The Project's LID treatment BMPs would be designed to fully capture trash and debris from runoff discharges in accordance with the State Water Board's Trash Amendments trash capture

requirements. This overall combination of BMPs would prevent impacts on dissolved oxygen in the receiving water due to decomposing debris. Based on these considerations, post-development trash and debris is not expected to significantly impact the receiving waters of the Project.

During the construction phase, there is potential for an increase in trash and debris loads due to lack of proper contractor good housekeeping practices at the construction site. Per the Construction General Permit, the SWPPP for the site would include BMPs for trash control (e.g., catch basin inserts, good housekeeping practices). Compliance with the Permit requirements and inclusion of these BMPs, meeting BAT/BCT, included in the SWPPP would reduce impacts from trash and debris and, therefore, potential impacts would be less than significant.

Methylene Blue Activated Substances (MBAS)

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 runoff would be controlled through the source control BMPs, including a public education program on residential and charity car washing, and the provision of a car wash pad connected to sanitary sewer in the multi-family residential areas. 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. In addition, the LID BMPs would infiltrate runoff containing MBAS to prevent the discharge to the Santa Clara River. Therefore, MBAS are not expected to significantly impact the receiving waters of the Project.

Toxicity

Acute and Chronic Aquatic Toxicity

Pesticides, metals, PAHs, and other organic compounds (e.g., PCBs) can enter the aquatic food chain and cause acute or chronic toxicity in the form of lethal or sub-lethal effects, including survival, reproduction, prey avoidance, and others. Such effects are commonly measured by exposing sensitive organisms to water samples over a period of time and measuring the effects on the organisms.

Based on the incorporation of source control, LID, and treatment control BMPs pursuant to MS4 Permit and LID Manual requirements and the impact analysis results presented in these sections, potential post-development impacts associated with acute and chronic aquatic toxicity are expected to be less than significant.

Pollutant Bioaccumulation

The Basin Plan contains a narrative objective for bioaccumulation⁷⁵ which states that toxic pollutants shall not be present at levels that would bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health. Certain toxic pollutants can bioaccumulate in fish and other organisms at levels that are harmful for both the organism as well as the organisms that prey upon these species (including humans). An important pathway into the food chain is via sediments, as many bioaccumulative pollutants of concern are adsorbed to sediments. Pollutants that are known to bioaccumulate include certain pesticides, certain metals (i.e., lead and mercury), PAHs, and certain synthetic organic compounds like PCBs and dioxins.

Bioaccumulative pollutants that are present in storm water runoff from the Project may have the potential to accumulate in LID BMP vegetation and soils, potentially increasing the risk of exposure to wildlife and the food chain. Selenium is not naturally present at levels of concern in the Project's watershed. Mercury sources include fossil fuel power plant emissions and exposed tailings at former mercury mines, which are also not present at the Project site. Thus, bioaccumulation of mercury and selenium are not of concern for the Project.

The potential for bioaccumulation impacts from the proposed LID treatment BMPs would be minimal. The vegetation and soil media in the LID BMPs would trap sediments and pollutants in the soils, which contain bacteria that metabolize and transform pollutants, therefore reducing the potential for these pollutants to enter the food chain. Bioaccumulation of pollutants in the Santa Clara River is not of concern due to the low concentrations of pollutants, below the benchmark Basin Plan objectives and CTR criteria, predicted in the treated runoff. On this basis, the potential for bioaccumulation and adverse effects on aquatic life or human health is considered less than significant.

Dry Weather Runoff

Pollutants in dry weather flows could also be of concern because dry weather flow conditions occur throughout a large majority of the year, and because some of the TMDLs in downstream reaches of the Santa Clara River are applicable for dry weather conditions (e.g., nutrients and chloride).

Dry weather flows are typically low in sediment because the flows are relatively low and coarse suspended sediment tends to settle out or is filtered out by vegetation. As a consequence, pollutants that tend to be associated with suspended solids (e.g., phosphorus, some bacteria, some trace metals, and some pesticides) are typically found in very low concentrations in dry weather flows. The focus of the following discussion is therefore on constituents that tend to be dissolved

⁷⁵ Bioaccumulation is the net uptake and retention of a chemical in an organism from all routes of exposure (diet, dermal, respiratory) and any source (water, sediment, food).

(e.g., nitrate and trace metals), or constituents that are so small as to be effectively transported (e.g., pathogens and oil and grease).

To minimize the potential generation and transport of dissolved constituents, landscaping in public and common areas would utilize drought tolerant vegetation that requires little watering and chemical application. Landscape watering in common areas, commercial areas, multiple family residential areas, and in parks would use efficient irrigation technology utilizing evapotranspiration sensors to minimize excess watering.

In addition, educational programs and distribution of materials (source controls) would emphasize appropriate car washing locations (at commercial car washing facilities or the car wash pad in the multi-family residential areas) and techniques (minimizing usage of soap and water), encourage low impact landscaping and appropriate watering techniques, appropriate swimming pool dechlorination and discharge procedures, and discourage driveway and sidewalk washing. Illegal dumping would be discouraged by stenciling storm drain inlets and posting signs that illustrate the connection between the storm drain system and the receiving waters and natural systems downstream.

Dry weather flows from the Project are anticipated to be minimal, with implementation of the source control BMPs described above. The LID treatment BMPs would infiltrate any dry weather flows should they occur, and therefore, no dry weather discharge from the Project site to the Santa Clara River are expected to occur. Therefore, the impact from dry weather flows is considered less than significant.

Groundwater Impacts

The pollutants of concern for the groundwater quality analysis are those that are anticipated or potentially could be generated by the Project at concentrations that exhibit the characteristics, based on water quality data collected in Los Angeles County from land uses that are the same as those included in the Project. Groundwater quality could potentially be affected by infiltration of urban runoff from the Project. Identification of the groundwater pollutants of concern for the Project was based on consideration of proposed land uses as well as pollutants that have the potential to impair beneficial uses of the groundwater below the Project. The Basin Plan contains numerical objectives for designated groundwater basins, for bacteria, mineral quality, nitrogen, and various toxic chemical compounds, and contains qualitative objectives for taste and odor. Less than 1% of the Project site is located within a designated groundwater basin, the Santa Clarita Valley Groundwater Basin, East Subbasin.

The Project's BMPs would infiltrate urban runoff into groundwater after receiving treatment in the BMPs, and there would also be incidental infiltration of potable irrigation water. Research conducted on the effects on groundwater from storm water infiltration indicate that the potential for contamination is dependent on a number of factors including the local hydrogeology and the

chemical characteristics of the pollutants of concern. Pollutant characteristics that influence the potential for groundwater impacts include high mobility (low absorption potential), high solubility fractions, and abundance in runoff, including dry weather flows. Overall, storm water infiltration poses few significant risks to underlying aquifers, as most pollutants carried by typical urban storm water sorb to soils, accumulating in the upper layers. Metals, pathogens, petroleum hydrocarbons, and numerous organic compounds would either: 1) sorb to soil particles, 2) volatilize at the surface, or 3) degrade by microbial processes in surface and sub-surface soil layers. More mobile constituents such as nitrate would have a greater potential for groundwater impacts due to infiltration.

The Santa Clarita Valley Groundwater Basin, East Subbasin has a designated beneficial use of municipal water supply, and the water quality objective is the Maximum Contaminant Level (MCL) of 10 mg/L nitrate and nitrite as N. Urban runoff data collected in Los Angeles County indicate that the average nitrate concentration in storm water runoff is 0.78 to 1.5 mg/L from residential land use (i.e., single family/multi-family residential) and 1.2 mg/L from commercial land uses, which is well below the MCL. Therefore, nitrate is not a pollutant of concern for groundwater as a result of urban runoff from the Project area.

Bacteria

The Basin Plan contains numeric criteria for bacteria in drinking water sources. As bacteria are removed through straining in soils (for example, as with septic tank discharges), infiltration of runoff in the Project's water quality BMPs would not affect bacteria levels in groundwater.

Chemical Constituents and Radioactivity

Drinking water limits for inorganic and organic chemicals that can be toxic to human health in excessive amounts and radionuclides are contained in Title 22 of the *California Code of Regulations*. These chemicals and radionuclides would not occur in the Project's runoff.

Impact Conclusion

Project construction phase impacts on water quality are generally caused by soil disturbance and subsequent suspended solids discharge. These impacts would be minimized through implementation of construction BMPs that would meet or exceed measures required by the Construction General Permit and General Dewatering Permit, as well as BMPs that control the other potential construction-related pollutants (PAHs, metals). A SWPPP would be developed as required by, and in compliance with, the Construction General Permit. Erosion control BMPs would be implemented to prevent erosion, whereas sediment controls, including but not limited to silt fence, sedimentation ponds, and secondary containment on stockpiles would be implemented to trap sediment once it has been mobilized. On this basis, the construction-related impact of the Project on water quality is considered less than significant.

The infiltration BMPs would prevent the discharge of pollutants of concern to the Santa Clara River originating from wet weather and dry weather flows and would be design as full trash capture BMPs, therefore the Project's impacts on surface receiving water quality would be less than significant.

The Project would not be a source of pollutants of concern that could impact water quality. Based on compliance with the federal, state, and local requirements designed to protect water quality and beneficial uses, Project impacts are less than significant.

Operation and Maintenance

The Project's Home Owners Association (HOA) (for single family residential areas) and Property Owners Association (POA) (for commercial and apartment areas) would be responsible for maintenance of the BMPs.

Maintenance and inspection agreements would be established as the storm water facilities are approved and built. HOA/POA maintenance agreements would incorporate a list of HOA/POA responsibilities. The City would have the right to inspect and maintain the BMPs that are maintained by the HOA/POA if they are not being properly maintained.

Operation and maintenance activities would be conducted in compliance with maintenance requirements established in the Los Angeles County Stormwater BMP Design and Maintenance Manual.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Hyd-2 Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Water Supply

Section 4.22, **Water Supply** provides additional background information and impact analysis, based upon the Water Supply Assessment (WSA) prepared for the Project.

The water source to be used by SCWD to meet the Project demand would be a mix of local groundwater and imported supplies from CLWA. As discussed in greater detail in Section 4.17.3, the alluvial aquifer, and the underlying Saugus Formation, are not in overdraft (historically or currently). Based on the 2015 UWMP and the 2015 Santa Clarita Valley Water Report (June 2016), perchlorate in local groundwater supplies does not substantially affect the reliability of the alluvial aquifer or the Saugus Formation. Thus, groundwater remains an available and reliable component of SCWD's water supplies, which will be blended with imported supplies to meet the water demand associated with existing and other planned future land uses within SCWD's service area. Thus, SCWD has already accounted for the Project's potable water demand as part of its planned future uses in the 2015 UWMP.

The WSA concluded that the total water supplies projected to be available to SCWD during average/normal, single-dry, and multiple-dry years within a 20-year projection are sufficient to meet the projected demand associated with the Project, in addition to existing and planned future uses, including agricultural, manufacturing, and industrial uses within the SCWD service area.

Typically, discharge from the Project's developed areas to groundwater would occur at three locations: 1) through general infiltration of irrigation water, 2) through incidental infiltration of urban runoff in the proposed treatment control project design features after treatment, and 3) infiltration of urban runoff, after treatment in the project design features. Groundwater quality would be fully protected through implementation of the Project's site design, source control, and treatment control project design features prior to discharge of Project runoff to groundwater.

Although the Project would increase impervious area compared to the existing condition, increases in runoff volumes up to the 25-year storm event would be infiltrated in the Project LID treatment BMPs. In addition, the Project would include landscape irrigation, which would result in an increase in recharge compared to the existing condition. The Project is required to incorporate LID BMPs that promote groundwater recharge. Therefore, the Project would not significantly deplete groundwater supplies or interfere substantially with groundwater recharge, and less than significant impacts.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Hyd-7 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?

Hyd-8 Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Flood Hazard

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to a location's varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. Other Flood Areas include Zone X, which includes areas of 0.2% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood, and Zone D, which includes areas in which flood hazards are undetermined, but possible.

According to the Flood Insurance Rate Map (FIRM), Map Number 06037C0845F, Panel Number 0845F, September 26, 2008, published by the Federal Emergency Management Agency (FEMA), the Project site is located within Zone D. As indicated previously, the Project would include the construction of drainage facilities (box culvert) to accommodate the existing on-site Sand Canyon wash. These improvements would comply with all City and County requirements and would remove any flood hazard potential to future development associated with the Project. Additionally, the Project site is located north of and at a higher elevation than the Santa Clara River, which is within a special flood hazard area. Therefore, the Project would not place housing or other structures within the 100-year floodplain and no impacts would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

Hyd-9 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?

Hyd-10 Would the project be subject to inundation by seiche, tsunami, or mudflow?

The Project site is located inland from the Pacific Ocean and not in proximity to any large, continuously filled bodies of surface water; therefore, it is not subject to seiche or tsunamis. There are no dams that occur upstream of the Project site. There is no indication that the Project, or other existing or planned projects in the project area, would be at risk a failure of the dam.

The Project site is subject to some debris or mudflows; however, adequate building setbacks from natural slopes and debris control facilities proposed in upstream areas of the site would protect the Project development from mudflow hazard. Thus, impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.9-7 Cumulative Impacts

Surface Water Quality Cumulative Impacts

Cumulative impacts consider the effect of the Project in combination with similar projects that would discharge to Reach 7 of the Santa Clara River. Like the Project, the related projects would be subject to state, regional, and County requirements, such as MS4 Permit and LID Manual requirements; Construction General Permit requirements; General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, CTR criteria, and TMDLs, which are designed to assure that regional development does not adversely affect water quality. Any future urban development occurring in the cumulative impact analysis area must also comply with these requirements. Future projects would be evaluated individually to determine appropriate BMPs and treatment measures to avoid impacts to water quality. In addition, the County or City (as appropriate) would review all construction projects on a case-by-case basis to ensure that local and regional drainage surface water quality is protected. Therefore, based on compliance with all applicable laws, rules, and regulations, no significant cumulative impacts to surface water quality would occur.

Groundwater Cumulative Impacts

As discussed above, the Project would not contribute pollutants of concern that would impact groundwater quality. Groundwater recharge effects resulting from the Project area would not be significant because the LID treatment BMPs would be designed to infiltrate runoff up to the 25-year storm event. By extrapolating the evaluation of direct Project area groundwater impacts to existing and proposed development throughout the cumulative impacts area, it is concluded that no adverse cumulative effects would occur to groundwaters. Therefore, the Project area's incremental effects on groundwater quality and recharge when considered together with the effects of other projects in the area are not expected to be significant.

The Project area's discharges to groundwater with implementation of BMPs, both during construction and post-development, are predicted to comply with adopted regulatory requirements that are designed by the LARWQCB and SWRCB to assure that regional development does not adversely affect water quality, including MS4 Permit requirements; Construction General Permit requirements; and benchmark Basin Plan groundwater quality objectives (for projects within the watershed that have designated groundwater basins in the Basin Plan, which is not the case for the Project area, for which less than 1% is within a designated groundwater basin). Based on compliance with these requirements designed to protect beneficial uses, cumulative groundwater quality impacts would be less than significant.

Project BMPs include LID site design, source control, and LID treatment control BMPs in compliance with the MS4 Permit, City municipal code, and the LID Manual requirements. Sizing criteria contained in the MS4 Permit and LID Manual would be met for all LID BMPs because the Project's BMPs would be designed to infiltrate runoff volumes up to the 25-year storm event. The infiltration BMPs would prevent the discharge of pollutants of concern to the Santa Clara River originating from wet weather and dry weather flows and would be design as full trash capture BMPs, therefore the Project's impacts on surface receiving water quality when considered together with the effects of other projects in the area would be less than significant.

The Project would not cause hydrologic impacts related to stream channel hydromodification. Runoff from the 25-year 24-hour storm would be infiltrated on-site. Project runoff above the 25-year storm would be discharged directly to a storm drain system that flows directly to the Santa Clara River. Discharges to the Santa Clara River are exempt from the hydromodification requirements in the MS4 Permit; however, the Project would implement a more protective performance standard than what is required by the MS4 Permit.

Project construction phase impacts on water quality are generally caused by soil disturbance and subsequent suspended solids discharge. These impacts would be minimized through implementation of construction BMPs that would meet or exceed measures required by the Construction General Permit and General Dewatering Permit, as well as BMPs that control the other potential construction-related pollutants (PAHs, metals). A SWPPP would be developed as

required by, and in compliance with, the Construction General Permit. Erosion control BMPs would be implemented to prevent erosion, whereas sediment controls, including but not limited to silt fence, sedimentation ponds, and secondary containment on stockpiles would be implemented to trap sediment once it has been mobilized.

Groundwater recharge impacts are also considered to be less than significant due to the requirements to incorporate LID BMPs that promote groundwater recharge.

Similar to the Project requirements, other development in the area would have to comply with federal, state, and local requirements designed to protect water quality and beneficial uses. Therefore, cumulative impacts are less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.9-8 Sources Cited

Alliance Land Planning & Engineering, Sand Canyon Plaza Hydrology Technical Memorandum, January 2017. The Hydrology memorandum is necessary to determine floodway calculations.

Alliance Land Planning & Engineering, LID/Water Quality, City of Santa Clarita, Sand Canyon Plaza, July 2015.

Federal Emergency Management Agency, Los Angeles County and Incorporated Area Flood Insurance Rate Map 0637C0845F, September 26, 2008. These maps are required to determine flood impacts.

Geosyntec Consultants, Water Quality Technical Report, June 2016.

4.10 Land Use

4.10-1 Summary

The Sand Canyon Plaza Mixed-Use Project is situated on an approximately 87-acre parcel located immediately north of Soledad Canyon Road, east of Sand Canyon Road, north of State Route 14 (SR-14), and west of the Pinetree residential community in the City of Santa Clarita.

The Project Applicant proposes to develop the approximately 87-acre site with up to 580 residential units, 55,600 square feet of commercial/retail/restaurants, and a 75,000-square-foot (up to 120-bed) assisted living facility.

The Project site has General Plan and zoning designations of MXN (Mixed Use Neighborhood) and Urban Residential 3 (UR-3). These zones are intended for mixed-use development, which is encouraged to create neighborhoods that integrate residential uses with complementary commercial uses. There are numerous goals and policies in the General Plan that support increased residential densities and commercial intensities in infill, mixed-use development, such as the Project.

The Project has been determined to be consistent with the relevant General Plan Policies, the MXN (Mixed Use Neighborhood) and UR-3 (Urban Residential 3) zoning designations, and the 2012-2035 RTP/SCS Goals and growth forecasts. All land use impacts were concluded to be less than significant.

4.10-2 Introduction

This section describes the existing land uses in the City, identifies the regulatory framework with respect to regulations that address land use, and evaluate the significance of the potential changes in existing land uses that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.10-3 Existing Conditions

1. Existing Land Uses

A portion of the site is currently developed with 123 mobile homes. Remaining portions of the Project site are undeveloped.

2. Surrounding Land Uses

Residential uses are located to the north, east, and west, including Stetson Ranch and the Pinetree residential community. Commercial uses are located to the south and west along Sand Canyon Road.

3. Existing General Plan and Zoning Designations

The Project site has a General Plan and Zoning designation of MXN (Mixed Use Neighborhood) and Urban Residential 3 (UR-3). This zone is intended for mixed-use development that is encouraged to create neighborhoods that integrate residential uses with complementary commercial uses. The MXN designation/zone allows for a maximum density of 18 dwelling units per acre.

4.10-4 Regulatory Setting

1. State of California

Senate Bill 375

SB 375, adopted in 2008, represents the latest in a series of actions at the state level to address California's contributions to global climate change. Building on AB 32, SB 375 seeks to coordinate land use decisions made at the local (city and county) level with regional transportation planning. By coordinating these efforts, it is envisioned that vehicle congestion and travel can be reduced resulting in a corresponding reduction in emissions. SB 375 directed the California Air Resources Board (CARB) to set regional targets to reduce emissions; regional plans are required to identify how they will meet these targets.

SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in emissions consistent with AB 32's goals.
- Offering CEQA incentives to encourage projects that are consistent with a regional plan that achieves emissions reductions.
- Coordinating the Regional Housing Needs Assessment (RHNA) process with the regional transportation process while maintaining local authority over land use decisions.

Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743. To further the state's commitment to the goals of SB 375 and AB 32, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (§21099) of the *California Public Resources Code*. Key provisions of SB 743 include reforming aesthetics and parking California Environmental Quality Act (CEQA) analyses for urban infill projects and eliminating the measurement of auto delay, including Level of Service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 provides that, "aesthetics and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." This means that, effective January 1, 2014, aesthetics and parking are no longer considered in determining if a

project has the potential to result in significant environmental effects provided a project meets all of the following three criteria:

1. The project is in a transit priority area; and
2. The project is on an infill site; and
3. The project is residential, mixed-use residential, or an employment center.

SB 743 requires the Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas that promote the “reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” It also allows OPR to develop alternative metrics outside of transit priority areas. The statute provides that, upon certification and adoption of the revised CEQA Guidelines by the Secretary of the Natural Resources Agency, “automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment pursuant” to CEQA. In other words, Level of Service (LOS) generally shall not be used as a significance threshold under CEQA. SB 743 states that in developing alternative CEQA significance criteria for transportation, OPR can recommend potential metrics that include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. As required by SB 743, OPR released a preliminary discussion draft of changes to the CEQA Guidelines addressing transportation impacts on August 6, 2014. These changes would need to be adopted by the Secretary of the Natural Resources Agency and are anticipated to be effective sometime in 2015/16.

The Project site is not within a Transit Priority Area.

2. Regional

Southern California Association of Governments

- Regional Comprehensive Plan – The Regional Comprehensive Plan (RCP) is an advisory plan prepared by the regional agency that addresses important regional issues like housing, traffic/transportation, water, and air quality. In 2008 the Southern California Association of Governments (SCAG) adopted its most recent RCP, which serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. The RCP presents a vision of how Southern California can balance resource conservation, economic vitality, and quality of life. The document identifies voluntary best practices to approach growth and infrastructure challenges in an integrated and comprehensive way. It also includes goals and outcomes to measure progress toward a more sustainable region.
- Regional Transportation Plan/Sustainable Communities Strategy – In addition to the RCP, SCAG has prepared the 2012 Regional Transportation Plan (RTP) and Sustainable

Communities Strategy (SCS). The RTP/SCS is a federal and state mandated 20-year transportation plan that envisions the future multi-modal transportation system for the region. In compliance with state and federal requirements, SCAG prepares the Regional Transportation Improvement Program (RTIP) to implement projects and programs listed in the RTP. Updated every other year, the RTIP contains a capital list of all transportation projects proposed for the region over a 6-year period.

- Compass Blueprint Growth Visioning Program – In 2001, SCAG started a regional visioning process (i.e., Southern California Compass) to develop a strategy for regional growth that would accommodate growth while providing for livability, mobility, prosperity, and sustainability. This process was spearheaded by the Growth Visioning Subcommittee, which consists of civic leaders from throughout the region. The result is a shared “Growth Vision” for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The Compass Blueprint Growth Vision is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

1. Mobility – getting where we want to go
2. Livability - creating positive communities
3. Prosperity - long-term health for the region; and
4. Sustainability - promoting efficient use of natural resources.

To realize these principles on the ground, the Growth Vision encourages:

- focusing growth in existing and emerging centers and along major transportation corridors;
- creating significant areas of mixed-use development and walkable communities;
- targeting growth around existing and planned transit stations; and
- preserving existing open space and stable residential areas.

Creating a shared regional vision is an effective way to begin addressing issues such as congestion and housing availability that may threaten the region’s livability. The Compass Blueprint strategy promotes a stronger link between region-wide transportation and land use planning and encourages creative, forward-thinking, and sustainable development solutions that fit local needs and support shared regional values. In the short term, SCAG’s growth visioning process has found common ground in a preferred vision for growth and has incorporated it into immediate housing allocation and transportation planning decisions. In the long term, the Growth Vision is a framework that will help local jurisdictions address growth management cooperatively and will help coordinate regional land use and transportation planning. The result of this growth visioning effort is SCAG’s Growth Vision Report (GVR).

The Growth Vision Report presents the comprehensive Growth Vision for the six-county SCAG region as well as the achievements of the Compass process. It details the evolution of the draft vision, from the study of emerging growth trends to the effects of different growth patterns on transportation systems, land consumption, and other factors. The Growth Vision Report concludes with a series of implementation steps – including tools for each guiding principle and overarching implementation strategies – that will guide Southern California toward its envisioned future.

3. City of Santa Clarita

General Plan

The City of Santa Clarita General Plan is the primary policy-planning document that guides land uses in the City.

Vision

The Santa Clarita Valley is an ideal place to live, work, play, grow a business, and raise a family. The Valley is a mosaic of unique villages with growing ethnic diversity, each with individual identities, surrounded by a greenbelt of forest lands and natural open spaces. These villages are unified by the Valley Center activity core, a beautiful environmental setting that includes the skyline and the Santa Clara River, a vibrant growing economy, and a rich history of common social values. The Valley's network of roads, transit, and trails links these villages and provides access to a wide offering of quality education, cultural, recreation, and social services and facilities.

Life in the Santa Clarita Valley will continue to be exciting, enjoyable, and rewarding through a broad range of housing types, an increase in quality jobs in close proximity to all neighborhoods, and transit-oriented villages complemented by excellent schools, attractive parks and other recreational amenities, expanded trail networks, and preserved natural resource areas. As the Valley moves forward, it is crucial that sound and sustainable planning principles shape new villages and enhance established neighborhoods. Implementing policies to increase mobility and accessibility, increase employment opportunities, manage traffic congestion, improve air quality, and conserve water and energy resources throughout the Valley is essential to maintain the overall high quality of life.

Guiding Principles

The guiding principles implement the vision for the Santa Clarita Valley, which is intended to sustain and enhance environmental resources, economic vitality, and the social well-being of its residents.

Land Use Element

The Land Use Element is the City's long-term blueprint for development of property to meet the Santa Clarita Valley's future needs for new housing, retail, office, industrial, parks, open space, and other uses. The element contains a Land Use Map and goals, policies and programs designed to address the development issues facing the community through a variety of land use planning strategies, along with the type, intensity, quality, and location of future uses within the planning area. Issues identified within each of the other General Plan elements have been integrated into this element, to the extent that they affect land use planning. The element also serves as a statement of the standards and targets for residential population density and building intensity. The Land Use Element is the broadest of the elements in its scope, and forms the basis for implementing sound land use policies.

The Land Use Element addresses existing development patterns in the Santa Clarita Valley planning area and establishes a framework for focusing future growth in a logical and orderly manner. All of the principles of community and land use planning are applied to the preparation and adoption of a comprehensive, long-term land use plan for the physical development of the Valley. The process of developing the land use plan involves analysis of existing land use patterns and projected growth; current and future availability of public services and facilities; availability of water and other needed resources; the need to protect sensitive habitats and natural resources; protection of existing and future residents from natural and man-made hazards; analysis of social and economic conditions and needs; and consideration of the constraints and opportunities inherent in the physical environment. Based on this analysis, the element establishes the distribution of land uses by type and intensity. In addition, the element addresses the Valley's development pattern as an integrated network of villages, each with its own community character. Equally important in the Land Use Element is the goal to provide all residents with a well-rounded and healthy lifestyle including a variety of jobs, housing, goods, and services to meet the diverse needs of the Valley's growing population.

Specifically, the Land Use Element serves the following purposes:

1. The Land Use Element informs the public of the City's and County's land use goals, objectives, and policies for long-term development, and outlines programs designed to implement the stated goals.
2. The Element serves as a guide for the day-to-day operational decisions of staff and decision makers with respect to development matters. It sets forth policies on which to base recommendations and decisions regarding land use issues, and provides a basis for informing citizens and developers about the City's and County's policies on growth and development.
3. The Element establishes land use classifications for property within the planning area and sets forth standards of density and intensity for each classification, as well as projections of future population growth and its spatial distribution.

4. The Element addresses issues identified in other General Plan elements that affect land uses and development patterns, including circulation systems, infrastructure availability, housing needs, economic development goals, resource conservation, open space preservation, and public safety.
5. As a state-mandated element, it fulfills one of the requirements of *California Government Code* §65000 et. seq. for preparation of adequate General Plan documents.

Valley of Villages

The physical setting and history of the Santa Clarita Valley have combined to create several distinctive communities, each with its own special character, development patterns, and lifestyles. Topographically, many neighborhoods are separated from adjacent development by ridgelines or canyons. The location of the Santa Clara River and Interstate 5, both of which transect the planning area, also act as barriers that separate communities. In addition, the historical development of the Valley took place over a long period of time during which development occurred in different areas, at different times, and for different reasons. Old Town Newhall, Saugus, and Castaic developed along transportation routes, while Valencia and Stevenson Ranch developed according to master plans prepared by residential builders. Outlying areas, such as Val Verde and Hasley Canyon, developed as low-density rural areas based on their residents' desire for retreat from high-intensity urban centers.

The diversity of settlement patterns within the Santa Clarita Valley is viewed as a positive aspect of the community, an acknowledgement of the area's history and topography, in recognition that the Valley can accommodate and provide diverse areas suitable for different lifestyles. However, the benefits of a unified approach to good planning cannot be ignored in favor of diversity. It may appear that Valley residents desire two seemingly inconsistent goals: maintenance of diversity and community identity, and a coordinated approach to orderly development. It is the aim of the One Valley One Vision planning effort to bring these two goals together into two workable planning policy documents: the City's General Plan and the County's Area Plan. The theme of these updated plans is "Valley of Villages," in recognition of the various communities and neighborhoods within the Santa Clarita Valley that wish to maintain their own distinctive character, while at the same time recognizing their place in the "big picture" plan for development within the entire planning area.

The term "village" brings many images to mind. A village is a community in which people know one another, support local businesses, gather together at community events, and share common ideals about their future. The term "village" also implies a community that can sustain itself over many years without being severely impacted by economic setbacks, loss of housing, lack of education, inadequate parks or public services, and hazards or pollution that threatens its residents. Village residents typically send their children to neighborhood schools, use neighborhood parks, walk along neighborhood streets and trails, and work close to home. More

than anything else, a village invokes the concept of quality of life based on a healthy living environment and productive social and civic interaction. Village residents can also be a part of a larger network that includes neighboring villages connected by transportation routes and sharing major community facilities that benefit the larger Valley area.

Canyon Country Village

Canyon Country is partially located within the City of Santa Clarita and partially located within unincorporated Los Angeles County, in the eastern portion of the Santa Clarita Valley along Soledad Canyon Road east of Saugus and extending north of Sand Canyon along State Route 14 to Agua Dulce. This area has the largest population of any community in the Valley and contains a wide range of housing types, including large-lot single-family custom homes, single-family tract homes, multiple-family developments, and mobile home parks. Commercial and manufacturing activities are concentrated along both sides of Soledad Canyon Road and along the northerly portion of Sierra Highway within the planning area. A business park/industrial hub, Centre Pointe Business Park, is located on Golden Valley Road. The City's Sports Complex and Aquatics Center provide recreational facilities serving all Valley residents, and the Via Princessa Metrolink station serves the east Valley communities. Commercial development is located along Soledad Canyon Road between White's Canyon and Sierra Highway, which includes the Jo Anne Darcy Canyon Country Library and a movie theater complex. Newer townhomes and apartment are located along State Route 14 between Sand Canyon and Via Princessa. In addition, there are residential neighborhoods in Mint Canyon and Tick Canyon within unincorporated County territory. A variety of architectural styles exist along Soledad Canyon Road. Homes along the northern section of Sierra Highway are generally rural and of very low density, with the exception of multi-family development near the intersection of Sierra Highway and Soledad Canyon Road.

One issue for residents in Canyon Country has been access to jobs in the Valencia area to the west. However, with the completion of the Cross-Valley Connector, traffic movement between Canyon Country and employment centers along Interstate 5 has improved significantly. Transit service improvements and additional park-and-ride facilities will also be evaluated to address this need.

College of the Canyons opened an East Valley campus on Sierra Highway in Canyon Country during the fall of 2007. The campus will encompass 70 acres and accommodate 8,000 full-time students when fully built out. The campus will operate as a full-service community college to residents on the east side of the Santa Clarita Valley.

Planning issues for Canyon Country include an opportunity to upgrade land uses along Sierra Highway in the area of the new college campus, from Soledad Canyon Road north to Vasquez Canyon Road. In this area, Sierra Highway will be widened to six lanes and there is an opportunity to provide services to area residents and the college on vacant land fronting the highway. Canyon Country residents have expressed a desire for higher end retail and restaurant uses in their area. In addition, older non-conforming uses in the area can be gradually phased out to upgrade the

character of development and encourage new users to Canyon Country. This area will be planned as a mixed-use corridor to create jobs and provide new housing and commercial services for area residents, as well as for college students and faculty. The mixed-use corridor designation will encourage a mix of uses in a pedestrian-friendly environment, creating a focal point for Canyon Country. To realize the redevelopment potential along this corridor, a coordinated effort will be needed to address regional drainage infrastructure issues.

Another planning opportunity for Canyon Country lies in the land adjacent to SR 14 access points. Four existing on- and off-ramp systems provide direct freeway access to the area, and represent opportunities to enhance entryways into the community.

The Project site is within the Canyon County Village area.

Sand Canyon Village

The Sand Canyon area is generally located within the City of Santa Clarita, southeast of Canyon Country and includes predominantly low-density single-family residential uses. The area is rural with extensive stands of oak trees and is characterized by large estate homes and lots, many of which are equestrian and enjoy direct access to an equestrian trail system linking the community. The community is accessible via Sand Canyon Road and Placerita Canyon Road, and is bordered on the south and east by the Angeles National Forest.

Sand Canyon is largely developed. A challenge for the Sand Canyon area will be ensuring land use compatibility between homes and adjacent natural areas in Angeles National Forest and along the Santa Clara River. Major planning issues include protecting the rural and equestrian character from development pressures to create more traditional subdivisions in this low-density area; increasing multiple purpose trail linkages; and providing an effective interface between residents and National Forest lands. In addition, development in the area must comply with the City's Special Standards District to maintain the rural community character desired by residents.

The eastern portion of the Sand Canyon region, outside the Santa Clarita city limits, is home to disturbed lands resulting from current and past aggregate mining practices, former military industrial support activities, and Superfund hazard properties. It is to the benefit of the region to have these properties restored to an economic land use rather than left in a disturbed state. These highly impaired lands are appropriate for future conversion to land uses complementary to the surrounding topography, national forest, and Santa Clara River setting. Such land uses should be consistent with the policies of this plan including jobs/housing balance, shortened commute times, and siting of new uses largely within the footprint of the disturbance area. Such uses should be planned to avoid adverse effects on the Santa Clara River Significant Ecological Area (SEA).

The Project site is close to the Sand Canyon Village area.

Economic Development

The term *economic development* as used in the context of this Land Use Element describes efforts by the City and the County to promote land use planning that enhances the local economy of the Santa Clarita Valley, by expanding job creation, provision of goods and services to both retail and wholesale consumers, movement of goods, diversification of the economic base, enhancement of land values, attraction of new businesses to the area, and retention and expansion of existing businesses within the Valley. Although successful economic development will benefit local jurisdictions by enhancing the local tax base, this is not the primary consideration for these efforts. The City and County understand that economic vitality is necessary to ensure the health and well-being of Valley residents.

The City of Santa Clarita's Economic Development mission is to aid in the economic growth of the Santa Clarita Valley by fostering and encouraging responsible economic development opportunities that result in: 1) a jobs/housing balance established through quality employment opportunities for residents; 2) an economic base through increased sales tax generation; and 3) economic wealth by attracting external monies to the local economy.

Relevant Goals

- Urban Form
 - Goal LU 1: An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.
- Mixed Land Uses
 - Goal LU 2: A mix of land uses to accommodate growth, supported by adequate resources and maintaining community assets.
- Healthy Neighborhoods
 - Goal LU 3: Healthy and safe neighborhoods for all residents.
 - Goal LU 4: A diverse and healthy economy.
- Economic Vitality
 - Goal LU 4: A diverse and healthy economy.
- Community Appearance
 - Goal LU 6: A scenic and beautiful urban environment that builds on the community's history and natural setting.

Unified Development Code

The City of Santa Clarita adopted its first Unified Development Code (UDC) in 1992. The Code consists of four sections: Subdivision, General Procedures, Zoning, and Grading. The City of Santa Clarita has adopted many land use control ordinances such as an oak tree ordinance, a hillside and ridgeline preservation ordinance, a density bonus ordinance, and the gate ordinance that are

included as part of the UDC. The City's Zoning Code establishes the development standard for all land uses by zone.

Santa Clarita Municipal Code Chapter 6.04, Manufactured Home Parks—Change in Use

The on-site uses were subject to Santa Clarita Municipal Code Chapter 6.04, Manufactured Home Parks—Change in Use. The owner of Canyon Breeze Mobile Home applied for a change in use. The Mobile Home park owner received approval of a Final Permit for the Closure of the Canyon Breeze Mobile Home Park in December 2008 (Resolution No. MHP 08-03) from the City of Santa Clarita's Manufactured Home Park Adjustment Panel.

4.10-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to land use are contained in the Environmental Checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse land use impacts if any of the following could occur.

-
- LU-1 Would the project physically divide an established community?**
 - LU-2 Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**
 - LU-3 Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?**
-

4.10-6 Impacts Analysis

Threshold LU-3 and Threshold **Bio-6** are similar. Refer to Section 4.4, **Biological Resources** for the impact analysis relative to Threshold LU-3 and **Bio-6**.

Project Overview

The Project includes redevelopment of an approximately 87.5-acre site with a mixed-use community, which includes five Planning Areas summarized below.

- **Planning Area 1 (Commercial)** – Approximately 130,600 square feet of commercial/residential floor area including 55,600 square feet of commercial (retail and restaurants), and a 75,000-square-foot assisted living facility (up to 120 rooms) on approximately 10 acres. Planning Area 1 is located at the northeast intersection of Sand Canyon Road and Soledad Canyon Road.

- **Planning Area 2 (Multi-Family Attached)** – 312 multi-family units (intended to be rental units) on 12.2 acres. Planning Area 2 is located directly north of Planning Area 1 along Sand Canyon Road.
- **Planning Area 3 (Multi-Family Attached Townhomes)** – 122 townhomes on with required parking on approximately 10.1 acres. Planning Area 3 is located north of Planning Area 2 along Sand Canyon Road.
- **Planning Area 4 (Multi-Family Detached or Attached Condominiums)** – 71 units with required parking on approximately 7.3 acres. Planning Area 4 is located in the central portion of the Project site, north and east of Planning Area 2.
- **Planning Area 5 (Multi-Family Detached or Attached Condominiums)** – 75 units with required parking on approximately 10.0 acres. Planning Area 5 is located in the eastern and northern portions of the Project site.
- **Open Space** – 28.6 acres of natural space are located primarily in the eastern and northern portions of the Project site in Planning Area 5.
- **Streets** – 7.2 acres of streets throughout the Project site.

Requested Project Entitlements

The Project Applicant is seeking the following discretionary approvals:

- Tentative Tract Map No. 53074 would create lots for commercial, residential, open space, and infrastructure land uses.
- Conditional Use Permit No. 14-014 is needed for development in a Planned Development Overlay.
- Hillside Development Review Permit No. 14-001: A Hillside Development Review Permit is required because the average cross slope of the site exceeds 10%.
- Ridgeline Alteration Permit No 14-001: A Ridgeline Alteration Permit is required because a ridgeline is located on the property and would be altered by the Project.
- Minor Use Permit No. 14-016 is required to permit a commercial FAR of less than 0.2 in the MXN zone.
- Oak Tree Permit No. 14-008 is required to impact oak trees on the Project site.

LU-1 Would the project physically divide an established community?

A portion of the Project site is currently developed with mobile home units. Remaining portions of the site are undeveloped. Surrounding uses include single-family residential to the west and north; single-family and multi-family residential to the east; and commercial uses to the south and west along Sand Canyon Road, north of SR-14. Redeveloping the site from residential uses to a mixed-use development would not physically divide an established community. Commercial and residential uses already surround the Project site, and redevelopment of the Project site would provide for additional compatible uses adjacent to existing uses. Implementation of the Project would result in less than significant impacts in this regard.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

LU-2 Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect

The Project site has General Plan and zoning designations of MXN (Mixed Use Neighborhood) and UR-3 (Urban Residential 3). No development is proposed in the UR-3 zoned property. No changes to the General Plan land use or zoning designations are necessary for the Project.

Local Land Use Consistency

City of Santa Clarita General Plan

Table 4.10-1 below provides an analysis of the Project's consistency with the relevant General Plan Land Use Element policies.

Table 4.10-1 General Plan Policy Consistency Analysis

Applicable Policy	Determination of Consistency
Land Use Element	
Urban Form	
Policy LU 1.1.4: Preserve community character by maintaining natural features that act as natural boundaries between developed areas, including significant ridgelines, canyons, rivers and drainage courses, riparian areas, topographical features, habitat preserves, or other similar features, where appropriate.	Consistent. Though alteration of a significant ridgeline is proposed, the Project would still maintain natural boundaries between developed areas to the east. Additionally, portions of this ridgeline were previously altered for the widening of Soledad Canyon Road. The Project would "lay back" this existing cut slope to soften its appearance along SR-14 and Soledad Canyon Road.
Policy LU 1.1.5: Increase infill development and re-use of underutilized sites within and adjacent to developed urban areas to achieve maximum benefit from existing infrastructure and minimize loss of open space, through redesignation of vacant sites for higher density and mixed use, where appropriate.	Consistent. The General Plan and zoning designate the site as MXN (Mixed Use Neighborhood) and UR-4 (Urban Residential 3). The Project site is currently underutilized. The Project would redevelop an infill site to include a mix of residential housing types, an assisted living facility, and commercial uses.
Policy LU 1.3.1: Encourage subdivision design techniques that reflect underlying physical topography or other unique physical features of the natural terrain.	Consistent. The Project has been designed to reflect the site's topography to the extent feasible.

Applicable Policy	Determination of Consistency
Policy LU 1.3.2: Substantially retain the integrity and natural grade elevations of significant natural ridgelines and prominent landforms that form the Valley's skyline backdrop.	Consistent. The Project's design substantially retains the integrity and natural grade elevations of the site's significant natural ridgelines to the extent feasible. Development of the Project site would not impact prominent landforms in the Valley's skyline backdrop.
Policy LU 1.3.3: Discourage development on ridgelines and lands containing 50% slopes so that these areas are maintained as natural open space.	Consistent. Project development is focused on areas of the site with slopes less than 50%. The Project would impact a small portion of the site containing a manufactured slope previously graded as part of the Soledad Canyon Road widening. This area has an average slope of 73%. As indicated above, the Project would "lay back" this existing slope to soften its appearance to Soledad Canyon Road and SR-14.
Policy LU 1.3.5: Encourage flexible siting and design techniques within hillside areas in order to preserve steep slopes or other unique physical features, including clustering of residential units provided all residential lots meet the applicable minimum lot size requirements of the Land Use Element and the Zoning Ordinance, including the Community Special Standards Districts.	Consistent. The site design for the residential areas incorporates flexible siting and design techniques. Contoured grading has been incorporated into the Project design. All lots will meet the applicable zoning requirements.
Policy LU 1.3.6: Encourage retention of natural drainage patterns and the preservation of significant riparian areas, both of which are commonly located in hillside areas.	Consistent. There is one small ephemeral wash on-site parallel to Sand Canyon Road that terminates in a storm drain inlet at the north boundary of the developed portion of the site and then exits near Sand Canyon Road in a man-made channel. At the southern edge of the Project site this wash again goes back into a storm drain. As discussed above, this wash is highly disturbed and is in a storm drain for much of its reach. No other natural drainages exist on-site. The existing wash would be removed and replaced with a new on-site drainage system. The Project would comply with federal and state regulations relative to wetlands and non-wetlands waters.
Mixed Land Uses	
Policy LU 2.3.1: In a mixed-use development, residential densities at the higher end of the allowed range should be allowed only if the development incorporates a robust mix of non-residential uses.	Consistent. The Project provides 580 residential units at a density of 7.5 dwelling units/acre (du/ac), which is below the 18 du/acre maximum. The mixed-use development also includes 55,600 square feet of commercial uses and a 120-room assisted living facility.
Policy LU 2.3.2: Either vertical or horizontal integration of uses shall be allowed in a mixed-use development, with an emphasis on tying together the uses with appropriate pedestrian linkages.	Consistent. The mixed-use development provides for horizontal integration of the residential and commercial uses with pedestrian connections provided throughout the site.
Policy LU 2.3.4: Adequate public spaces and amenities shall be provided in a mixed-use development to support both commercial and residential uses, including but not limited to plazas, landscaped walkways, village greens, and greenbelts.	Consistent. The mixed-use development would provide public spaces and other amenities for the residential and commercial uses.
Policy LU 2.3.5: Mixed-use developments shall be designed to create a pedestrian-scale environment through appropriate street and sidewalk widths, block lengths, relationship of buildings to streets, and use of public spaces.	Consistent. The mixed-use development has been designed with pedestrians in mind, as the pedestrian connections are provided throughout the Project. These connections allow future residents and commercial patrons to utilize the on-site pedestrian paths and other public or open space amenities.

Applicable Policy	Determination of Consistency
Healthy Neighborhoods	
Policy LU 3.1.2: Provide a mix of housing types within neighborhoods that accommodate households with varied income levels.	Consistent. The Project includes the development of assisted living units, single-family residential, and multi-family residential units, thus increasing the range of housing opportunities with varied income levels.
Policy LU 3.1.4: Promote development of workforce housing to meet the needs of those employed in the Santa Clarita Valley.	
Policy LU 3.1.5: Promote development of housing that is affordable to residents, including households with incomes in the very low, low, and moderate income classifications, through provision of adequate sites on the Land Use Map, allowance for density bonuses and other development incentives.	
Policy LU 3.1.6: Promote development of housing suitable to residents with special needs, including but not limited to senior citizens and persons with disabilities.	
Policy LU 3.2.1: Require provision of adequate walkways in urban residential neighborhoods that provide safe and accessible connections to destinations such as schools, parks, and neighborhood commercial centers.	Consistent. The mixed-use development includes pedestrian linkages throughout the site to connect the residential areas with both on- and off-site commercial areas.
Policy LU 3.2.2: In planning residential neighborhoods, include pedestrian linkages, landscaped parkways with sidewalks, and separated trails for pedestrians and bicycles, where appropriate and feasible.	Consistent. The Project includes landscaped parkways and pedestrian linkages throughout the site. In addition, trails for pedestrians and bicyclists are provided on Sand Canyon Road and Soledad Canyon Road.
Policy LU 3.3.1: Identify areas subject to hazards from seismic activity, unstable soils, excessive noise, unhealthful air quality, or flooding, and avoid designating residential uses in these areas unless adequately mitigated.	Consistent. The topics were reviewed in Section 4.3, Air Quality; Section 4.6, Geology and Soils; Section 4.9, Hydrology and Water Quality; and Section 4.12, Noise. Impacts for all these areas were concluded to be less than significant; thus, impacts for on-site residential uses have been adequately mitigated.
Policy LU 3.3.2: In areas subject to wildland fire danger, ensure that land uses have adequate setbacks, fuel modification areas, and emergency access routes.	Consistent. The Project site is located within a Very High Fire Hazard Severity Zone. As required by the Los Angeles County Fire Department, a Fuel Modification Plan would be prepared, and reviewed and approved by the Fire Department.
Policy LU 3.3.4: Evaluate service levels for law enforcement and fire protection as needed to ensure that adequate response times are maintained as new residential development is occupied.	Consistent. Section 4.15, Fire Protection, and Section 4.16, Police Protection, analyzed the Project's impact on these services and concluded that adequate response times would be maintained.
Policy LU 3.4.1: Promote the inclusion of green spaces, neighborhood parks, and other gathering places that allow neighbors to meet one another and encourage "eyes on the street" for safety purposes.	Consistent. While the Project does not include a neighborhood park, it does provide three recreational areas throughout the site. Each facility would contain a pool, a spa, a restroom facility, and a recreation building.
Policy LU 3.4.2: Ensure provision of street trees in urban residential areas where appropriate, to provide shade, comfort, and aesthetic enhancement.	Consistent. Landscaping would be provided for all on-site uses, including street trees, as required by the Unified Development Code.
Policy LU 3.4.4: Within higher density housing developments, ensure provision of adequate recreational and open space amenities to ensure a high-quality living environment.	Consistent. The Project includes 28.6 acres of open space, landscaped areas, and recreational amenities. An on-site trail system would allow for pedestrians and bicyclists to move throughout the Project.
Policy LU 3.4.5: Ensure compatibility between single family and multiple family residential developments through consideration of building height and massing, architectural treatment, connectivity, privacy, and other design considerations.	Consistent. The Project would be required to adhere to the City's Community Character and Design Guidelines. These Guidelines address massing, connectivity, privacy, and other design considerations.

Applicable Policy	Determination of Consistency
Policy LU 3.4.6: Promote mixed-density residential neighborhoods that are consistent with community character, and avoid over-development of high density multiple family units in any particular location.	Consistent. The Project includes a mix of residential product types throughout the site. The residential units would be at densities consistent with the surrounding areas and thus, consistent with the character of the community.
Policy LU 3.4.7: Minimize the prominence of areas devoted to automobile parking and access in the design of residential neighborhoods.	Consistent. The residential areas have been designed to provide adequate parking and access. These parking areas would be screened and placed behind buildings in final design to reduce their prominence.
Policy LU 3.4.8: Require architectural design treatment along all sides of new housing to promote continuity of architectural scale and rhythm and avoid the appearance of blank walls (360-degree enhancement).	Consistent. The Project would be required to adhere to the City's Community Character and Design Guidelines.
Policy LU 3.4.9: Encourage street cross-sections that locate landscaped parkways between the curb and the sidewalk to create a visually pleasing streetscape and provide pedestrian protection.	Consistent. The Project includes street cross-sections that provide a landscaped parkway between the curb and the sidewalk.
Economic Vitality	
Policy LU 4.1.2: Promote creation of village commercial centers throughout the Santa Clarita Valley to meet the local and convenience needs of residents.	Consistent. The mixed-use development includes commercial uses that would be available to future on-site residents, as well as to existing residents of the City.
Community Appearance	
Policy LU 6.1.3: Ensure that new development in hillside areas is designed to protect the scenic backdrop of foothills and canyons enjoyed by Santa Clarita Valley communities, through requiring compatible hillside management techniques that may include but are not limited to clustering of development; contouring and landform grading; revegetation with native plants; limited site disturbance; avoidance of tall retaining and build-up walls; use of stepped pads; and other techniques as deemed appropriate.	Consistent. As concluded in Section 4.1, Aesthetics, the Project has been designed to preserve long-range views of scenic resources. In addition, the Project is seeking a Hillside Development Review Permit, which would address hillside management techniques.
Conservation and Open Space Element	
Responsible Management of Environmental Systems	
Policy CO 1.5.5: Promote concentration of urban uses within the center of the Santa Clarita Valley, through incentives for infill development and rebuilding, in order to limit impacts to open space, habitats, watersheds, hillsides, and other components of the Valley's natural ecosystems.	Consistent. The Project is an infill project, as it surrounded on all sides by urban development, and would provide 28.6 acres of open space/landscaped areas. Also, as concluded in Section 4.4, Biological Resources, the proposed mitigation measures reduce impacts to habitats and species to less than significant.
Geological Resources	
Policy CO 2.2.1: Locate development and designate land uses to minimize the impact on the Santa Clarita Valley's topography, minimizing grading and emphasizing the use of development pads that mimic the natural topography in lieu of repetitive flat pads, to the extent feasible.	Consistent. The Project proposes a balanced cut and fill grading plan. Contoured grading is incorporated into the Project design. The future site topography is intended to provide development pads that resemble natural topography, to the extent feasible.
Policy CO 2.2.2: Ensure that graded slopes in hillside areas are revegetated with native drought tolerant plants or other approved vegetation to blend manufactured slopes with adjacent natural hillsides, in consideration of fire safety requirements.	Consistent. The Project would comply with all Unified Development Code requirements, including those in Chapter 17.58, Hillside Development, as well as Los Angeles County Fire Department requirements relative to landscaping and fire safety.

Applicable Policy	Determination of Consistency
Policy CO 2.2.3: Preserve designated natural ridgelines from development by ensuring a minimum distance for grading and development from these ridgelines of 50 feet or more if determined preferable by the reviewing authority based on site conditions, to maintain the Santa Clarita Valley's distinctive community character and preserve the scenic setting.	Consistent. Upon approval of the Ridgeline Alteration Permit, the Project would be consistent with this Policy, as it would comply with the findings of the Permit. As indicated previously, the Project includes the grading of an existing manufactured slope that would result in the "laying back" of this slope allowing for landscaping and enhancing its appearance from Soledad Canyon Road and SR-14.
Policy CO 2.2.5: Promote the use of adequate erosion control measures for all development in hillside areas, including single family homes and infrastructure improvements, both during and after construction.	Consistent. The Project would comply with all Unified Development Code requirements related to erosion control measures in hillside areas.
Policy CO 2.2.6: Encourage building designs that conform to the natural grade, avoiding the use of large retaining walls and build-up walls that are visible from offsite, to the extent feasible and practicable.	Consistent. Large retaining walls have been minimized on the Project grading plan. Where needed, these walls would be screened and not visible to off-site properties.
Air Quality	
Policy CO 7.1.1: Through the mixed land use patterns and multi-modal circulation policies set forth in the Land Use and Circulation Elements, limit air pollution from transportation sources.	Consistent. The Project is an infill mixed-use project consistent with MXN (Mixed Use Neighborhood) and UR-3 (Urban Residential 3) General Plan designations, and provides access to multiple modes of transportation, including pedestrian paths, bike lanes, and bus routes. In addition, due to the mix of residential and commercial land uses proposed, some trips generated by the Project would remain internal to the Project site, thus reducing the number of vehicle trips and associated air pollution.
Policy CO 7.2.1: Ensure adequate spacing of sensitive land uses from the following sources of air pollution: high traffic freeways and roads; distribution centers; truck stops; chrome plating facilities; dry cleaners using perchloroethylene; and large gas stations, as recommended by CARB.	Partially Consistent. As described in more detail below, a Health Risk Assessment (HRA) was prepared for the Project, consistent with this planning policy, and focuses on the potential exposure and health risks associated with locating sensitive land uses within 500 feet of the SR-14 Freeway. The HRA identified elevated ambient air quality and health conditions for locations on the Project site within 500 feet of the SR-14 Freeway. The Project includes Project Design Features intended to minimize the effects of exposure to elevated ambient air quality conditions for sensitive uses.

As demonstrated in **Table 4.10-1** above and with the Project Design Features, the Project is determined to be consistent with the relevant General Plan Policies, and as such, the Project would not conflict with the Santa Clarita General Plan. Therefore, impacts associated with the Project would be less than significant.

Unified Development Code

The Project site is currently zoned MXN (Mixed Use Neighborhood) and UR-3 (Urban Residential 3). These zones are intended for mixed-use development, which is encouraged to create neighborhoods that integrate residential uses with complementary commercial services, including retail and office uses. Mixed-use neighborhoods should be designed in consideration of surrounding development patterns, proximity to public transit, providing roadway and trail linkages to adjacent development where appropriate. Non-residential uses consistent with this

district include those in the neighborhood commercial (CN) and community commercial (CC) districts. The residential density range in mixed-use neighborhoods shall be a minimum of 6 to a maximum of 18 dwelling units per acre, and maximum floor area ratio for the non-residential portion of the development shall be 0.5. Building heights shall not exceed 50 feet, unless a conditional use permit is approved.

The Project provides a mix of housing types – single-family detached, multi-family attached townhomes and condominiums, and multi-family attached apartments – in four residential planning areas (Planning Areas 2 through 5). Excluding the commercial area (10 acres), the 580 dwelling units would be developed on the remaining 77 acres of the site. This equates to a residential density of 7.5 dwelling units per acre, or well below the 18 dwelling units per acre maximum.

The single-family detached and multi-family detached townhomes would be two stories high (35 feet), and the multi-family detached apartments would be up to three-stories high (50 feet). Thus, these heights would be at or below the maximum 50 feet.

The commercial portion of the Project includes 55,600 square feet in Planning Area 1, which results in a FAR of 0.17, which is below the maximum of 0.5, but is also below the minimum of 0.2. Thus, the Project requires a Minor Use Permit for the commercial uses. The commercial uses are anticipated to be one to two stories in height (35 feet), which is below the maximum 50 feet.

The 75,000-square-foot 2-story assisted living facility is also within Planning Area 1, but is not included in the commercial FAR, because it is considered a residential use type per Unified Development Code Chapter 17.42. The assisted living facility would be several stories in height (40 feet), which is below the maximum 50 feet.

In conclusion, the Project is consistent with the MXN (Mixed Use Neighborhood) and UR-3 (Urban Residential 3) zoning designations.

Regional Land Use Consistency

The Project is considered a project of region-wide significance pursuant to the criteria outlined in SCAG's Intergovernmental Review Procedures Handbook and CEQA Guidelines §15206, because it would provide for the development of more than 500 new residential units. A consistency analysis with the applicable regional planning guidelines and strategies of SCAG is provided in **Table 4.10-2** below.

As stated in **Section 4.13, Population and Housing**, the Project would increase the City's existing housing inventory by 580 dwelling units, resulting in a potential population growth of 1,798 persons. In addition, the Project would increase the City's employment by 136 jobs on the site, as no jobs currently exist. The Project would not exceed the SCAG RTP/SCS population growth in 2020 or the City's General Plan forecast at buildout. In conclusion, the additional jobs to be

provided by the Project have been accounted for in the City of Santa Clarita General Plan and in SCAG's 2020 forecasts.

Table 4.10-2 SCAG Regional Transportation Plan/Sustainable Communities Strategy Goals

RTP/SCS Goals	Determination of Consistency
RTP/SCS G1: Align the plan investments and policies with improving regional economic development and competitiveness	Consistent. The Project encourages economic development and social equity, promotes a healthful urban environment, and helps reduce the environmental impacts of growth. Supporting businesses and amenities within the Project, while not detracting from existing businesses, is key to continued economic viability and potential growth.
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region	Consistent. The Project supports the creation of an efficient mobility network that encourages a range of travel modes (transit, bicycle, pedestrian, and auto) for all future residents and commercial patrons.
RTP/SCS G3: Ensure travel safety and reliability for all people and goods in the region	Consistent. The Project proposes to convert the existing South Silver Saddle Circle intersection at Sand Canyon Road into a four-way roundabout intersection, and a new three-way roundabout intersection is proposed along Sand Canyon Road just south of the existing North Silver Saddle Circle intersection. Thus, the Project is proposing traffic calming measures. In addition, the Project would provide additional pedestrian and bicycle connections to existing lanes and trails that exist on or near the site, thereby making the streets more pedestrian and bicycle friendly.
RTP/SCS G4: Preserve and ensure a sustainable regional transportation system	Not Applicable. The preservation of the regional transportation system is the responsibility of the City of Santa Clarita, Los Angeles County, and other regional and state entities.
RTP/SCS G5: Maximize the productivity of our transportation system	Consistent. The Project is served by regional and local buses (Santa Clarita Transit). The Project would promote infill development with access to the various modes of transportation.
RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)	Consistent. The Project helps to improve air quality by providing additional pedestrian and bicycle connections to existing lanes and trails that exist on or near the site. The Project provides opportunities for on-site residents to walk to commercial services as well as transit stops. These measures will reduce vehicle trips and vehicle miles traveled.
RTP/SCS G7: Actively encourage and create incentives for energy efficiency, where possible	Consistent. The Project would construct buildings and infrastructure that are resource and energy efficient.
RTP/SCS G8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation	Consistent. The Project encourages the development of a mixed-use environment that supports walking, bicycling, and transit ridership. Residents and employees within the Project would have the opportunity to access goods, services, amenities, and regional transit facilities without an automobile.
RTP/SCS G9: Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies	Not Applicable. The security of the regional transportation system is the responsibility of the City, Caltrans, the Los Angeles County Metropolitan Transit Authority (LACMTA), and other regional and state entities.
RTP/SCS G10: Align the plan investments and policies with improving regional economic development and competitiveness	Consistent. The Project includes new businesses and employment opportunities on-site.
RTP/SCS G11: Maximize mobility and accessibility for all people and goods in the region	Consistent. The Project would provide additional pedestrian and bicycle connections to existing lanes and trails that exist on or near the site.

RTP/SCS Goals	Determination of Consistency
RTP/SCS P2: Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system should be the highest RTP/SCS priorities for any incremental funding in the region	Not Applicable. Maintenance, safety, and operations of existing transportation systems are the responsibility of the City, Caltrans, the LACMTA, and other regional and state entities.
RTP/SCS P3: RTP/SCS land use and growth strategies in the RTP/SCS will respect local input and advance smart growth initiatives	Consistent. The Project objectives are consistent with the local land use plans and policies for the Project area.
RTP/SCS P4: Transportation demand management (TDM) and non-motorized transportation will be focus areas, subject to Policy 1	Not Applicable. TDM strategies are the responsibility of the LACMTA, and other regional and state entities.
RTP/SCS P5: HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy 1	Not Applicable. HOV gap closures are the responsibility of Caltrans, the LACMTA, and other regional and state entities.
SCS Goals under SB 375	
SCS SB 375 G1: Better Place making: Creating better places to live and work	Consistent. The Project revitalizes the site to create a sustainable mixed-use residential and commercial development.
SCS SB 375 G2: Lower costs to taxpayers and families: including options that create more compact neighborhoods and placing everyday destinations closer to homes and closer to one another.	Consistent. The Project encourages reinvestment and infill development by providing a mix of residential types and commercial uses on the site, which is surrounded on all sides by existing development.
SCS SB 375 G3: Benefits to Public Health and the Environment	Consistent. The Project's mixed-use development supports a healthy community, including physical health, public safety, social equity, affordable housing, economic development, air quality, and water quality.
SCS SB 375 G4: Greater Responsiveness to Demographics and the Changing Housing Market	Consistent. The Project includes the development of assisted living units, single-family residential, and multi-family residential units, thus increasing the range of affordable housing opportunities within the City.
SCS SB 375 G5: Improved Access and Mobility	Consistent. The Project adds additional residential density with the mixed-use development, including pedestrian- and bicycle-oriented improvements connecting to a multi-modal transportation network.

Source: SCAG 2012-2035 RTP/SCS Chapter 4: Sustainable Communities Strategy, Table 1.1, Table 1.2 and Goals and Benefits under SB 375 discussion.

As concluded in **Table 4.10-2** above, the Project is consistent with the 2012-2035 RTP/SCS Goals and growth forecasts, resulting in a less than significant impact.

State, Regional, and Local Policies Related to Proximity of SR-14 Freeway

A portion of the Project site is located within 500 feet of the SR-14 Freeway mainline. Most of the proposed uses for the Project that would be located within 500 feet of the SR-14 Freeway are commercial uses that are replacing existing residential uses in that portion of the site. However, an assisted-living facility is also proposed to be located within 500 feet of the SR-14 Freeway.

Recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. As such, the California Air Resources Board (CARB) recommends that lead agencies carefully consider siting new sensitive land uses

within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.

A Freeway Adjacent Health Risk Assessment (HRA) (**Appendix 2-3** to this EIR) was prepared for the Project consistent with the CARB's recommendation and the City's Unified Development Code, Title 17, Sections 17.53.020.L and 17.57.020.I. The HRA was prepared for informational purposes consistent with City and state policies, and the HRA focuses on the potential exposure and health risks associated with locating sensitive land uses within 500 feet of the SR-14 Freeway. In addition, and consistent with the policies identified, the HRA recommends site design features to minimize these risks. Refer to **Section 4.3, Air Quality** for a summary of the existing air quality and health conditions at the Project site.

Project Design Features

The following project design features are included to minimize the effects of exposure to elevated ambient air quality conditions for sensitive uses.

- PDF-7 For sensitive uses within 500 feet of the SR-14 Freeway, incorporate air filtration systems with filters meeting or exceeding the ASHRAE 52.2 Minimum Efficiency Reporting Value (MERV) of 11. MERV 11 filters are effective in improving indoor air quality as compared to lower efficiency filters for PM10 and PM2.5.
- PDF-8 Locate open space areas associated with sensitive uses (e.g., courtyards, patios, balconies) as far from the freeway sources as possible.
- PDF-9 Plant vegetation between sensitive receptors and freeway sources.
- PDF-10 Utilize site plan design that minimizes operable windows and building entries along the freeway.
- PDF-11 For sensitive uses within 500 feet of the SR-14 Freeway, consider options for mechanical and ventilation systems (i.e., supply or exhaust based systems). If a supply-based system is proposed (i.e., actively bringing outside air through intake ducts), consider locating intakes as far from the freeway sources as possible.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.10-7 Cumulative Impacts

Implementation of the Project and related projects would result in a variety of new residential and non-residential uses within the City of Santa Clarita and Los Angeles County. Development of the Project, combined with related projects, would not result in any cumulative land use impacts as other projects are implemented within the City of Santa Clarita or Los Angeles County.

Related projects would be evaluated on a project-by-project basis and subject to the land use requirements of their respective jurisdictions. Each related project would undergo a similar plan review process as the Project to determine potential land use planning policy and regulation conflicts. Each related project would be analyzed independent of other projects, within the context of their respective land use and regulatory setting. As part of the review process, each related project would be required to demonstrate compliance with the provisions of the applicable land use designation(s) and zoning district(s). It is assumed that related projects would progress in accordance with the General Plan and the Municipal Code of the respective jurisdictions. Each related project would be analyzed to ensure that the goals, objectives, and policies of the respective General Plan, and regulations and guidelines of the respective Municipal Code are consistently upheld. Further, as concluded above, the Project would be consistent with the Santa Clarita General Plan and the Unified Development Code. Thus, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.10-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This information is necessary to determine consistency with Goals and Policies.

City of Santa Clarita, Unified Development Code, current through Ordinance 13-8, Section 4 (Exhibit A), June 11, 2013.

Southern California Association of Governments (SCAG), 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future.

SCAG 2012-2035 RTP/SCS Chapter 4: Sustainable Communities Strategy, Table 1.1, Table 1.2 and Goals and Benefits under SB 375 discussion. Necessary for consistency determination with SCAG goals.

SCAG 2012-2035 RTP/SCS Chapter 4: Sustainable Communities Strategy, Table 4.3 - Land Use Actions and Strategies. Necessary for consistency determination with SCAG goals.

4.11 Mineral and Energy Resources

4.11-1 Summary

The Project site is not within a mineral area identified on Exhibit CO 2, Mineral Resources, of the General Plan Conservation and Open Space Element, and the site is not otherwise known to contain mineral resources. The Project site is not located within an MRZ-2 designated area of the City.

Therefore, the Project would not result in the loss of availability of a known mineral resource and would have no significant impacts.

4.11-2 Introduction

This section describes existing mineral resources, identifies the regulatory framework with respect to regulations that address mineral and energy resources, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.11-3 Existing Conditions

1. Mineral Resource Zones

The mineral resources addressed in this section are those resources that are classified under the Surface Mining and Reclamation Act (SMARA) of 1975. SMARA Chapter 9, Division 2 of the *California Public Resources Code*, requires the State Mining and Geology Board to adopt state policy for the reclamation of mined lands and conservation of natural resources.

Geological survey areas known as Mineral Resource Zones (MRZ) are classified according to the presence or absence of significant mineral deposits, as defined below. These classifications indicate the potential for a specific area to contain significant mineral resources.

- **MRZ-1:** Areas where available geologic information indicates there is little or no likelihood for presence of significant mineral resources.
- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.
- **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are

sub-economic. Further exploration and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a.

- **MRZ-3a:** Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration within these areas could result in the reclassification of specific localities as MRZ-2a or MRZ-2b.
- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration could result in the reclassification of all or part of these areas as MRZ-3a or specific localities as MRZ-2a or MRZ-2b.
- **MRZ-4:** Areas of no known mineral occurrences where geologic information does not rule out the presence or absence of significant mineral resources.

2. Presence of Mineral Resource Zones within the City of Santa Clarita

MRZ-2 areas are concentrated along waterways, such as the Santa Clara River within and outside the City boundaries, as well as State Route 126, Castaic Creek, and east of Sand Canyon Road.

MRZ-2 areas in the City's Planning Area contain construction-grade aggregate within the portion of the Santa Clara River that extends approximately 15 miles from Agua Dulce Creek in the east to the Ventura County boundary in the west. Approximately 6,653 acres of land within the City are designated MRZ-2.⁷⁶

The Santa Clara River flows through the center of the City in an east-to-west direction, transporting aggregate minerals that are derived from erosion of the surrounding mountains and hillsides. The majority of the MRZ-2 area east of Sand Canyon Road lies outside the City boundary in the unincorporated portion of the County and the Angeles National Forest.

These known mineral resources encompass portions of the San Fernando Valley–Saugus–Newhall Production-Consumption (P-C) region and the Palmdale P-C region. A P-C region is one or more aggregate production districts and the market area they serve. The mineral resources in these two P-C regions are considered as either:

- Permitted Resources, which are materials believed to be acceptable for commercial use that exist within property owned or leased by an aggregate producing company for which permission allowing extraction and processing has been granted, or
- Resources, which are permitted resources as well as all potentially usable aggregate material that may be mined in the future, but for which no use permit allowing extraction has been granted.

⁷⁶ Section 3.10, Mineral Resources, Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

The San Fernando Valley–Saugus–Newhall P-C region contains 88 million tons of permitted aggregate reserves. The Palmdale P-C Region contains 181 million tons of permitted reserves of sand and gravel resources and no crushed stone resources.

No active permits for surface mining activities are filed with the City. The six active permits for surface mining activities filed with the County are generally located in eastern Canyon Country, Agua Dulce, Mint Canyon, and Soledad Canyon, which are located outside of the City within Los Angeles County.

The Project site is not located within a MRZ-2 designated area of the City.

4.11-4 Regulatory Setting

1. State of California

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA), as amended in 2006, mandated the initiation of mineral land classifications to help identify and protect mineral resources in areas within the state that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. After designation of mineral resource areas, SMARA provided for the classification of designated lands containing mineral deposits of regional or statewide significance. In addition, SMARA was designed to provide guidelines for the proper reclamation of mineral lands.

The purpose of this act is to create and maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations to assure that:

- adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses;
- the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, wildlife, range and forage, and aesthetic enjoyment; and
- residual hazards to the public health and safety are eliminated.

These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

2. City of Santa Clarita

The City of Santa Clarita has an overlay category that is used to designate areas that have significant mineral aggregate resource areas, as determined by SMARA, and/or oil fields. This latter category, the mineral/oil conservation area (MOCA), is located primarily in the southeastern portion of the city. The purpose of this overlay is to permit the continuation of the mineral/oil usage while providing development of the area if specific requirements are met.

General Plan

Applicable goals and policies from the General Plan Conservation and Open Space and Land Use Element are listed below.

- Goal CO 1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.
- Policy CO 1.3.3: Provide informational material to the public about programs to conserve non-renewable resources and recover materials from the waste stream.
 - Policy CO 1.5.7: Consider the principles of environmental sustainability, trip reduction, walkability, stormwater management, and energy conservation at the site, neighborhood, district, city, and regional level, in land use decisions.
- Goal CO 2: Conserve the Santa Clarita Valley's hillsides, canyons, ridgelines, soils, and minerals, which provide the physical setting for the natural and built environments.
- Policy CO 2.3.1: Identify areas with significant mineral resources that are available for extraction through appropriate zoning or overlay designations.
 - Policy CO 2.3.2: Consider appropriate buffers near mineral resource areas that are planned for extraction, to provide for land use compatibility and prevent the encroachment of incompatible land uses.
 - Policy CO 2.3.3: Through the review process for any mining or mineral extraction proposal, ensure mitigation of impacts from mining and processing of materials on adjacent uses or on the community, including but not limited to air and water pollution, traffic and circulation, noise, and land use incompatibility.
 - Policy CO 2.3.4: Ensure that mineral extraction sites are maintained in a safe and secure manner after cessation of extraction activities, which may include the regulated decommissioning of wells, clean-up of any contaminated soils or materials, closing of mine openings, or other measures as deemed appropriate by the agencies having jurisdiction.
- Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases.
- Policy CO 8.3.1: Evaluate site plans proposed for new development based on energy efficiency pursuant to LEED (Leadership in Energy and Environmental Design) standards for New Construction and Neighborhood Development, including the following: a) location efficiency; b) environmental preservation; c) compact, complete, and connected neighborhoods; and d) resource efficiency, including use of recycled materials and water.

- Policy CO 8.3.2: Promote construction of energy efficient buildings through requirements for LEED certification or through comparable alternative requirements as adopted by local ordinance.
- Policy CO 8.3.3: Promote energy efficiency and water conservation upgrades to existing non-residential buildings at the time of major remodel or additions.
- Policy CO 8.3.4: Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.
- Policy CO 8.3.5: Encourage on-site solar generation of electricity in new retail and office commercial buildings and associated parking lots, carports, and garages, in concert with other significant energy conservation efforts.
- Policy CO 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light colored roofs, shade trees, and paving materials.
- Policy CO 8.3.7: Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.
- Policy CO 8.3.8: Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.
- Policy CO 8.3.9: Limit excessive lighting levels, and encourage a reduction of lighting when businesses are closed to a level required for security.
- Policy CO 8.3.10: Provide incentives and technical assistance for installation of energy-efficient improvements in existing and new buildings.
- Policy CO 8.3.11: Consider allowing carbon off-sets for large development projects, if appropriate, which may include funding off-site projects or purchase of credits for other forms of mitigation, provided that any such mitigation shall be measurable and enforceable.
- Policy CO 8.3.12: Reduce extensive heat gain from paved surfaces through development standards wherever feasible.
- Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.
- Policy LU 7.1.2: Promote the use of solar panels and renewable energy sources in all projects.
- Policy LU 7.1.3: Encourage development of energy-efficient buildings, and discourage construction of new buildings for which energy efficiency cannot be demonstrated.

Policy LU 7.1.4: Support the establishment of energy-efficient industries in the Santa Clarita Valley.

Municipal Code

Unified Development Code Section 17.38.030

The Mineral/Oil Conservation Area (MOCA) Overlay Zone is defined in Unified Development Code §17.38.030. The MOCA overlay zone designates areas that have a significant mineral aggregate resource and/or oil fields. The purpose is to permit the continuation of the mineral/oil usage while providing development of the area when certain environmental factors have been adequately mitigated.

Title 24, City Energy Conservation Code

The City Energy Conservation Code was adopted on November 26, 2013, and became effective for new building permit applications received by the City on or after January 1, 2014. The City Energy Conservation Code adopted by reference the *California Code of Regulations*, Title 24, Part 6, further described and referred to as the 2013 California Energy Code, published by the California Building Standards Commission.

The City Energy Conservation Code regulates the design, construction, alteration, installation, or repair of building envelopes, space-conditioning systems, water-heating systems, indoor lighting systems of buildings, and outdoor lighting and signage, and certain equipment to enhance the efficiency and reduce energy use of such buildings as specifically provided for therein.

Title 25, City Green Building Standards Code

The City Green Building Standards Code was adopted on November 26, 2013, and became effective for new building permit applications received by the City on or after January 1, 2014. The City Green Buildings Standards Code adopted by reference the *California Code of Regulations*, Title 24, Part 11, further described as the 2013 California Green Building Standards Code, also referred to as the 2013 CalGreen Code, published by the California Building Standards Commission.

The City Green Building Standards Code regulates the planning, design, operation, construction, use, and occupancy of every new building or structure to ensure that buildings have a more positive environmental impact and encourage sustainable construction practices as specifically provided for therein.

4.11-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to mineral and energy resources are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand

Canyon Plaza Mixed-Use Project could result in significant adverse impacts to mineral and energy resources if any of the following could occur.

-
- Min-1** Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
 - Min-2** Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?
 - Min-3** Would the project use nonrenewable resources in a wasteful and inefficient manner?
-

4.11-6 Impacts Analysis

-
- Min-1** Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
 - Min-2** Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
-

The Project site is not within a mineral area identified on General Plan Conservation and Open Space Element Exhibit CO 2, Mineral Resources, and the site is not otherwise known to contain mineral resources. Therefore, the Project would not result in the loss of availability of a known mineral resource and would have no impacts.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impact.

Min-3 Would the project use nonrenewable resources in a wasteful and inefficient manner.

Building materials and human resources would be used for the construction of the Project. Many of the resources utilized for construction are nonrenewable, including manpower, sand, gravel, earth, iron, steel, and hardscape materials. Other construction resources, such as lumber, are slowly renewable. In addition, the Project would commit energy and water resources as a result of the construction, operation, and maintenance of the proposed development. Much of the energy that would be utilized on-site would be generated through combustion of fossil fuels, which are nonrenewable resources.

Market-rate conditions encourage the efficient use of materials and manpower during construction. Similarly, the energy and water resources that would be utilized by the Project would be supplied by the regional utility purveyors, which participate in various conservation programs. Furthermore, there are no unique conditions that would require excessive use of nonrenewable resources on-site, and the Project is expected to utilize energy or water resources in the same manner as typical modern development. Therefore, the Project would not use nonrenewable resources in a wasteful and inefficient manner; thus resulting in less than significant impacts.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.11-7 Cumulative Impacts

Impacts upon mineral resources tend to be site-specific and are assessed on a site-by-site basis. Where resources exist, implementation of cumulative development in the region would represent an incremental adverse impact to mineral resources. However, if proper mitigation is implemented in conjunction with development of related projects in the City of Santa Clarita, no significant cumulative impacts are anticipated.

The Santa Clarita General Plan designates the site as Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3), and as such has accounted for future development on the site. As indicated previously, the site is not located within a mineral area identified in the City's General Plan and is not expected to use non-renewable resources in a wasteful and inefficient manner. Any new growth on the Project site under the MXN and UR-3 designations was analyzed in the General Plan EIR, and is accounted for in the General Plan buildout projections.

Mineral Resources

Cumulative impacts relative to mineral resources were analyzed in the General Plan EIR, which concluded that the General Plan's contribution to the growth and urbanization of the City's Planning Area would result in the direct and/or indirect loss of mineral resources. The potential loss of mineral resources would result from urban development, redevelopment, and conversion of open space to urban uses. The City's Planning Area includes large portions of undeveloped, open land containing mineral resource zones and the General Plan provides policies to protect these

mineral resources. Therefore, implementation of the General Plan would not have a significant cumulative impact on the loss of these areas and their resources.

Given that implementation of the Project would not eliminate any acreage designated as MRZ-2, the Project's contribution to cumulative impacts to mineral resources in the region is not significant.

Energy Resources

Cumulative impacts relative to energy resources were analyzed in the General Plan EIR, which concluded that the General Plan's contribution to the growth and urbanization of the City's Planning Area would result in a direct and/or indirect impact to energy resources.

Buildout of the General Plan was concluded to contribute to the incremental depletion of resources, including renewable and nonrenewable resources. Renewable resources such as lumber and other forest/agricultural products and water, are generally considered renewable resources. Nonrenewable resources, such as natural gas, petroleum products, asphalt, petrochemical construction materials, steel and other metals, and sand and gravel, are considered to be commodities, which are available in a finite supply. The General Plan EIR concluded there would not be an irreversible commitment of renewable and nonrenewable resources, but there would be an incremental increase in the demand for both resources over the life of the General Plan. Furthermore, the investment of resources in cumulative projects would be typical of the level of investment normally required for urban development. Provided that all standard building codes, including energy conservation standards, are followed, no wasteful use of energy or construction resources is anticipated.

In conclusion, the development of the Sand Canyon Plaza Mixed-Use Project site would not contribute to a cumulatively considerable impact to mineral or energy resources.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.11-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This information was sourced as it is necessary for consistency with goals and policies.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

City of Santa Clarita Online GIS System (Interactive Mapping Online) <http://gis.santa-clarita.com/slv/?Viewer=MasterPUB>. This information was sourced to determine the location of mineral resources.

4.12 Noise

4.12-1 Summary

Construction of the Project would require site preparation, grading, and the construction of roadways, infrastructure, and buildings. Each of these construction activities typically involves the use of heavy-duty equipment, all of which could expose off-site residents and other noise sensitive receptors to temporary but significant noise impacts. Section 11.44.080 of the City of Santa Clarita Noise Ordinance prohibits construction operations to occur within 300 feet of residentially zoned properties during early morning, evening, and nighttime hours, and all hours on Sundays and major holidays.

Construction impacts also include vibration impacts. Since ground-borne vibration could be generated during construction in excess of the Federal Transit Administration vibration standards (human annoyance), impacts to sensitive uses off-site (residential) would remain significant and unavoidable.

The Project would increase local noise levels by a maximum of 1.3 dBA CNEL during the Existing Plus Project scenario for the roadway segment of Sand Canyon Road between Sand Canyon Road "A" Project Driveway and Soledad Canyon Road. All other roadway segments would not experience noise level increases by more than 1.1 dBA CNEL and these increases would be less than the 3 dBA and 5 dBA CNEL thresholds. As such, the Project's traffic-related noise level increases would not exceed thresholds of significance, and off-site traffic noise levels associated with the Project would be less than significant.

Although the Project would increase the number of vehicles parking in the area, the types of noise would be similar to those currently occurring on and around the urbanized Project site (i.e., commercial and residential uses adjacent to the site). While periodic noise levels from car alarms, horns, slamming of doors, etc., would increase as a result of the Project, these events would not occur consistently over a 24-hour period and thus would not have the potential to increase ambient noise levels at off-site locations by 5 dBA CNEL or more, nor exceed the City's exterior noise standards at off-site locations. As such, noise impacts from the parking areas would be less than significant.

In addition to SCMC requirements, the Project will screen mechanical equipment as feasible and necessary to meet City noise standards. The method of screening would be architecturally compatible with Project features and would blend with the building designs. As such, compliance with Section 11.44.070 of the SCMC would ensure noise from stationary sources would be less than significant.

Exterior spaces fronting Sand Canyon and Soledad Canyon Roads with a direct line-of-sight to these roadways may experience exterior noise levels above the City's exterior noise standard of

65 dBA CNEL, this impact would be potentially significant, while interior uses would be less than significant.

The Project would implement a buyer and renter notification program for residences where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. Therefore, noise impacts with respect to mixed-use components of the Project would be less than significant.

Cumulative impacts with respect to construction noise and vibration would be less than significant.

Cumulative mobile source noise impacts would occur primarily as a result of increased traffic on local roadways due to the Project, ambient growth, and related projects/cumulative development within the study area. Although the Project would only contribute a maximum increase of 0.8 dBA CNEL for future 2030 traffic noise levels, cumulative traffic noise level increases would be significant for the following roadway segments along Sand Canyon: between North Silver Saddle Circle and Sand Canyon "C" Project Driveway, between Sand Canyon "C" Project Driveway and South Silver Saddle Circle, between South Silver Saddle Circle and Sand Canyon "A" Project Driveway, and between Sand Canyon "A" Project Driveway and Soledad Canyon Road. As no feasible mitigation is available to reduce this impact, cumulative traffic noise impacts would be significant and unavoidable.

4.12-2 Introduction

The purpose of this section is to evaluate the potential for noise and ground borne vibration impacts resulting from implementation of the Sand Canyon Plaza Mixed-Use Project (the Project). The analysis and conclusions reached in this section are based on the Noise Technical Report prepared by Pomeroy Environmental Services (December 2015) included in **Appendix 9**. The report includes an evaluation of potential impacts associated with substantial temporary and permanent increases in ambient noise levels in the vicinity of the Project site; exposure of people in the vicinity of the Project site to excessive noise or ground-borne vibration levels; and whether exposure is in excess of standards established in the City of Santa Clarita's General Plan or Noise Ordinance. Mitigation measures intended to reduce noise and vibration impacts are proposed, where appropriate, to avoid or reduce potentially significant impacts of the Project.

4.12-3 Existing Conditions

1. Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (i.e., loudness) and frequency (i.e., pitch). The standard unit of sound amplitude measurement is the decibel (dB). The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not

equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted dB scale (dBA) provides this compensation by emphasizing frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound audible at such a level that the sound becomes an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, causes actual physical harm, or results in adverse health effects. The definition of noise as unwanted sound implies that it has an adverse effect, or causes a substantial annoyance, to people and their environment. However, not every unwanted audible sound interferes with normal activities, causes harm, or has adverse health effects. For unwanted audible sound, i.e. noise, to be considered adverse it must occur with sufficient frequency and at such a level that these adverse impacts are reasonably likely to occur. Thresholds of significance, set forth below, are established to differentiate between benign, unwanted audible sound and potentially significant and adverse unwanted audible sound.

A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise, such as traffic on a major highway. **Table 4.12-1** illustrates representative noise levels in the environment.

Table 4.12-1 Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet	—100—	
Gas Lawnmower at 3 feet	—90—	
Diesel Truck going 50 mph at 50 feet	—80—	Food Blender at 3 feet Garbage Disposal at 3 feet
Noisy Urban Area during Daytime	—70—	Vacuum Cleaner at 10 feet Normal Speech at 3 feet
Gas Lawnmower at 100 feet	—60—	
Commercial Area	—50—	Large Business Office Dishwasher in Next Room
Heavy Traffic at 300 feet	—40—	Theater, Large Conference Room (background)
Quiet Urban Area during Daytime	—30—	Library
Quiet Urban Area during Nighttime	—20—	Bedroom at Night, Concert Hall (background)
Quiet Suburban Area during Nighttime	—10—	Broadcast/Recording Studio
Quiet Rural Area during Nighttime	—0—	
Lowest Threshold of Human Hearing		Lowest Threshold of Human Hearing

Source: California Department of Transportation, Technical Noise Supplement, October 1998.

Several rating scales have been developed to analyze the adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effects of noise on people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq} : An L_{eq} , or equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{max} : The maximum instantaneous noise level experienced during a given period of time.
- L_{min} : The minimum instantaneous noise level experienced during a given period of time.
- CNEL: The Community Noise Equivalent Level (CNEL) is a 24-hour average L_{eq} with a 5 dBA “weighting” during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA “weighting” added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a constant 60 dBA 24 hour L_{eq} would result in a CNEL of 66.7 dBA.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. For residential uses, environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60-70 dBA range, and high above 70 dBA. Frequent exposure to noise levels greater than 85 dBA over time can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA.

It is widely accepted that in the community noise environment the average healthy ear can barely perceive CNEL noise level changes of 3 dBA. CNEL changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA CNEL increase is readily noticeable to most people, while the human ear perceives a 10 dBA CNEL increase as a doubling of sound. However, there is no direct correlation between increasing or even doubling noise-generating uses and what is detectable by the human ear as an increase in noise level. The human ear perceives a 10 dB(A) increase in sound level to be a doubling of sound volume, but doubling the sound energy, i.e., the noise-generating activity, only results in a 3 dB(A) increase in sound. This means that a doubling of sound wave energy (e.g., doubling the volume of traffic on a roadway) would result in a barely perceptible change in sound level to the human ear. Thus, relatively sizeable increases in baseline noise generation are not necessarily perceived as significant noise increases by the human ear.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors, such as the weather and reflective barriers, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source (assume a starting point of 50 feet), the noise level is reduced by about

3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by about 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA.⁷⁷ And, the exterior-to-interior reduction of newer homes and office buildings can be more than 30 dBA, depending on construction materials and methods used.

2. Fundamentals of Environmental Ground-Borne Vibration

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., train operations, motor vehicles, machinery equipment) causing the adjacent ground to move and creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as ground-borne vibration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings, such as historic buildings. The general human response to different levels of ground-borne vibration velocity levels is described in **Table 4.12-2** below.

⁷⁷ National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.

Table 4.12-2 Human Response to Different Levels of Ground-Borne Vibration

Vibration Velocity Level	Human Perception
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

3. Noise Sensitive Receptors

The City's Noise Element of the General Plan states noise sensitive land uses are those in which persons occupying the use are particularly sensitive to the effects of noise, including housing, schools, medical facilities, libraries, social care facilities, and similar facilities. For purposes of this analysis, noise sensitive receptors within close proximity of the Project site and having a line-of-sight to the Project construction areas have been graphically identified in **Figure 4.12-1, Noise Monitoring and Sensitive Receptor Location Map**. As shown therein, the nearest sensitive receptors to the Project site include residential uses to the east, north, and west of the Project site. Specifically, the residences to the east (the Pinetree community) are located as close as approximately 20 feet from the eastern Project site boundary, the single-family residence to the north is located approximately 120 feet from the site, the single-family homes to the northwest (along Vista Point Lane) are located as close as approximately 330 feet from the site, the apartments to the west (along North Silver Saddle Circle) are located as close as approximately 140 feet from the site, the single-family residences to the west (along Macklin Avenue) are located as close as approximately 140 feet from the site.

4. Measured Ambient Noise Levels

To establish baseline noise conditions, existing noise levels were monitored at five locations in the vicinity of the Project site. The locations of where the noise measurements were taken are depicted in **Figure 4.12-1**. The noise survey was conducted on August 5, 2015 using the 3M SoundPro SP DL-1 sound level meter, which conforms to industry standards set forth in ANSI S1.4-1983 (R2006) – Specification for Sound Level Meters/Type 1, and is consistent with the sound level meter definition established in the SCMC. This instrument was calibrated and operated according to the manufacturer's written specifications. At the measurement sites, the microphone was placed at a height of approximately five feet above grade. The results of the measurements are summarized in **Table 4.12-3** below.

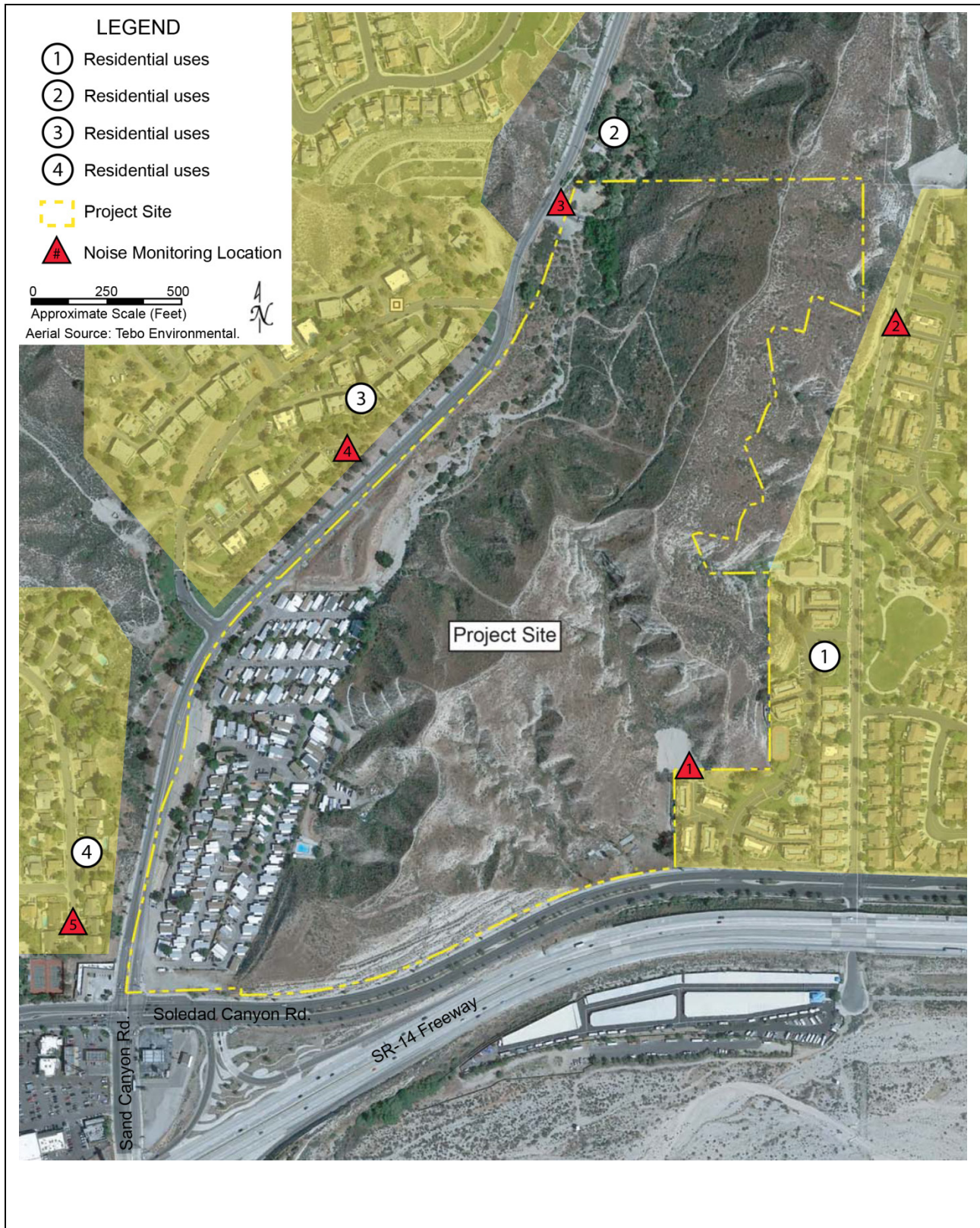


Figure 4.12-1 Noise Monitoring and Sensitive Receptor Location Map

As shown in **Table 4.12-3** below, the ambient noise levels ranged from 49.0 dBA Leq to 64.0 dBA Leq in the vicinity the Project site.

Table 4.12-3 Existing Noise Levels in the Vicinity of the Project Site

Noise Measurement Location	Primary Noise Sources	Noise Levels (dBA)		
		Leq	L _{min}	L _{max}
1. Near southeast boundary of the Project site, adjacent to off-site residential uses.	Light residence activity, gardening in distance.	49.0	41.5	57.9
2. Near northeast boundary of the Project site, adjacent to off-site residential uses.	Light residential activity, air conditioning unit in distance, street parking.	44.2	32.5	64.2
3. Near northwest corner of Project site, adjacent to Sand Canyon Road.	Vehicles traveling on Sand Canyon Road.	64.0	36.6	77.4
4. West of the Project site across Sand Canyon Road, within residential complex open space area.	Vehicles and pedestrian activity along School Street; and parking lot/pick up activity in adjacent parking lot to west.	55.5	40.9	69.7
5. To the west of the Project site, within residential area along Macklin Avenue.	Traffic on Soledad Canyon and Sand Canyon, dogs barking, street sweeper pass-by across street.	61.7	48.1	81.6

Noise measurements were conducted on August 5, 2015. Noise monitoring data files are provided in the Noise Technical Report (PES, December 2015) included in **Appendix 9**, Noise of this EIR.

5. Existing Modeled Roadway Noise Levels

Existing roadway noise levels were calculated for primary roadway segments located in proximity to the Project site. The roadway segments selected for analysis are those that are expected to be most directly impacted by Project-related traffic, which, for the purpose of this analysis, include the roadways that are nearest to the Project site and had the most Project-generated trips. These roadways, when compared to roadways located further away from the Project site, would experience the greatest percentage increase in traffic generated by the Project.

Calculation of the existing roadway noise levels was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the Project traffic analysis. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along study area roadway segments are presented in **Table 4.12-4** below.

Table 4.12-4 Existing (2015) Roadway Noise Levels

Roadway	Roadway Segment	Predominant Existing Land Use Along Segment	dBA CNEL
Sand Canyon Road	Between N. Silver Saddle Circle & Thompson Ranch	Residential	66.3
	Between N. Silver Saddle Circle & S. Silver Saddle Circle	Residential	66.5
	Between S. Silver Saddle Circle & Soledad Canyon Road	Residential/Commercial	67.7
	Between Soledad Canyon Road & SR-14 NB Ramps	Residential/Commercial	71.2
Soledad Canyon Road	Between Kenroy Avenue & Sand Canyon Road	Commercial/Residential/Rec.	72.0
	Between Sand Canyon Road & SR-14 SB Ramps	Commercial/Residential	72.1
	Between SR-14 SB Ramps & Oak Springs Canyon Road	Residential	71.2

Traffic data: Sand Canyon Plaza Traffic Impact Analysis, Stantec Consulting Services, Inc., November 2015. Noise levels calculated from the nearest receptor location to the roadway centerline.

Calculations provided in the Noise Technical Report (PES, December 2015) included in **Appendix 9** of this EIR.

6. Existing Ground-Borne Vibration Levels

The main sources of ground-borne vibration near the Project site are heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways. Trucks and buses typically generate ground-borne vibration velocity levels of around 63 VdB at 50 feet, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road.⁷⁸ In terms of PPV levels, a heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 inch per second.

4.12-4 Regulatory Setting

1. Federal

Noise

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the Project. However, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise.

Vibration

The Federal Transit Administration (FTA) has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 4.12-5** below.

Table 4.12-5 Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

⁷⁸ FTA, Transit Noise and Vibration Impact Assessment, May 2006.

The FTA has also adopted standards associated with human annoyance for ground-borne vibration impacts for the following three land-use categories: 1) Vibration Category 1 – High Sensitivity, 2) Vibration Category 2 – Residential, and 3) Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

Under conditions where there are an infrequent number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings.⁷⁹ Under conditions where there are an occasional number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 75 VdB for Category 2 buildings, and 78 VdB for Category 3 buildings.⁸⁰ Under conditions where there are a frequent number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 72 VdB for Category 2 buildings, and 75 VdB for Category 3 buildings.⁸¹ No thresholds have been adopted or recommended for commercial or office uses.

2. State of California

Noise

The California Department of Health Services has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in **Table 4.12-6, Community Noise Exposure (State General Plan Guidelines)**. In addition, §65302(f) of the *California Government Code* requires each county and city in the state to prepare and adopt a comprehensive long-range general plan for its physical development, with §65302(g) requiring a noise element to be included in the general plan. The noise element must: 1) identify and appraise noise problems in the community; 2) recognize Office of Noise Control guidelines; and 3) analyze and quantify current and projected noise levels.

79 “Infrequent events” are defined by the FTA as being fewer than 30 vibration events of the same kind per day. FTA, Transit Noise and Vibration Impact Assessment, May 2006.

80 “Occasional events” are defined by the FTA as between 30 and 70 vibration events of the same source per day. FTA, Transit Noise and Vibration Impact Assessment, May 2006.

81 “Frequent events” are defined by the FTA as more than 70 vibration events of the same source per day. FTA, Transit Noise and Vibration Impact Assessment, May 2006.

Table 4.12-6 Community Noise Exposure (State General Plan Guidelines)

Land Use	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d
Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 75
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Transient Lodging – Motels, Hotels	50 - 65	60 - 70	70 - 80	above 75
Auditoriums, Concert Halls, Amphitheaters	---	50 - 70	---	above 70
Sports Arena, Outdoor Spectator Sports	---	50 - 75	---	above 75
Playgrounds, Neighborhood Parks	50 - 70	---	67 - 75	above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	---	70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	67 - 77	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	above 75	---

a Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

b Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

c Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

d Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Office of Planning and Research, State of California General Plan Guidelines, October 2003 (in coordination with the California Department of Health Services (DHS)).

Vibration

No state vibration standards apply to the Project. Moreover, according to the Caltrans Transportation- and Construction-Induced Vibration Guidance Manual (2004), there are no official Caltrans standards for vibration. However, this manual provides guidelines for assessing vibration damage potential to various types of buildings, ranging from 0.08 to 0.12 inches per second for extremely fragile historic buildings, ruins, and ancient monuments, to 0.50 to 2.0 inches per second for modern industrial and commercial buildings.

3. City of Santa Clarita

General Plan Noise Element

The Noise Element of the General Plan is a comprehensive program for including noise management in the planning process, providing a tool for planners to use in achieving and maintaining land uses that are compatible with existing and future environmental noise levels. The Noise Element identifies current noise conditions within the planning area, and projects future noise impacts resulting from continued growth allowed by the Land Use Element. The element identifies noise-sensitive land uses and noise sources, and defines areas of noise impact for the purpose of developing programs to ensure that residents in the Santa Clarita Valley will be protected from excessive noise intrusion. As development proposals are reviewed in the future, the City and County will evaluate each proposal with respect to the Noise Element to ensure that noise impacts are reduced through planning and project design. Through implementation of the policies

and programs of the Noise Element, current and future adverse noise impacts will be reduced or avoided in order to protect the general health, safety, and welfare of the community.

The most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating sensitive land uses in areas that are subject to high levels of noise. Uses such as schools, hospitals, child care, senior care, congregate care, churches, and all types of residential use should be located outside of any area anticipated to exceed acceptable noise levels as defined by the Noise and Land Use Compatibility Guidelines, or should be protected from noise through sound attenuation measures such as site and architectural design and sound walls. As stated previously, the State of California has adopted guidelines for acceptable noise levels in various land use categories (California Office of Planning and Research, General Plan Guidelines 2003, Appendix C). The City of Santa Clarita and the County of Los Angeles have adopted these guidelines in a modified form as a basis for planning decisions based on noise considerations. To make the guidelines easier for applicants and decision makers to interpret and apply to planning decisions, modifications were made to eliminate overlap between categories in the table. These guidelines are shown in **Table 4.12-7**.

Table 4.12-7 Noise and Land Use Compatibility Guidelines (City Noise Element)

Land Use	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d
Residential – Low Density Single-Family, Duplex, Mobile Homes	50 - 60	60 - 70	70 - 75	above 75
Residential – Multi-Family Homes	50 - 60	60 - 70	70 - 75	above 75
Transient Lodging – Motels, Hotels	50 - 60	60 - 70	70 - 80	above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 60	60 - 70	70 - 80	above 80
Auditoriums, Concert Halls, Amphitheaters	---	50 - 65	---	above 65
Sports Arena, Outdoor Spectator Sports	---	50 - 75	---	above 75
Playgrounds, Neighborhood Parks	50 - 65	---	65 - 75	above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	---	70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	70-75	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	75 - 80	above 80	---

- a **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
- b **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
- c **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Sound walls, window upgrades, and site design modifications may be needed in order to achieve City standards.
- d **Clearly Unacceptable:** New construction or development should generally not be undertaken.

Source: City of Santa Clarita General Plan Noise Element, Exhibit N-8: Noise and Land Use Compatibility Guidelines, June 2010.

Additional considerations in the determination of noise-compatible land uses include the following:

1. **Noise Exposure Information Desired.** Where sufficient data exists, evaluate land use suitability with respect to a worst-case value of CNEL. Usually, a future projection of

- noise levels represents the worst case. Existing and future noise contours for freeway, roadway, airport and railroads are provided in the Noise Element.
2. **Noise Source Characteristics.** The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. To facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and to facilitate the ability of airports to comply with the Act, residential uses located in areas with an aircraft noise level greater than 65 CNEL should be discouraged and considered located within normally unacceptable areas.
 3. **Suitable Interior Environments.** One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.
 4. **Acceptable Outdoor Environments.** Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. The acceptable outdoor noise level is 65 CNEL for rear yard areas, neighborhood parks, and pool recreation areas at multi-family developments.

Applicable goals and policies from the General Plan Noise Element are listed below.

Goal N 1: A healthy and safe noise environment for Santa Clarita Valley residents, employees, and visitors.

Objective N 1.1: Protect the health and safety of the residents of the Santa Clarita Valley by the elimination, mitigation, and prevention of significant existing and future noise levels.

Policy N 1.1.1: Use the Noise and Land Use Compatibility Guidelines contained on Exhibit N-8, which are consistent with State guidelines, as a policy basis for decisions on land use and development proposals related to noise.

Policy N 1.1.2: Continue to implement the adopted Noise Ordinance and other applicable code provisions, consistent with state and federal standards, which establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.

- Policy N 1.1.3: Include consideration of potential noise impacts in land use planning and development review decisions.
- Policy N 1.1.4: Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive.

Goal N 2: Protect residents and sensitive receptors from traffic-generated noise.

Objective N 2.1: Prevent and mitigate adverse effects of noise generated from traffic on arterial streets and highways through implementing noise reduction standards and programs.

- Policy N 2.1.1: Encourage owners of existing noise-sensitive uses, and require owners of proposed noise sensitive land uses, to construct sound barriers to protect users from significant noise levels, where feasible and appropriate.
- Policy N 2.1.2: Encourage the use of noise absorbing barriers, where appropriate.

Goal N 3: Protect residential neighborhoods from excessive noise.

Objective N 3.1: Prevent and mitigate significant noise levels in residential neighborhoods.

- Policy N 3.1.1: Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise levels exceed 60 CNEL provide mitigation measures for the new residences to reduce interior noise levels to 45 CNEL, based on future traffic and railroad noise levels.
- Policy N 3.1.2: Require that developers of new single-family and multi-family residential neighborhoods in areas where the projected noise levels exceed 65 CNEL provide mitigation measures (which may include noise barriers, setbacks, and site design) for new residences to reduce outdoor noise levels to 65 CNEL, based on future traffic conditions. This requirement would apply to rear yard areas for single-family developments, and to private open space and common recreational and open space areas for multi-family developments.
- Policy N 3.1.3: Through enforcement of the applicable Noise Ordinance, protect residential neighborhoods from noise generated by machinery or activities that produce significant discernable noise exceeding recommended levels for residential uses.
- Policy N 3.1.4: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences, and adopt standards that regulate noise from construction activities that occur in or near residential neighborhoods.

- Policy N 3.1.5: Require that developers of private schools, childcare centers, senior housing, and other noise sensitive uses in areas where the ambient noise level exceeds 65 dBA (day), provide mitigation measures for these uses to reduce interior noise to acceptable levels.
- Policy N 3.1.7: Ensure that design of parks, recreational facilities, and schools minimize noise impacts to residential neighborhoods.
- Policy N 3.1.9: Implement a buyer and renter notification program for new residential developments where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. As determined by the reviewing authority, notification may be appropriate in the following areas:
- c. Within 200 feet of commercial uses in mixed-use developments, potential buyers and renters should receive notice that the commercial uses within the mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use.

Noise Ordinance (Ord. 89-29, 1/23/90)

The City Noise Ordinance provides exterior noise standards within the City and the following references are those portions of the Noise Ordinance that may be applicable to the Project.

Section 11.44.040 (Noise Limits) of the City of Santa Clarita Municipal Code (SCMC)

- A. It shall be unlawful for any person within the City to produce or cause or allow to be produced noise which is received on property occupied by another person within the designated region, in excess of the following levels, except as expressly provided otherwise herein:

Region	Time	Sound Level (dB)
Residential zone	Day	65
Residential zone	Night	55
Commercial and manufacturing	Day	80
Commercial and manufacturing	Night	70

At the boundary line between a residential property and a commercial and manufacturing property, the noise level of the quieter zone shall be used.

- B. Corrections to Noise Limits. The numerical limits given in subsection (A) of this section shall be adjusted by the following corrections, where the following noise conditions exist:

Noise Condition	Correction (in dB)
1. Repetitive impulsive noise	-5
2. Steady whine, screech or hum	-5
The following corrections apply to day only:	
3. Noise occurring more than 5 but less than 15 minutes per hour	+5
4. Noise occurring more than 1 but less than 5 minutes per hour	+10
5. Noise occurring less than 1 minute per hour	+20

Section 11.44.070 of the SCMC (Special Noise Sources—Machinery, Fans and Other Mechanical Devices)

Any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Section 11.44.040 at any property line, or, if a condominium or rental units, within any condominium unit or rental unit within the complex, shall be a violation of this chapter.

Section 11.44.080 of the SCMC (Special Noise Sources—Construction and Building)

No person shall engage in any construction work which requires a building permit from the City on sites within three hundred (300) feet of a residentially zoned property except between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and eight a.m. to six p.m. on Saturday. Further, no work shall be performed on the following public holidays: New Year’s Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day.

Emergency work as defined in Section 11.44.020(D) is permitted at all times. The Department of Community Development may issue a permit for work to be done “after hours”; provided, that containment of construction noises is provided.

4.12-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to noise are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse noise impacts if any of the following could occur.

-
- N-1 Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**
- N-2 Would the project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?**
- N-3 Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**
- N-4 Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**
- N-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 airstrip, would the project expose people residing or working in the project area to excessive noise levels?**
- N-6 For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**
-

The CEQA Guidelines do not define the levels at which ground-borne vibration or ground-borne noises are considered “excessive.” Thus, in terms of construction-related vibration impacts on buildings, the adopted guidelines and recommendations by the FTA to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity are used in this analysis to evaluate potential ground-borne vibration impacts. Based on the FTA criteria, construction impacts relative to ground-borne vibration would be considered significant if the following were to occur:

- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.5 inches per second at any building that is constructed with reinforced-concrete, steel, or timber;
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.3 inches per second at any engineered concrete and masonry buildings;
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.2 inches per second at any non-engineered timber and masonry buildings; or
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.12 inches per second at any historical building or building that is extremely susceptible to vibration damage.

In terms of ground-borne vibration impacts associated with human annoyance, this analysis uses the FTA’s vibration impact thresholds for sensitive buildings, residences, and institutional land uses under conditions where there are a frequent number of events per day, which would provide for the most conservative vibration analysis. These thresholds are 65 VdB at buildings where vibration would interfere with interior operations, 72 VdB at residences and buildings where people normally sleep, and 75 VdB at other institutional buildings.⁸² The 65 VdB threshold applies

⁸² FTA, Transit Noise and Vibration Impact Assessment, May 2006.

to typical land uses where vibration would interfere with interior operations, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment include, but are not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. The 72 VdB threshold applies to all residential land uses and any buildings where people sleep, such as hotels and hospitals. The 75 VdB threshold applies to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

The CEQA Guidelines do not define the levels at which noise would be considered substantial increases. Thus, for purposes of this analysis, the Project would normally have a significant impact on noise levels from Project operations if the Project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA if the total ambient noise levels without the Project exceed the City's General Plan exterior noise standards, or any 5 dBA or greater noise increase when total ambient noise levels without the Project are within the City's General Plan exterior noise standards (see "conditionally acceptable" column in **Table 4.12-5** on page [4.12-9](#) in this report).

4.12-6 Impacts Analysis

N-1	Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
N-4	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction Noise and Vibration

Construction of the Project would require the use of heavy equipment for the demolition of the existing on-site structures, grading, installation of new utilities, and building fabrication for the proposed development. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, a different mix of equipment would be operating and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The U.S. EPA has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. The data pertaining to the types of construction equipment and activities that would occur at the Project site are presented in **Table 4.12-8, Noise Range of Typical Construction Equipment**, and **Table 4.12-9, Typical Outdoor Construction Noise Levels**, respectively. The noise levels shown in **Table 4.12-9** represent composite noise levels associated with typical construction activities, which take into account both

the number of pieces and spacing of heavy construction equipment that are typically used during each phase of construction.

Table 4.12-8 Noise Range of Typical Construction Equipment

Construction Equipment	Noise Level in dBA L_{eq} at 50 Feet ^a
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

^aMachinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Source: U.S. EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Table 4.12-9 Typical Outdoor Construction Noise Levels

Construction Phase	Noise Levels at 50 Feet with Mufflers (dBA L_{eq})	Noise Levels at 100 Feet with Mufflers (dBA L_{eq})	Noise Levels at 200 Feet with Mufflers (dBA L_{eq})
Ground Clearing	82	76	70
Excavation, Grading	86	80	74
Foundations	77	71	65
Structural	83	77	71
Finishing	86	80	74

Source: U.S. EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

As shown in **Table 4.12-9**, construction noise during the heavier initial periods of construction is presented as 86 dBA L_{eq} when measured at a reference distance of 50 feet from the center of construction activity.⁸³ These noise levels would diminish notably with distance from the construction site at a rate of 6 dBA per doubling of distance (noise from stationary or point sources is reduced by about 6 dBA for every doubling of distance at acoustically hard locations). For example, a noise level of 86 dBA L_{eq} measured at 50 feet from the noise source to the receptor would decline to 80 dBA L_{eq} at 100 feet from the source to the receptor, and fall by another 6 dBA

⁸³ Although the peak noise levels generated by certain construction equipment may be greater than 86 dBA at a distance of 50 feet, the equivalent composite noise level would be approximately 86 dBA L_{eq} (i.e., the equipment does not operate at the peak noise level over the entire duration).

L_{eq} to 74 dBA L_{eq} at 200 feet from the source to the receptor. These noise attenuation rates assume a flat and unobstructed distance between the noise generator and the receptor. Intervening structures and vegetation would further attenuate the noise.

As shown in **Table 4.12-10** below, the construction noise levels forecasted for the proposed construction work would result in noise increases at all of the sensitive receptors. It should be noted, however, that any increase in noise levels at off-site receptors during construction would be temporary, and would not generate continuously high noise levels; although occasional single-event disturbances from construction are possible. In addition, the construction noise during the initial periods of construction (i.e., demolition and grading work) would be typically reduced in the later construction periods (i.e., interior building construction at the proposed buildings), as the structures would break the line-of-sight noise transmission from the construction area to the nearby sensitive receptors. Other sensitive receptors located more than 300 feet from the Project site would not experience Project-related construction noise levels greater than 70 dBA, which would be within the conditionally acceptable noise level range for sensitive uses.

Table 4.12-10 Estimated Exterior Construction Noise at Sensitive Receptors

Sensitive Land Uses*	Distance to Project Site (feet)	Existing Monitored Daytime Ambient Noise Levels (dBA L_{eq})	Estimated Peak Construction Noise Levels (dBA)	Noise Level Increase
1. Residential uses to east	20	49.0	93.5	44.9
2. Residence to north	120	64.0	78.4	14.4
3. Residential uses to west	140	55.5	77.1	21.6
4. Residential uses to west	140	61.7	77.1	15.4

*See Figure 4, Noise Monitoring and Sensitive Receptor Location Map. Calculations based on Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, May 2006. It should be noted that the peak noise level increase at the nearby sensitive receptors during project construction represents the highest composite noise level that would be generated periodically during a worst-case construction activity and does not represent continuous noise levels occurring throughout the construction day or period.

The Project's construction-related noise levels at the above mentioned sensitive receptors would have the potential to exceed the City's exterior daytime noise standards identified previously. However, it should be noted that the Project would be consistent with Section 11.44.080 of the SCMC (Special Noise Sources—Construction and Building), which states no person shall engage in any construction work which requires a building permit from the City on sites within 300 feet of a residentially zoned property except between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and from 8:00 a.m. to 6:00 p.m. on Saturday. Nevertheless, as temporary construction noise levels would exceed exterior daytime noise standards, construction noise impacts would be potentially significant.

Level of Significance Before Mitigation

Construction noise impacts would be potentially significant.

Regulatory Compliance Measure

MM N-1 The Project shall adhere to Section 11.44.080 of the SCMC (Special Noise Sources— Construction and Building). As stated therein, no person shall engage in any construction work which requires a building permit from the City on sites within 300 feet of a residentially zoned property except between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. Further, no work shall be performed on the following public holidays: New Year’s Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day.

Mitigation Measures

- MM N-2 Noise and ground-borne vibration construction activities whose specific location on the Project site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest off-site land uses.
- MM N-3 When possible, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- MM N-4 Flexible sound control curtains shall be placed around all drilling apparatuses, drill rigs, and jackhammers when in use.
- MM N-5 The Project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.
- MM N-6 Barriers such as flexible sound control curtains shall be erected around heavy equipment to minimize the amount of noise on the surrounding land uses to the maximum extent feasible during construction.
- MM N-7 All construction truck traffic shall be restricted to truck routes approved by the City, which shall avoid residential areas and other sensitive receptors to the extent feasible.
- MM N-8 A construction notice shall be prepared and shall include the following information: job site address, permit number, name and phone number of the contractor and owner or owner’s agent, hours of construction allowed by code or any discretionary approval for the site, and City telephone numbers where violations can be reported. The notice shall be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public and approved by the City.

Level of Significance After Mitigation

Even with the implementation of Mitigation Measures **MM N-1** through **MM N-7**, construction noise impacts would be significant and unavoidable.

N-2 Would the project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

Construction Impacts

Construction activities that would occur within the Project site would have the potential to generate low levels of ground-borne vibration. **Table 4.12-11** below identifies various PPV and RMS velocity (in VdB) levels for the types of construction equipment that would operate during the construction of the Project. Based on the information presented in **Table 4.12-11** below, vibration velocities could reach as high as approximately 0.089 inches per second PPV at 25 feet from the source activity, depending on the type of construction equipment in use. This corresponds to a RMS velocity level (in VdB) of 87 VdB at 25 feet from the source activity.

Table 4.12-11 Vibration Source Levels for Construction Equipment

Equipment	Approximate PPV (in/sec)				Approximate RMS (VdB)			
	25 Feet	50 Feet	75 Feet	100 Feet	25 Feet	50 Feet	75 Feet	100 Feet
Large Bulldozer	0.089	0.031	0.017	0.011	87	78	73	69
Caisson Drilling	0.089	0.031	0.017	0.011	87	78	73	69
Loaded Trucks	0.076	0.027	0.015	0.010	86	77	72	68
Jackhammer	0.035	0.012	0.007	0.004	79	70	65	61
Small Bulldozer	0.003	0.001	0.0006	0.0004	58	49	44	40

Note: in/sec = inches per second.

Source: FTA, Transit Noise and Vibration Impact Assessment, Final Report, 2006.

With respect to human annoyance, residential sensitive receptors located within 75 feet of the Project site boundaries (Sensitive Receptor No. 1 located as close as 20 feet from Project site) could experience construction related vibration levels of up to approximately 73-87 VdB. These levels would exceed the FTA's vibration impact threshold of 72 VdB for residences and buildings where people normally sleep. However, similar to construction noise sources, it should be noted that the Project would be consistent with Section 11.44.080 of the SCMC (Special Noise Sources—Construction and Building), which states that no person shall engage in any construction work that requires a building permit from the City on sites within 300 feet of a residentially zoned property except between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. Nevertheless, as temporary construction vibration levels would exceed residential annoyance thresholds, impacts would be potentially significant.

With respect to building damage, heavy project construction activities would not occur within close proximity to any known off-site historical building or building that is extremely susceptible to vibration damage. As discussed previously, vibration thresholds relative to historic and potentially historic buildings are more restrictive than the threshold for non-engineered timber and masonry buildings. Specifically, Project construction activities could result in significant impacts if a PPV ground-borne vibration level was to exceed 0.12 inches per second at any historical building or building that is extremely susceptible to vibration damage. As there are no known off-site historical buildings or buildings that are extremely susceptible to vibration damage

within 25 feet of heavy project construction activities (resulting in a peak PPV of 0.089 in/sec), there is no potential for the Project to generate ground-borne vibration levels that exceed the threshold of 0.12 inches per second at a historical building, or any building that is extremely susceptible to vibration damage. Thus, impacts with respect to building damage would be less than significant.

Operational Vibration Impacts

The Project would not include any stationary equipment that would result in excessive vibration levels. Ground-borne vibration at the Project site and immediate vicinity currently result from heavy-duty vehicular travel (e.g., refuse trucks and transit buses) on the nearby local roadways, and the proposed land uses at the Project site would not result in substantial increased use of these heavy-duty vehicles. While refuse trucks would be used for the disposal of solid waste at the Project site, these trips are already occurring within the neighborhood and only occur once a week. The number of transit buses that travel along adjacent roadways would also not substantially increase due to the Project. Thus, vibration impacts associated with operation of the Project would be less than significant.

Level of Significance Before Mitigation

Construction vibration impacts would be potentially significant. Operational vibration impacts would be less than significant.

Mitigation Measures

Refer to Mitigation Measures **MM N-1** through **MM N-8** for construction vibration. No additional mitigation measures are required. No mitigation is required for operational vibration.

Level of Significance After Mitigation

Even with the implementation of Mitigation Measures **MM N-1** through **MM N-7**, construction vibration levels (human annoyance) would be significant and unavoidable. Operational vibration impacts could be less than significant.

N-1	Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
N-3	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
N-4	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Traffic Noise

The increase in traffic resulting from implementation of the Project would increase ambient noise levels at off-site locations in the Project vicinity. These concerns were addressed using the FHWA-

RD-77-108 model, which calculates the CNEL noise level for a particular reference set of input conditions, based on site-specific traffic volumes, distances, speeds and/or noise barriers. Based on the traffic analysis prepared for the Project in combination with an analysis of the surrounding land uses, roadway noise levels were forecasted to determine if the Project's vehicular traffic would result in a significant impact at off-site locations.

Off-site locations in the Project vicinity would experience an increase in noise resulting from the additional traffic generated by the Project. The Project-related increases in noise levels at the primary roadway segments located in proximity to the Project site are identified in **Table 4.12-12** below. **Table 4.12-12** identifies the change in noise levels along the study-area roadway segments between the Existing (2015) scenario and the Existing Plus Project scenario. As shown in **Table 4.12-12**, the Project would increase local noise levels by a maximum of 1.3 dBA CNEL during the Existing Plus Project scenario for the roadway segment of Sand Canyon Road between Sand Canyon Road "A" Project Driveway and Soledad Canyon Road. All other roadway segments would not experience noise level increases by more than 1.1 dBA CNEL and these increases would be less than the 3 dBA and 5 dBA CNEL thresholds identified previously. As such, the Project's traffic-related noise level increases would not exceed thresholds of significance, and off-site traffic noise levels associated with the Project would be less than significant.

Table 4.12-12 Existing Plus Project Roadway Noise Levels

Roadway	Roadway Segment	dBA CNEL		
		Existing (2015)	Existing Plus Project	Net Increase
Sand Canyon Road	Btwn N. Silver Saddle & Thompson Ranch	66.3	66.6	0.3
	Btwn N. Silver Saddle & Sand Canyon "C" Project Driveway	66.5	67.1	0.6
	Btwn Sand Canyon "C" Project Driveway & S. Silver Saddle	66.5	67.6	1.1
	Btwn S. Silver Saddle & Sand Canyon "A" Project Driveway	67.7	68.7	1.0
	Btwn Sand Canyon "A" Project Driveway & Soledad Canyon	67.7	69.0	1.3
	Btwn Soledad Canyon & SR-14 NB Ramps	71.2	71.8	0.6
Soledad Canyon Road	Btwn Kenroy Avenue & Sand Canyon	72.0	72.3	0.3
	Btwn Sand Canyon & SR-14 SB Ramps	72.1	72.6	0.5
	Btwn SR-14 SB Ramps & Soledad Canyon "A" Project Driveway	71.2	71.9	0.7
	Btwn Soledad Canyon "A" Project Driveway & Oak Springs Cyn	71.2	71.3	0.1

Traffic data: Sand Canyon Plaza Traffic Impact Analysis, Stantec Consulting Services, Inc., November 2015. Noise levels calculated from the nearest receptor location to the roadway centerline.

Calculations provided in the Noise Technical Report (PES, December 2015) included in **Appendix 9** of this EIR.

Parking Noise

Parking will be provided as required by the Code with surface parking. Various noise events would occur periodically from the parking uses. Such periodic events would include activation of car alarms, sounding of car horns, slamming of car doors, engine revs, and tire squeals.

Automobile movements would comprise the most continuous noise source and would generate a noise level of approximately 65 dBA at a distance of 25 feet. Car alarm and horn noise events generate sound levels as high as 75 dBA at a reference distance of 25 feet, however these noise sources would be sporadic. Thus, these parking related noise sources would not have the potential

to exceed the City's exterior noise standards. It should also be noted that the existing urbanized vicinity currently generates noise levels associated with parking and vehicular noise sources identified above. Although the Project would increase the number of vehicles parking in the area, the types of noise would be similar to those currently occurring on and around the urbanized Project site (i.e., commercial and residential uses adjacent to the site). While periodic noise levels from car alarms, horns, slamming of doors, etc., would increase as a result of the Project, these events would not occur consistently over a 24-hour period and thus would not have the potential to increase ambient noise levels at off-site locations by 5 dBA CNEL or more, nor exceed the City's exterior noise standards at off-site locations. As such, noise impacts from the parking areas would be less than significant.

Stationary Sources

As part of the Project, new mechanical equipment, HVAC units, and exhaust fans could be installed on the roof or near the proposed new structures. Although the operation of this equipment would generate noise, the design of these on-site HVAC units and exhaust fans would be required to comply with the regulations of the SCMC. Specifically, Section 11.44.070 of the SCMC states any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Section 11.44.040 at any property line, or, if a condominium or rental units, within any condominium unit or rental unit within the complex, shall be a violation of this chapter. In addition to these requirements, the Project would screen mechanical equipment as feasible and necessary to meet City noise standards. The method of screening would be architecturally compatible with Project features and would blend with the building designs. As such, compliance with Section 11.44.070 of the Municipal Code would ensure noise from stationary sources would be less than significant.

Exposure to Traffic Noise Levels

As shown in **Table 4.12-13** (page [4.12-30](#)), future cumulative exterior noise levels could reach up to 71.5 dBA CNEL and 73.6 dBA CNEL for the Project frontages along the segments of Sand Canyon Road and Soledad Canyon Road, respectively. In addition to these arterial roadway noise levels, the SR-14 Freeway to the south of the Project site could cause future cumulative on-site noise levels to reach up to 74.7 dBA CNEL along the southern boundary of the Project site fronting Soledad Canyon Road (see Noise Technical Report included in **Appendix 9** of this EIR). While the Project would contribute to these future cumulative traffic noise levels (less than 0.8 dBA CNEL increase at worst-case location as shown in **Table 4.12-13**), these noise levels are primarily a result of traffic from existing conditions, ambient growth, cumulative development, and general plan buildout to the future year 2030. Based on a review of the Project plans, exterior spaces fronting Sand Canyon and Soledad Canyon Roads with a direct line-of-sight to these roadways may experience exterior

noise levels above the City's exterior noise standard of 65 dBA CNEL. Specifically, such uses fronting Sand Canyon Road include multi-family attached units in Planning Areas 2 and 3, and open space and recreational areas in Planning Areas 2 and 3. And, such uses fronting Soledad Canyon Road include the assisted living facility in Planning Area 1, and open space areas in Planning Area 1. However, it should be noted that these calculations are based on the worst-case locations immediately adjacent to the property lines along the roadways. Uses with greater setbacks and without a direct line-of-sight to these roadways are expected to experience exterior noise levels below the City's exterior noise standard of 65 dBA CNEL (i.e., locations where Project building facades along the site's boundary will shield internal on-site uses from the roadway noise). Based on data published by the Federal Highway Administration, such conditions can reduce line-of-sight noise levels by approximately 10 dBA for some locations.⁸⁴ Assuming a 10 dBA reduction described above, uses with greater setbacks and without a direct line-of-sight to the roadways would experience exterior noise levels of approximately 61.5 dBA CNEL to 64.7 dBA CNEL. These noise levels would be within the City's exterior noise standard of 65 dBA CNEL. Nevertheless, because exterior spaces fronting Sand Canyon and Soledad Canyon Roads with a direct line-of-sight to these roadways may experience exterior noise levels above the City's exterior noise standard of 65 dBA CNEL, this impact would be potentially significant.

With respect to interior noise levels, consistent with State and City standards, all habitable spaces associated with the Project would be required to provide indoor noise levels of 45 dBA CNEL or less. Because future cumulative on-site exterior noise levels could reach up to 74.7 dBA CNEL at the worst-case location, an exterior-to-interior reduction of up to approximately 29.7 dBA may be necessary in some locations. As discussed previously, the exterior-to-interior noise reduction of newer residential buildings can reach more than 30 dBA depending on the type of building materials and methods used. This is based in part on mandatory compliance with CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, which requires substantial building insulation, improving exterior-to-interior noise reductions. Assuming a 30 dBA exterior-to-interior noise reduction for new construction, interior noise levels within the Project site would be approximately 44.7 dBA CNEL at the worst-case location, which would be within the State and City standard. As such, interior noise levels would be less than significant.

Mixed-Use Projects

As stated in the Noise Element, mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use. As such, and consistent with Policy N 3.1.9 of the City's Noise Element and Mitigation Measure **MM N-10**, the

⁸⁴ Based on a review of Table 4 of the FHWA Noise Barrier Design Handbook (July 14, 2011), the design feasibility of a sound barrier that reduces noise by 10 dBA is defined as "attainable."

Project would implement a buyer and renter notification program for residences where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. Therefore, noise impacts with respect to mixed-use components of the Project would be considered less than significant. Therefore, noise impacts with respect to mixed-use components of the Project would be less than significant.

Impact Conclusion

The Project's traffic noise, parking noise, and stationary source noise levels would be less than significant.

Exterior noise levels from traffic noise for the Project's residential uses, the assisted living facility, rear yard areas, open space areas, and recreational areas would be inconsistent with the City's exterior noise standard of 65 dBA CNEL. Regulatory compliance and Project-specific mitigation (i.e., Mitigation Measures **MM N-9**, **MM N-10**, **MM N-12**, and **MM N-13**) would reduce this impact to the maximum extent feasible. However, as exterior noise levels of 65 dBA CNEL cannot be guaranteed for all areas of the Project site, this impact would be significant and unavoidable.

With respect to interior noise levels, consistent with State and City standards, all habitable spaces associated with the Project would be required to provide indoor noise levels of 45 dBA CNEL or less (see Mitigation Measure **MM N-11**). As such, interior noise levels would be less than significant.

Consistent with Mitigation Measures **MM N-10**, the Project would implement a buyer and renter notification program for residences in a mixed-use development and where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. Therefore, noise impacts with respect to mixed-use components of the Project would be less than significant.

Level of Significance Before Mitigation

Impacts for Project traffic noise, parking noise, stationary sources, and traffic noise on interior noise levels would be less than significant.

Impacts for traffic noise on exterior noise levels and mixed-use projects would be potentially significant.

Regulatory Compliance Measures

MM N-9	Consistent with Policy N 3.1.2 of the City's Noise Element, where the Projected exterior noise levels could exceed 65 CNEL at single-family residences (rear yards), open space areas, and common recreational and open space areas for multi-family developments, the Applicant shall provide noise barriers, setbacks, and site design standards to reduce future on-site traffic noise levels to the maximum extent feasible.
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- MM N-10 Consistent with Policy N 3.1.9 (Mixed-Use Developments) of the City’s Noise Element, the Project shall implement a buyer and renter notification program for residences where appropriate, to educate and inform potential buyers and renters of the sources of noise in the area and/or new sources of noise that may occur in the future. As determined by the reviewing authority, notification may be appropriate in the following areas: within 200 feet of commercial uses in mixed-use developments, potential buyers and renters should receive notice that the commercial uses within the mixed-use developments may generate noise in excess of levels typically found in residential areas, that the commercial uses may change over time, and the associated noise levels and frequency of noise events may change along with the use.
- MM N-11 The Project shall comply with Title 24 Noise Insulation Standards, which specifies the maximum allowable sound transmission between dwelling units in multi-family residential buildings, and limits allowable interior noise levels in habitable spaces to 45 dBA CNEL.

Mitigation Measures

- MM N-12 Prior to the issuance of building permits for uses fronting Sand Canyon and Soledad Canyon Roads, the Project developer shall submit evidence demonstrating that all feasible design features have been considered to meet the City’s exterior noise standard of 65 dBA CNEL. Locations that could be exposed to future exterior noise levels above 65 dBA CNEL shall consider at least the following: 1) Increase setbacks along Sand Canyon and Soledad Canyon Roads to the maximum extent feasible; 2) Consider the use of noise barriers between the roadway sources and the receptors (earthen berms, masonry walls, and vegetation may be appropriate); and/or 3) Prohibit balconies for multi-family units facing Sand Canyon and Soledad Canyon Roads.
- MM N-13 The Project shall implement a buyer and renter notification program for residences where appropriate, to educate and inform potential buyers and renters that due to traffic levels on Sand Canyon Road, Soledad Canyon Road and the SR-14 Freeway, noise in excess of levels typically found in residential areas may be possible.

Level of Mitigation After Mitigation

Impacts for Project traffic noise, parking noise, stationary sources, traffic noise on interior noise levels, and mixed-use projects would be less than significant.

With implementation of Mitigation Measure **MM N-9**, impacts for mixed-use projects would be less than significant.

Even with the implementation of Mitigation Measures **MM N-9**, **MM N-10**, **MM N-12**, and **MM N-13**, impacts for traffic noise on exterior noise levels would be significant and unavoidable.

N-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 airstrip, would the project expose people residing or working in the project area to excessive noise levels?
N-6	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The Project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not expose people residing or working on the Project site to excessive noise impacts from airports or private air strips. Therefore, no impacts would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

4.12-7 Cumulative Impacts

This cumulative impact analysis considers development of the Project in combination with ambient growth and other development projects within the vicinity. As noise is a localized phenomenon and decreases in magnitude as distance from the source increases, only projects and ambient growth in the nearby area could combine with the Project to result in cumulatively considerable noise impacts.

Construction Noise

Construction of the Project in combination with related projects could result in an increase in construction-related noise and vibration levels in this urbanized area of the City. However, all of the related projects would be subject to the SCMC, which limits the hours of allowable construction activities. In addition, each of the related projects could be subject to additional project-specific mitigation measures aimed at the reduction of construction noise and vibration levels. Furthermore, as noise is a localized phenomenon and decreases in magnitude as distance from the source increases, it is unlikely that Project-related construction activities would combine with construction activities associated with the related projects to generate a cumulatively considerable noise and vibration impact during construction. As such, cumulative impacts with respect to construction noise and vibration would be less than significant.

Operational Noise

Cumulative mobile source noise impacts would occur primarily as a result of increased traffic on local roadways due to the Project, ambient growth, and related projects/cumulative development within the study area. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of the Project to the Future With Project (2030) volumes on the roadway segments in the project vicinity. As shown below in **Table 4.12-13** below, column [3] minus column [1] would yield an increase in cumulative roadway noise levels with the Project for future year 2030 compared to existing conditions (i.e., existing conditions, plus Project, plus ambient growth, plus related projects/cumulative development). As shown in **Table 4.12-13**, cumulative traffic noise levels for the year 2030 would increase by a maximum of 4.3 dBA CNEL for the roadway segment of Sand Canyon Road, between Sand Canyon “C” Project Driveway & S. Silver Saddle Circle. Additional increases along Sand Canyon Road would range from 1.8 dBA CNEL to 4.0 dBA CNEL. All increases along Soledad Canyon Road would be less than 1.7 dBA CNEL.

Table 4.12-13 Future Roadway Noise Levels

Roadway	Roadway Segment	dBA CNEL				
		Existing (2015) [1]	Future Without Project (2030) [2]	Future With Project (2030) [3]	Project Net Increase [3]-[2]	Cumulative Net Increase [3]-[1]
Sand Canyon Road	Btwn N. Silver Saddle & Thompson Ranch	66.3	69.5	69.6	0.1	3.3
	Btwn N. Silver Saddle & Sand Canyon “C” Project Driveway	66.5	70.4	70.5	0.1	4.0
	Btwn Sand Canyon “C” Project Driveway & S. Silver Saddle	66.5	70.4	70.8	0.4	4.3
	Btwn S. Silver Saddle & Sand Canyon “A” Project Driveway	67.7	70.7	71.3	0.6	3.6
	Btwn Sand Canyon “A” Project Driveway & Soledad Canyon	67.7	70.7	71.5	0.8	3.8
	Btwn Soledad Canyon & SR-14 NB Ramps	71.2	72.7	73.0	0.3	1.8
Soledad Canyon Road	Btwn Kenroy Avenue & Sand Canyon	72.0	72.4	72.6	0.2	0.6
	Btwn Sand Canyon & SR-14 SB Ramps	72.1	73.2	73.6	0.4	1.5
	Btwn SR-14 SB Ramps & Soledad Canyon “A” Project Driveway	71.2	72.3	72.9	0.6	1.7
	Btwn Soledad Canyon “A” Project Driveway & Oak Springs Canyon	71.2	72.3	72.5	0.2	1.3

Traffic data: Sand Canyon Plaza Traffic Impact Analysis, Stantec Consulting Services, Inc., November 2015. Noise levels calculated from the nearest receptor location to the roadway centerline.

Calculations provided in the Noise Technical Report (PES, December 2015) included in **Appendix 9** of this EIR.

Although the Project would only contribute a maximum increase of 0.8 dBA CNEL for future 2030 traffic noise levels, cumulative impacts would be considered significant for the following roadway segments along Sand Canyon because cumulative increases exceed 3 dBA between:

- N. Silver Saddle Circle & Sand Canyon “C” Project Driveway
- Sand Canyon “C” Project Driveway & S. Silver Saddle Circle
- S. Silver Saddle Circle & Sand Canyon “A” Project Driveway
- Sand Canyon “A” Project Driveway & Soledad Canyon Road

Cumulative mobile source noise impacts would occur primarily as a result of increased traffic on local roadways due to the Project, ambient growth, and related projects/cumulative development within the study area. Although the Project would only contribute a maximum increase of 0.8 dBA CNEL for future 2030 traffic noise levels, cumulative traffic noise level increases would be considered significant for the following roadway segments along Sand Canyon: between N. Silver Saddle Circle and Sand Canyon “C” Project Driveway, between Sand Canyon “C” Project Driveway and South Silver Saddle Circle, between South Silver Saddle Circle and Sand Canyon “A” Project Driveway, and between Sand Canyon “A” Project Driveway and Soledad Canyon Road. As no feasible mitigation is available to reduce this impact, cumulative traffic noise impacts would be significant and unavoidable.

Level of Significance Before Mitigation

Impacts for cumulative construction noise and vibration would be less than significant.

Impacts for cumulative traffic noise would be potentially significant.

Mitigation Measures

No mitigation is required for cumulative construction noise and vibration.

There is no feasible mitigation to reduce cumulative operational noise.

Level of Significance after Mitigation

Impacts for cumulative construction noise and vibration would be less than significant.

Impacts for cumulative traffic noise would be significant and unavoidable.

4.12-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This document was sourced to determine consistency with goals and policies of the General Plan.

Pomeroy Environmental Services, Noise Technical Report for the Sand Canyon Plaza Project, City of Santa Clarita, California, dated December 2015.

4.13 Population and Housing

4.13-1 Summary

Between 2000 and 2014, the population of the City of Santa Clarita increased from 151,088 residents to 181,559 residents, an increase of 30,471 residents, or approximately 16.78% over a 14-year period.⁸⁵ The CDF estimates the City's 2015 population at 213,331 residents.⁸⁶ The City's average household size is estimated at 3.10 residents for 2015. The City of Santa Clarita General Plan forecasts the City's population to be 275,000.⁸⁷ at buildout. The General Plan forecasts a range of 98,322 to 128,850 jobs in the City at buildout. Impacts associated with the Project would be less than significant.

4.13-2 Introduction

This section describes the existing population, housing, and employment within the City, identifies the regulatory framework with respect to regulations that address population and housing, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.13-3 Existing Conditions

1. Regional Population and Housing Forecasts

Forecasts for population and households for Los Angeles County by the Southern California Association of Governments (SCAG) are shown in **Table 4.13-1** below.

Table 4.13-1 SCAG Population and Housing Forecasts – Los Angeles County

	2008	2020	2035	Change 2008–2035	
				Total	Percent
Population	9,778,000	10,404,000	11,353,000	1,575,000	13.87
Households	3,228,000	3,513,000	3,852,000	624,000	16.20
Employment	4,340,000	4,558,000	4,827,000	487,000	10.09

Source: SCAG, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, Growth Forecast Appendix, April 2012

⁸⁵ Southern California Association of Governments, Profile of the City of San Buenaventura, (May 2015).

⁸⁶ California Department of Finance, E-1 City/County Population Estimates with Annual Percent Change, January 1, 2014 and 2015 (2015).

⁸⁷ City of Santa Clarita, One Valley One Vision Program Environmental Impact Report, Table 2.0-1, Summary of Population, Housing, and Employment Projections for the OVOV Planning Area and City's Planning Area at Buildout (May 2011).

2. Existing Population, Housing, and Employment

Population data from the 2000 and 2010 Census, an estimate from the California Department of Finance (CDF) for 2015, and forecasts from SCAG for 2008, 2020, and 2035 are presented in **Table 4.13-2** below.

Between 2000 and 2014, the population of the City of Santa Clarita increased from 151,088 residents to 181,559 residents, an increase of 30,471 residents, or approximately 16.78% over a 14-year period.⁸⁸ The CDF estimates the City's 2015 population at 213,331 residents.⁸⁹ The City's average household size is estimated at 3.10 residents for 2015.⁹⁰

Between 2000 and 2014, the number of housing units in the City of Santa Clarita increased from 50,787 to 61,405, an increase of 10,618 housing units, or approximately 17.29% over a 14-year period.⁹¹ The DOF estimates the City's 2015 housing supply at 71,374 units.⁹²

Table 4.13-2 City of Santa Clarita Population, Housing, and Employment: Census Data and Forecasts

	US Census				CDF Estimate	SCAG Forecasts				
	2000	2010	Change 2000–2010			2015	2008	2020	2035	Change 2012–2035
			Total	Percent	Total					Percent
Population	151,088	176,320	25,232	14.31	213,231	175,900	201,300	237,100	61,200	25.81
Housing	50,787	59,507	8,720	14.35	71,374	59,300	70,100	81,900	22,600	27.59
Employment	--	--	--	--	--	92,900	108,700	122,600	29,700	24.23

Sources: US Census Bureau 2014 DP-1, California Department of Finance, 2015

SCAG, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, Growth Forecast Appendix, April 2012

The City of Santa Clarita General Plan forecasts the City's population to be 275,000⁹³ with a range of 98,322 to 128,850 jobs in the City at buildout of the General Plan.

3. Project Site

A portion of the Project site is currently developed with 123 mobile homes. Fifteen (15) of these mobile home units are owner-occupied. The Applicant has reached relocation and/or purchase

88 Southern California Association of Governments, Profile of the City of San Buenaventura, (May 2015).

89 California Department of Finance, E-1 City/County Population Estimates with Annual Percent Change, January 1, 2014 and 2015 (2015).

90 California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2015, with 2010 Benchmark (2015).

91 Southern California Association of Governments, Profile of the City of San Buenaventura (2015).

92 California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2015, with 2010 Benchmark (2015).

93 City of Santa Clarita, One Valley One Vision Program Environmental Impact Report, Table 2.0-1, Summary of Population, Housing, and Employment Projections for the OVOV Planning Area and City's Planning Area at Buildout (May 2011).

agreements with all of the 15 owners. The remaining 108 units are owned by the Project Applicant and rented on a month-to-month basis.

4.13-4 Regulatory Setting

1. State of California

SB 375- The Sustainable Communities and Climate Protection Act of 2008

Senate Bill 375 (SB 375) focuses on aligning transportation, housing, and other land uses to achieve regional greenhouse gas (GHG) emissions reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill No. 32 (AB 32). SB 375 requires California Metropolitan Planning Organizations to develop a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP), with the purposes of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. The SCS must identify the general location of land uses, residential densities, and building intensities within the region; identify areas within the region sufficient to house all the population of the region; identify areas within the region sufficient to house an 8-year projection of the regional housing need; identify a transportation network to service the regional transportation needs; gather and consider the best practically available scientific information regarding resources areas and farmland in the region; consider the state housing goals; set forth a forecasted development pattern for the region; and allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC §7401 et seq.). The development pattern in the SCS, when integrated with the transportation network and other transportation measures and policies, must reduce the GHG emissions from automobiles and light duty trucks to achieve the GHG emissions reduction targets approved by the California Air Resources Board (CARB). If the SCS does not achieve the GHG emissions targets set by CARB, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved.

SB 375 also imposes a number of new requirements on the regional housing needs process. Prior to SB 375, the regional transportation plan and regional housing needs processes were not required to be coordinated. SB 375 now synchronizes the schedules of the Regional Housing Needs Assessment (RHNA) and regional transportation plan processes. The RHNA, which is developed after the regional transportation plan, must also allocate housing units within the region consistent with the development pattern included in the SCS. Previously, the RHNA determination was based on population projections produced by the Department of Finance. SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 3% of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 3%, then the two agencies

shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance.

Under previous law, the housing element was required to be updated as frequently as needed and no less than every 5 years. Now per SB 375, this period has been lengthened to 8 years and timed so that the housing element period begins no less than 18 months after adoption of the regional transportation plan to encourage closer coordination between the housing and transportation planning. SB 375 also changes the implementation schedule required in each housing element.

California Department of Housing and Community Development

State housing law (*California Government Code* §65580 et seq.) requires local government plans to address the existing and projected housing needs of all economic segments of the community through their housing elements. The housing element is one of seven state-mandated elements that every general plan must contain, and it is required to be updated every 8 years and determined legally adequate by the state. The purpose of the housing element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs. In addition, the Housing Element defines the related policies and programs that the community will be implemented to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the SCS.

2. Regional

Southern California Association of Governments

SCAG is the responsible agency for developing and adopting regional housing, population, and employment growth forecasts for local governments from Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The City of Santa Clarita is located within the North Los Angeles County Subregion, 1 of 15 Subregional Organizations in the SCAG Region.

SCAG's demographic data is developed to enable the proper planning of infrastructure and facilities to adequately meet the needs of the anticipated growth. SCAG adopted its 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which presents the transportation and land use vision for the SCAG region through the year 2035 and provides a long-term investment framework for addressing the region's transportation and related challenges. Growth forecasts contained in the RTP/SCS for Los Angeles County and the City of Santa Clarita are utilized as the basis of analysis for housing and population forecasts in this section.

Regional Housing Needs Assessment

State law requires that jurisdictions provide their fair share of regional housing needs. The State of California Department of Housing and Community Development (HCD) is mandated to determine the statewide housing need. In cooperation with HCD, local governments and councils of governments (COGs) are charged with determining the existing and projected housing need as a share of the statewide housing need of their city or region.

The RHNA is an assessment process performed periodically as part of Housing Element and General Plan updates at the local level. The RHNA quantifies the housing need by income group within each jurisdiction during specific planning periods. The 5th cycle RHNA Allocation Plan, which covers the planning period from October 2013 to October 2021, was adopted by the Regional Council on October 4, 2012. The RHNA allows communities to anticipate growth, so that collectively the region can grow in ways that enhance quality of life, improve access to jobs, promote transportation mobility, and address social equity and fair share housing needs.

3. City of Santa Clarita

General Plan Housing Element

The City's Housing Element is provided in the City of Santa Clarita General Plan. This element sets forth the City's goals and policies with respect to housing and establishes a comprehensive 8-year program strategy for the October 15, 2013 to October 15, 2021 planning period. The Housing Element identifies strategies and programs that focus on 1) preserving and improving housing and neighborhoods, 2) providing adequate housing sites, 3) assisting in the provision of affordable housing, 4) removing governmental and other constraints to housing investment, and 5) promoting fair and equal housing opportunities.

The following goals and policies from the 2013-2021 Housing Element are applicable to the Project:

- Goal H 1: Provide adequate sites to accommodate 8,322 new housing units between 2013 and 2021.
 - Policy H 1.1.1: Encourage a variety of housing types such as single-family attached (townhouses), multi-family units, planned unit developments mixed use housing and other housing types that make housing more affordable.
 - Policy H 1.1.2: Encourage the development of new affordable units through the provision of incentives.
- Goal H 2: Assist in the development of adequate housing to meet the needs of extremely low, very low, low and moderate income households (*California Government Code §65583(c)(2)*).
 - Policy H 2.1.3: Encourage the development of housing affordable to lower income groups in areas well served by public transportation, schools, retail, and other services.

- Goal H 4: Preserve affordability of existing homes that are at risk of converting to market-rate rents during the planning period.
- Objective H 4.1.1: Preserve 232 units at risk of losing their subsidies and converting to market rents between 2013 and 2021.
- Goal H 6: Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status or disability.
(California Government Code §65583(c)(5)).
- Policy H 6.1.1: Ensure compliance with fair housing laws by adopting development guidelines that encourage the development of mixed-income housing in every zone district and in every area of the community.

Mobile Home Parks

A portion of the Project site is developed with 123 mobile homes. This portion of the Project site was once a formal mobile home park (Canyon Breeze Village Mobile Home Park). In 2008 the City of Santa Clarita issued a closure permit for the Canyon Breeze Village Mobile Home Park.

There are 15 mobile home parks in the City. In total and including the 123 spaces on the Project site, there are 2,009 mobile spaces. The 123 spaces on the Project site represents 6.1% of the City's total spaces.

2013-2021 Santa Clarita Growth Needs

SCAG determined the RHNA growth needs for the North Los Angeles County Subregion, which includes the City of Santa Clarita. The total housing growth need for the City of Santa Clarita during the 2013-2021 planning period is 8,322 units. This total is distributed by income category as shown in **Table 4.13-3** below.

Table 4.13-3 Santa Clarita's Share of Regional Housing Needs

Income Group	RHNA Allocation	Percent of City's RHNA Allocation
Very Low (50% of less of median)	2,208	26.5%
Low (51% to 80% of median)	1,315	15.8%
Moderate (80% to 120% of median)	1,410	16.9%
Above Moderate (> 120% of median)	2,389	40.7%
Total	8,322	100%

Sources: Southern California Association of Governments, 2012
City of Santa Clarita, 2013-2021 Housing Element, October 15, 2013

4.13-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to population and housing are contained in the Environmental Checklist Form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to population and housing if any of the following could occur.

PH-1 Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

PH-2 Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

PH-3 Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

4.13-6 Impacts Analysis

For the purposes of the following analysis, *substantial population growth* is defined as population growth that exceeds adopted population growth forecasts for the City. Regional growth forecasts prepared by SCAG for the adopted 2014-2035 RTP/SCS and the City of Santa Clarita General Plan were used to analyze the potential impact of housing and population growth under the Project.

PH-1 Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The Project would increase the City's existing housing inventory by 580 dwelling units (a net increase of 457), resulting in a potential population growth of 1,798 persons (net increase of 1,417 persons). **Table 4.13-4** below compares the Project's population and household forecasts with existing conditions in the City. For households and population, the Project represents a 0.77% and 0.74% net increase, respectively, over existing conditions.

Table 4.13-5 below compares population and household increases forecast for the Project to growth forecasts for the City for 2020 and 2025.

Table 4.13-4 Project Compared to Existing Conditions

Description	Housing (Dwelling Units)	Population* (Persons)
Project		
Multi-Family Residential (detached or attached)	580	1,798
Total Project	580 (457 net)	1,798 (1,417 net)
Existing + Project Conditions		
Existing Conditions (City)	61,405	181,557
Existing / Project Implemented Net Total	61,862	182,974
Existing / Project Implemented Net % Change	+0.77%	+0.74%

*Based upon 3.10 persons per household. California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2015, with 2010 Benchmark (2015).

Table 4.13-5 Net Project Growth and Forecasts

	Existing (2015)	Existing Plus Project (Net)	2020 RTP/SCS Forecast	General Plan Forecast
Population	181,557	183,335	201,300	275,000
Households	61,405	61,862	70,100	150,000 - 160,000
Project Percentage of Forecast				
Population (net)			0.70%	0.52%
Households (net)			0.65%	0.30%

Sources: SCAG, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, Growth Forecast Appendix, April 2012
California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2015, with 2010 Benchmark (2015)

Additional population associated with new residential development for the Project site has been considered in the City of Santa Clarita General Plan. Residential uses associated with the Project would result in the addition of 457 households and 1,417 persons within the City over existing conditions. As shown in **Table 4.13-5** above, the Project's population represents 0.88% of SCAG's 2020 forecast and 0.72% of the General Plan forecast, and the Project's households represent 0.65% of SCAG's 2020 forecast and 0.28% of the General Plan forecast. Thus, the Project would not exceed the SCAG RTP/SCS population growth forecast for the City of 201,300 residents in 2020 or the City's General Plan forecast of 275,000 residents at buildout.

In addition, the City of Santa Clarita General Plan contains numerous other goals, policies, and actions supporting the creation of housing opportunities within the City. The City of Santa Clarita General Plan also includes various policies that encourage infill development and would be expected to reduce vehicle miles traveled (VMT) and associated air pollutant emissions compared to previous low density development within the City. The Project is considered an infill development, as the site is surrounded on all sides by urban development. Thus, impacts related to population growth would therefore be less than significant.

A project could induce population growth in an area, either directly (for example, by proposing new residential and employment-generating land uses) or indirectly (for example, through extension of roads or other infrastructure). Construction of the Project would result in the need for

short-term construction trade personnel, who may reside in the City or require housing during the construction period. There is sufficient housing stock in the City to accommodate these workers during site construction, thus less than significant impacts would occur. Also, the Project would induce new population growth with the new residential use, which has been analyzed above. As noted above, the Project is considered an infill development, and the population growth from the Project can be accommodated within the growth anticipated in the City of Santa Clarita General Plan. The Project proposes a new public and private roadway network through the site to support potential development, but it does not involve the extension of roads or other infrastructure into undeveloped areas; refer to **Section 4.19, Traffic and Circulation**. Therefore, Project implementation would not induce population growth indirectly through extension of roads or other infrastructure.

Also, as concluded in **Section 4.20** (Solid Waste), **Section 4.21** (Wastewater) and **Section 4.22** (Water Supply), existing public services and utility/service systems can be readily upgraded and/or extended into the Project site to serve the increased population. Project implementation would not require substantial development of unplanned or unforeseen public services and utility/service systems. Individual development projects would be reviewed on a project-by-project basis to determine if existing services and utilities are sufficient or if new and/or upgraded facilities are necessary to serve the development. The increased demands for public services and utility/service systems would not significantly reduce or impair any existing or future levels of services, either locally or regionally. Further, development of the Project is anticipated to occur over multiple years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. Therefore, impacts would be less than significant.

Employment

SCAG reports the number of jobs in the City in 2013 totaled 76,042. In 2013, the Education/Health sector was the largest job sector, accounting for 24.4% of total jobs in the city. Other large sectors included Retail (14.4%), Professional (13.1%), and Leisure (12.5%). The California Economic Development Department estimates the 2015 City's labor force at 95,100, with employment at 90,200 and an unemployment rate at 5.2%.⁹⁴ As indicated in **Table 4.13-6** below, SCAG forecasts the City's labor market will grow to 108,700 jobs by 2020.

⁹⁴ State of California, EDD Labor Market Information Division, Monthly Labor Force for Cities and Census Designated Place, November 2015-Preliminary, December 18, 2015.

Table 4.13-6 Project Employment Forecasts

Land Use	Square Feet	Employment Factor (SF per Employee)	Employment (Jobs) Estimate	Employment Forecasts	Project Percentage of Forecasts
Project					
Retail/Restaurant	55,600	500 ¹	111		
Assisted Living Facility	75,000	3,000 ²	25		
Total Project	130,600		136		
2020 RTP/SCS Forecast for City of Santa Clarita				108,700	0.13%
General Plan Forecast (at Buildout)				98,322-128,050	0.14%³

Notes:

1. Southern California Association of Governments, *Employment Density Study Summary Report*, October 31, 2001.
2. Number of employees extrapolated from City of San Jose, Initial Study/Mitigated Negative Declaration for the Thornton Way Assisted Living Facility, August 2013 (20 employees, 81 units, 60,155 square feet)
3. Calculation based on 98,322 employees in City.

The jobs/housing ratio is used as a general measure of balance between a community's employment opportunities and the housing needs of its residents. A ratio of 1.0 or greater generally indicates that a City provides adequate employment opportunities, potentially allowing its residents to work within the City. The City's current (2013) jobs/housing ratio is approximately 1.12, indicating employment opportunities for residents to work within the City are readily available.⁹⁵

As indicated in **Table 4.13-6**, implementation of the Project would increase the City's employment by 136 jobs on the site, as no jobs currently exist. These new jobs have been accounted for in future forecasts, and represent 0.13% of the SCAG 2020 forecast and 0.14% of the City's buildout forecast.

This new employment growth would result in population growth within the City, as the potential exists that future employees (and their families) would choose to relocate to the City. However, estimating the number of these future employees who would choose to relocate to the City would be highly speculative, since many factors influence personal housing location decisions. Based on the City's vacancy rate of 4.4%, 3,116 dwelling units were available (vacant) as of January 1, 2015. Therefore, if all 136 future Project employees occupied existing available dwelling units in the City, implementation of the employment generating uses of the Project could potentially increase the City's population by approximately 422 persons.

Collectively, new Project residential and employment generating land uses would result in a total population increase of 2,220 persons. The additional population associated with potential employees relocating to the City and occupying existing either vacant housing or new housing has already been accounted for in the City of Santa Clarita General Plan. Further, approximately 3,116

⁹⁵ Southern California Association of Governments, Local Profiles of SCAG Jurisdictions, Profile of the City of Santa Clarita, May 2015.

unemployed persons currently reside within the City. Some of these currently unemployed persons could fill jobs created by the Project.

In conclusion, the additional jobs to be provided by the Project have been accounted for in the City of Santa Clarita General Plan and in SCAG's 2020 forecasts. Thus, impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

PH-2 Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

PH-3 Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The mobile home units are located in the southwestern portion of the Project site, and have been on the site since 1961.

The Project proposes to discontinue the existing use, remove and/or demolish 123 mobile homes, and construct up to 580 dwelling units on the approximately 87-acre Project site. Thus, there would be a displacement of 123 mobile housing units (ownership and rental), but not the need to construct replacement housing elsewhere, as there is sufficient housing supply in the City. The Project would displace up to 381 residents, but this would not require the construction of replacement housing elsewhere in the City, given the available housing stock (rental and for-sale) in the City.

In addition, the Project owner received approval of a Final Permit for the Closure of the Canyon Breeze Mobile Home Park in December 2008 (Resolution No. MHP 08-03) from the City of Santa Clarita's Manufactured Home Park Adjustment Panel. The Panel's findings for approval of the final permit are restated below:

- "a. The applicant was required to substantially comply with all the requirements set forth in the Tentative Permit and Santa Clarita Municipal Code Chapter 6.04, as documented in Resolution No. MHP 08-01 as follows:
 1. The applicant shall execute a written agreement with each tenant regarding the costs for relocating personal items per the language at Chapter 6.04.070(A); and

2. The applicant shall execute a written agreement with each tenant regarding the disposition of their mobile home per the language at Chapter 6.04.070(B); or
3. The applicant and mobile home owner shall come to a different mutually agreed upon arrangement other than that approved in the Tentative Permit per Chapter 6.04.110(B); and
4. The applicant shall, within one week of the granting of the Tentative Permit, send notice to each park tenant informing them of the outcome of the Tentative Permit.”

The Project has secured final agreements with each of the 15 remaining owner-occupied units. The agreements comply with the City’s Municipal Code.

Thus, implementation of the Project would result in less than impacts with respect to resident displacement or the need for replacement housing.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.13-7 Cumulative Impacts

The residential development associated with the Project was anticipated in the City of Santa Clarita General Plan, and as such, implementation of the Project would not require substantial development of unplanned or unforeseen public services and utility/service systems. As concluded in **Section 4.20** (Solid Waste), **Section 4.21** (Wastewater) and **Section 4.22** (Water Supply), existing public services and utility/service systems can be readily upgraded and/or extended into the Project site to serve the increased population. Development of the Project is anticipated to occur over several years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. Cumulative impacts associated with new residential development within the City would be considered less than significant. Therefore, cumulative impacts related to population growth would be less than significant and the Project’s contribution to cumulative impacts would not be cumulatively considerable.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.13-8 Sources Cited

Southern California Association of Governments, Profile of the City of Santa Clarita, May 2015.

California Department of Finance, E-1 City/County Population Estimates with Annual Percent Change, January 1, 2014 and 2015, 2015. Information necessary for population estimates.

California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2015, with 2010 Benchmark, 2015. Information necessary for population and housing figures.

Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, Growth Forecast Appendix, April 2012.

California Department of Finance, US Census Bureau 2014 DP-1, 2015. Information necessary for population figures.

California Economic Development Department, Monthly Labor Force Data for Cities and Census Designated Places (CDP), Los Angeles County, November 2015 – Preliminary, December 18, 2015. Information used for employment figures.

Santa Clarita General Plan, adopted June 14, 2011. This document was sourced to determine consistency with goals and policies of the General Plan.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

City of Santa Clarita, Municipal Code Chapter 6.04, Manufactured Home Parks – Change in Use.

Resolution No. MHP-03, A Resolution of the Manufactured Home Rental Adjustment Panel of the City of Santa Clarita Approving the Final Permit for the Closure of the Canyon Breeze Mobile Home Park Pursuant to Santa Clarita Municipal Code Section 6.04, December 17, 2008.

4.14 Parks and Recreation

4.14-1 Summary

Several parks exist and are proposed in the vicinity of the Project site, including local parks maintained by the City of Santa Clarita, regional parks maintained by Los Angeles County, and state parks maintained by the State of California. The City and the County also have an established trail system that provides local and regional links to trails. The City Department of Parks, Recreation and Community Services currently maintains 28 city parks totaling approximately 373 acres.

The Project would not include an on-site public park. Future residents of the Project would be served by three parks that are near the Project site (Oak Spring Canyon Park, Canyon Country Park, and the future Vista Canyon Park). Additionally, the Project would include three private recreation areas and an extensive on-site trail system. The on-site trails would connect to the City's Regional Trail System.

Using the minimum City's Unified Development Code (UDC) standard of 3 acres per 1,000 residents, the City is short 285 acres of parkland. Using the General Plan and the Santa Clarita Parks, Recreation and Open Space Master Plan standard of 5 acres of parkland per 1,000 residents, the City is short 639 acres of local (neighborhood and/or community) parkland. With the payment of Park fees, impacts would be less than significant.

4.14-2 Introduction

This section describes the existing parks and recreational facilities within the City, identifies the regulatory framework with respect to regulations that address parks and recreation, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.14-3 Existing Conditions

No developed or undeveloped parkland exists on the Project site. However, a variety of public park and private recreation areas are located within the vicinity of the Project site. The City Department of Parks, Recreation and Community Services has determined that there is a citywide shortage of local parkland. Using the minimum City's Unified Development Code (UDC) standard of 3 acres per 1,000 residents, the City is short 285 acres of parkland. Using the General Plan, and Santa Clarita Parks, Recreation and Open Space Master Plan standard of 5 acres of parkland per 1,000 residents, the City is short 639 acres of local (neighborhood and/or community) parkland.

1. Local and Regional Parks

The City Department of Parks, Recreation and Community Services currently maintains 28 city parks totaling approximately 373 acres. The parks range in size from slightly more than 0.5 acre to 80 acres, and include numerous recreational facilities. The City's parks are categorized into four common types, as derived from the National Parks and Recreation Association standards: neighborhood, community, special use facilities, and regional. City and regional parklands are illustrated on **Figure 4.14-1, Parks, Recreation and Open Space Resources – City of Santa Clarita** and summarized in **Table 4.14-1** below.

Neighborhood Parks

Neighborhood parks typically provide active recreational areas along with fields, courts, and/or some passive areas (e.g., picnic areas). This park type varies in size from 5 to 10 acres, and is intended to serve a population up to 5,000 within a 0.5-mile radius. Generally, neighborhood parks are located within the residential areas that are served by the park. The City has 12 neighborhood parks, the closest of which is the Oak Spring Canyon Park located directly east of the site.

Table 4.14-1 City Parks

Parks	Type	Location
Almendra	Neighborhood	23420 Alta Madera Drive
Begonias Lane	Neighborhood	14911 Begonias Lane
Bouquet Canyon	Community	28127 Wellston Drive
Bridgeport	Community	23520 Bridgeport Lane
Canyon Country	Community	17615 Soledad Canyon Road
Central Park (includes Central Bark)	Regional	27150 Bouquet Canyon Road
Circle J. Ranch	Neighborhood	22651 Via Princessa
Copper Hill	Neighborhood	Copper Hill Drive & Brookview Terrace
Creekview	Neighborhood	22200 Park Street
David March	Neighborhood	28310 N. Via Joyce Drive
Fair Oaks	Neighborhood	17468 Honey Maple Street
Golden Valley	Neighborhood	Five Knolls Drive
Newhall	Community	24923 Newhall Avenue
Newhall Community Center	Special Use Facility	22421 Market Street
North Oaks	Neighborhood	27824 N. Camp Plenty Road
Oak Spring Canyon	Neighborhood	28920 Oak Spring Canyon Road
Old Orchard	Neighborhood	25023 Avenida Rotella
Pacific Crest	Neighborhood	29051 Garnet Canyon Drive
Pamplico Drive	Neighborhood	22444 Pamplico Drive
Santa Clarita Park	Neighborhood	27285 Seco Canyon Road
Santa Clarita Sports Complex	Regional	20840-20880 Centre Pointe Parkway
Todd Longshore	Neighborhood	Whites Canyon Road
Valencia Glen	Neighborhood	23750 Via Gavola
Valencia Heritage	Community	24155 Newhall Ranch Road
Valencia Meadows	Neighborhood	25671 Fedala Road
Valencia Summit	Neighborhood	26147 McBean Parkway
Veterans Historic Plaza	Special Use Facility	24275 Walnut Avenue

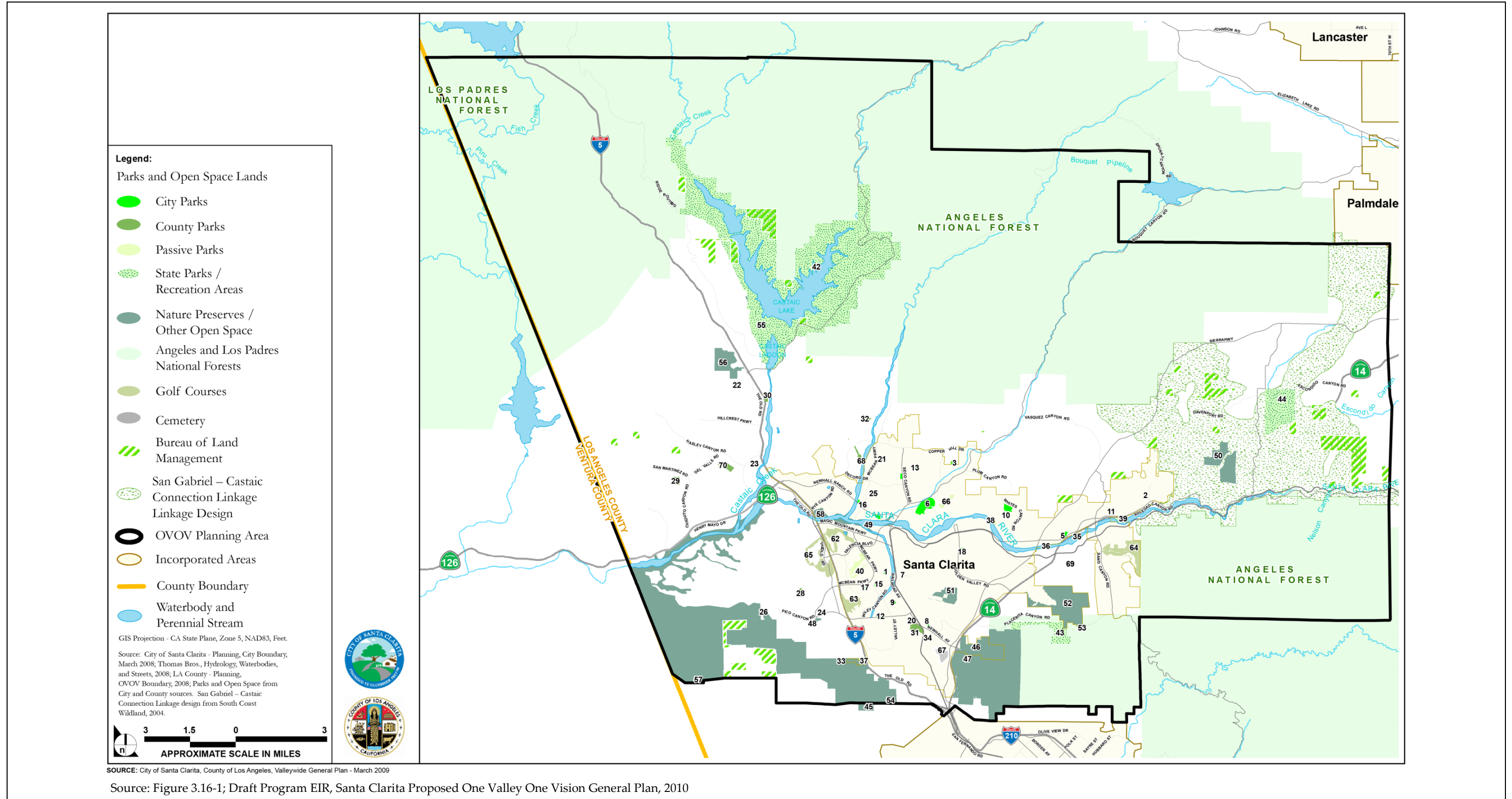


Figure 4.14-1 Parks, Recreation and Open Space Resources – City of Santa Clarita

Community Parks

Community parks are at least 10 to 40 acres in size and are located to serve several neighborhoods of approximately 20,000 people within a 2-mile radius. This park can include both passive and active areas, and may contain features such as gymnasiums, multi-purpose rooms, classrooms, and offices for recreation staff. Other facilities often found at community parks might include sports fields and courts, amphitheaters, group picnic areas, and off-street parking. Large special events, such as festivals and concerts, might also be held in community parks. The City has five community parks, with the Canyon Country Park the closest to the Project site. The Canyon Country Park is located approximately 1.2 miles southwest of the Project site.

Special Use Parks

Natural Open Space Parks

Natural Open Space Park is a new category of park facility identified in the General Plan, but was previously included in the Special Use Facilities designation. Natural Open Space Parks are increasing in the City in terms of quantities, size, and importance, thereby warranting the creation of a new category.

Natural Open Space Parks are those in which most of the park is undeveloped; the undeveloped portions contain vegetation, topography, or features that are important in their natural state. Developed areas should be 10% or less of the gross area, not including trails. Physical public access to natural areas from trails should be encouraged where feasible and appropriate. For purposes of defining this park type, “natural” refers to vegetation and land forms indigenous to the area. Turf, detention basins, weedy disturbed areas, irrigated manufactured slopes, and areas landscaped with ornamental vegetation would be considered part of the developed portion of a Natural Open Space Park.

The Natural Open Space Park designation is also intended to identify and reserve land for both natural and active open space uses, including: public and private parks, conservancy lands, nature preserves, wildlife habitats, water bodies and adjacent riparian habitat, wetland areas dedicated to open space use, drainage easements, cemeteries, golf courses, and other open space areas dedicated for public or private use.

Typical uses may include recreation, horticulture, limited agriculture, animal grazing, and habitat preservation. Accessory uses incidental to the primary use, such as restrooms, visitor centers, paved parking, clubhouses, manager’s offices, and maintenance structures are allowed provided that such structures do not cover more than 10% of the site area, except as otherwise permitted by the reviewing authority pursuant to discretionary review.

The City began planning for preservation of open space following its incorporation in 1987, and since has acquired more than 3,000 acres of land for the purpose of preservation of natural habitat and open space. Approximately 50% of an open space greenbelt around the City’s incorporated

boundaries was completed in 2007. Nature preserves and other prominent open space areas located within the City include the Santa Clara River, Golden Valley Ranch, and Whitney Canyon.

The City partnered with the Santa Monica Mountains Conservancy (SMMC) in the 2002 joint acquisition of Whitney Canyon. The SMMC is primarily responsible for funding acquisition of land with statewide and regional significance.

School Recreational Facilities

Schools provide additional land and facilities for recreational use on a limited basis through joint-use agreements between the City and school districts. Formal agreements for general public use of school facilities have been entered into by several school districts for additional usable acres. Generally, school recreational facilities are open to public during non-school hours. Elementary schools provide adjunct recreation opportunities to surrounding neighborhoods during non-education hours, whereas junior high schools and high schools provide adjunct community-wide facilities for public use.

Joint use agreements describe the general responsibilities of and benefits to each party regarding the use of both City and school district facilities. With that said, the school districts are responsible for maintaining schools and their associated fields and courts. The agreements and state law allow the school districts and the City to cooperate with each other to improve facilities and organize, promote, and conduct recreation and education programs for children and adults.

There are 33 public school campuses within the City, belonging to four different school districts. Many campuses have outdoor play areas and sports fields that are used by the City, sports organizations, and Santa Clarita residents. The City has executed joint use agreements with the various school districts to utilize facilities on 14 school campuses.

- Arroyo Seco Junior High School
- Bridgeport Elementary School
- Golden Valley High School
- James Foster Elementary School
- La Mesa Junior High School
- Placerita Junior High School
- Rancho Pico Junior High School
- Rio Norte Junior High School
- Saugus High School
- Sierra Vista Junior High School
- Valencia High School
- West Ranch High School
- Canyon High School
- William S. Hart High School

Of the above listed schools, Rancho Pico Junior High School and West Ranch High School are not located within the City's planning area.

2. Regional Parks

Acreage for a regional park usually exceeds 40 acres. As described in the City's Parks, Recreation and Open Space Master Plan, regional parks provide for organized or league sports complexes, individual sports, cultural enrichment, large passive areas, and historical protection and interpretation. The parks are accessible to large community populations living within a radius distance of approximately 1-hour's drive. The City's two regional parks are Central Park and the Santa Clarita Sports Complex.

State and County Parks and Recreation Areas within the City's Planning Area

State and County parks located within the City of Santa Clarita planning area are summarized in **Table 4.14-2** below, and illustrated in **Figure 4.14-1** (page [4.14-3](#) above). Most of the County's parks are community-oriented and regional in nature, having parkland in excess of ten acres in area. Of the 23 existing and proposed state and county parks in the City's planning area, 8 parks are 50 acres or larger in size.

Table 4.14-2 State and County Parks and Recreational Facilities

Castaic Lake State and County Recreation Area	Plum Canyon Park
Castaic Sports Complex	River Village
Copper Hill Park	Santa Clarita Woodlands State Park
Del Valle Park	Stevenson Ranch Community Park
Dr. Richard Rioux Memorial County Park	Towsley Canyon Park
Hasley Canyon County Park	Val Verde Community Regional Park
North Lake Park	Vasquez Rocks County Park
North Park*	Westcreek Park
Pacific Crest	Whites Canyon Park
Pico Canyon Park	William S. Hart Park
Placerita Canyon State Park	

Source: City of Santa Clarita Website, Parks of Santa Clarita, <http://www.santa-clarita.com/index.aspx?page=343>, accessed November 2010.

Source: Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010.

The largest of these parks is the 8,700-acre Castaic Lake State and County Recreation Area. This multi-use park is located north of the Project site in the unincorporated area of Castaic and includes 2,600 surface acres of water contained in an upper and lower reservoir system. Castaic Lake reservoir and surrounding land is owned by the state; however, the County has a lease on the land and operates the upper lake, Castaic Lake Reservoir, and the lower lake, Castaic Lagoon. Facilities at the upper lake include major boat ramps and supporting facilities with fishing, boating, water and jet skiing, and parking for boats and trailers. Development around the 180-acre Castaic Lagoon includes major picnic areas for groups and families, swimming beaches, parking areas, non-motorized boat facilities, and general day-use recreation facilities, such as comfort stations.

State Parks

The two California state parks within the City's planning area are the Santa Clarita Woodlands State Park and the Placerita Canyon State Park.

County Parks

The three county parks within the City's planning area are Vasquez Rocks, Val Verde Park, and William S. Hart Park.

Federal Parks

The City's planning area encompasses a portion of the Angeles National Forest and is adjacent to the Los Padres National Forest.

3. Open Space Areas

In addition to developed parks, the City has 6,112.7 acres of undeveloped lands that are or will be preserved as open space recreation areas, as shown in **Table 4.14-3** below. Many of these areas include amenities such as hiking trails, horse trails, nature preserves, natural watercourses, and wildlife corridors. Currently, the largest open space area in Santa Clarita is the 1,154-acre Golden Valley Ranch open space area approved in 2002.

Table 4.14-3 Open Space Areas in the City of Santa Clarita

City-Owned Open Space		
Bouquet Canyon	Norland Open Space	North Valencia 2 Wetland/Riparian
Civic Center	Penlon	Oak Park
Colmer Open Space	Quigley Canyon (Beazer)	Santa Clara River Southfork Open Space (at Oak Spring)
East Walker Ranch	Ridgedale Circle J	Sierra Highway
Elsmere Canyon	Rodda/Agua Dulce	Todd Longshore Park Open Space
Gates-King	Round Mountain	TMC Site
Golden Valley Ranch	Sand Canyon River Park (Sand Canyon Storage Site)	Wagoner Open Space
Haskell Canyon	North Valencia 1 Wetland/Riparian	Wildwood Canyon
Mint Canyon		
Other Open Space		
Whitney Canyon (City of Santa Clarita, Santa Monica Mountain Conservancy)		
Elsmere Canyon Open Space (Mountains Recreation and Conservation Authority)		

Source: City of Santa Clarita Website, Parks of Santa Clarita, <http://www.santa-clarita.com/index.aspx?page=343>, accessed November 2010.

Source: Program Environmental Impact Report for the City of Santa Clarita's One Valley One Vision General Plan, certified June 14, 2011.

4. Trails

City of Santa Clarita Trail System

The City of Santa Clarita has adopted a system of trails to provide pedestrian, bicycle and equestrian connections to residential communities within the City of Santa Clarita and to the regional trail system as well. Approximately 52.1 miles of trails currently exist within the City limits, with other trails under construction as part of other developments. The Santa Clara River trail abuts the southern and northern property lines of the Project site and a multi-trail is proposed

along the western boundary of the Project site. This direct access allows pedestrians and bicycle riders to access areas throughout the City without traveling on regular roadways. Two main types of trails are discussed in this section: Class I trails where the path is paved for bicycles and pedestrians and separate from automobile traffic; and multi-use trails where the path is unpaved for pedestrians and horses and separate from automobile traffic. City trails are listed below in **Table 4.14-4** below.

Table 4.14-4 City of Santa Clarita Trails

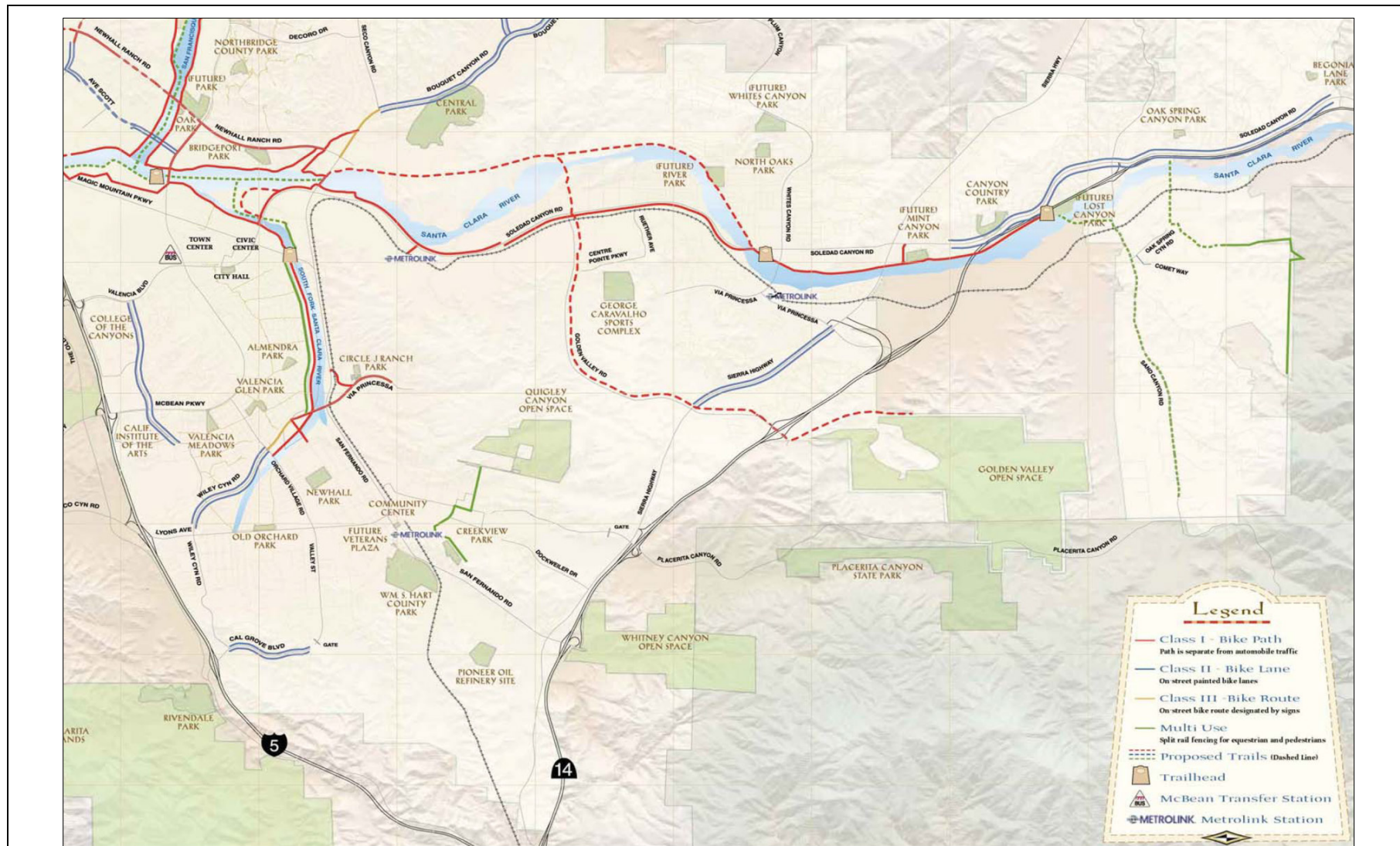
Trail Name	Existing Developed (miles)
Class 1 Trails	
Bouquet Creek Channel	0.9
Golden Valley Trail	3.5
McBean Parkway Trail	0.5
Newhall Ranch Road Trail	6.8
Newhall Creek Trail	0.3
Santa Clara River Trails	14.8
South Fork Trails	3.8
San Francisquito Trails	4.8
Total Trail Class 1	34.8
Multi-Use Trails	
Golden Valley Open Space Trail	3.2
Placerita Canyon Trail	1.5
Quigley Canyon Open Space Trail Loop	4.1
Robinson Ranch Trail	1.8
San Fransquito Trail	0.7
Sand Canyon Trail	1.1
Santa Clara River Trails	2.5
South Fork Trail	2.4
Total Multi-Use Trails	17.3

The Backbone Trails within the City are briefly described below and illustrated in **Figure 4.14-2, City of Santa Clarita Trail System**.

A 3.8-mile multi-use trail is proposed to extend the length of Sand Canyon Road from Soledad Canyon Road to Placerita Canyon Road and to connect Robinson Ranch to Soledad Canyon Road.

Santa Clara River Trail

The Santa Clara River has been primarily preserved as a Significant Ecological Area (SEA) and as open space to provide flood protection. The State of California recently adopted the Santa Clara River as a State Recreation Trail Corridor. Its preservation has allowed for the development of a 14-mile-long dual-use (equestrian and pedestrian) trail following the river's banks from Valencia to Canyon Country, which is the backbone to the Valley's larger trail system. Los Angeles County has adopted the estimated 7-mile long multi-use (equestrian, bicycle, and hiking) segment of the Santa Clara River Trail alignment from Interstate 5 due west of the Los Angeles County/Ventura County border.



Source: Exhibit 5.12-3, Mancara at Robinson Ranch Environmental Impact Report, December 2011

Figure 4.14-2 City of Santa Clarita Trail System

Santa Clara River Trail/East

The Santa Clara River East trail is a Class I developed trail totaling 7.2 miles along Soledad Canyon Road and the Santa Clara River from the Auto Center Trailhead to Lost Canyon Road. A 0.5-mile multi-use extension is proposed to connect the trails to Sand Canyon Road.

Los Angeles County Trails within the City's Planning Area

The County of Los Angeles Department of Parks and Recreation plans and maintains an extensive system of regional riding and hiking trails within the County, many of which extend to and within the City of Santa Clarita planning area. County trails located in the City's planning area include: Los Pinetos Trail, Wilson Canyon Channel Trail, William S. Hart Park Trail, Pico Canyon Trail, Hasley Canyon Trail, Castaic Creek Trail, Mint Canyon Trail, and Gavin Canyon Trail.

Trails Closest to Project Site

The Santa Clara River Trail East and Sand Canyon Trail would serve the Project site. The Santa Clara River Trail East is approximately 1.25 miles southwest of the Project site; the existing Sand Canyon Trail is approximately 0.6 mile south of the Project site and the proposed Sand Canyon Trail is adjacent to the Project site.

Regional Trails in the City's Planning Area

Rim of the Valley Corridor/Trail

The Santa Monica Mountains Conservancy Rim of the Valley Corridor includes land in the mountains that surround the San Fernando, Simi, Conejo, and La Crescenta Valleys (i.e., the San Rafael and Simi Hills, and the Verdugo, San Gabriel, and Santa Susana Mountains). It is actually an overlay on private property and the Corridor is a proposal envisioning an approximately 200-mile State trail. At the present time, only ten miles have been acquired in the Santa Susana Mountains. Located on both public and private land within the Rim of the Valley Corridor, it would connect to many of the regional trails that, in turn, connect to the local trails within the City of Santa Clarita.

Pacific Crest Trail

A segment of the Pacific Crest Trail extends for 160 miles through the Angeles National Forest, providing views of the Antelope Valley, varied terrain, vegetation, wilderness, and the San Gabriel Mountains. Campgrounds, picnic areas, and staging areas are available along the trail. In all, the Pacific Crest Trail traverses 2,650 miles from Canada to Mexico. The trail was established under the National Trails System Act of 1968 and is part of the National System of Recreation and Scenic Trails. Only foot and equestrian travel is permitted on the trail; motorized vehicles and mountain bicycles are prohibited. Other trails that connect to the Pacific Crest National Trail include Fish Canyon Trail, Bear Canyon Trail, and Gillette Mine Trail. All of these trails are located within the Angeles National Forest and are north of Castaic Lake. The County Castaic Creek Trail connects to these trails.

4.14-4 Regulatory Setting

1. State of California

Quimby Act

Originally passed in 1975, the Quimby Act (*California Government Code §66477*) allows cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. This Act allows local agencies to establish ordinances requiring developers of residential subdivisions to provide impact fees for land and/or recreational facilities. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. In 1982, the Act was substantially amended, further defining acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied to a Project's impacts.

The Quimby Act requires that every city provide a minimum of 3 acres of parkland per 1,000 residents. The General Plan exceeds the Quimby Act minimum and encourages that 5 acres of parkland per 1,000 residents be provided. This is the highest standard allowed under the Quimby Act. The Quimby Act and General Plan standards have been incorporated into the City's Municipal Code.

2. City of Santa Clarita

General Plan

Applicable goals, objectives, and policies from the General Plan Conservation and Open Space Element are listed below.

Park, Recreation, and Trail Facilities

Goal CO 9: Equitable distribution of park, recreational, and trail facilities to serve all areas and demographic needs of existing and future residents.

Objective CO 9.1: Develop new parkland throughout the Santa Clarita Valley, with priority given to locations that are not now adequately served, and encompassing a diversity of park types and functions (including passive and active areas) in consideration of the recreational needs of residents to be served by each park, based on the following guidelines:

Policy CO 9.1.1: Common park standards shall be developed and applied throughout the Santa Clarita Valley, consistent with community character objectives, with a goal of five acres of parkland per 1,000 population.

Policy CO 9.1.2: A range of parkland types, sizes, and uses shall be provided to accommodate recreational and leisure activities.

- Policy CO 9.1.3: Provide local and community parks within a reasonable distance of residential neighborhoods.
- Policy CO 9.1.7: Establish appropriate segments of the Santa Clara River as a recreational focal point, encouraging a beneficial mix of passive and active recreational uses with natural ecosystems by providing buffers for sensitive habitat.
- Policy CO 9.1.9: Ensure that new development projects provide a fair share towards parks and recreational facilities, phased to meet needs of residents as dwelling units become occupied, pursuant to the Quimby Act (California Government Code Section 66477) and local ordinances as applicable.
- Policy CO 9.1.10: Where appropriate, use flexible planning and zoning tools to obtain adequate park and open space land, including but not limited to specific plans, development agreements, clustering, and transfer of development rights.
- Policy CO 9.1.11: Locate and design parks to address potential adverse impacts on adjacent development from noise, lights, flying balls, traffic, special events, and other operational activities and uses.
- Policy CO 9.1.13: Provide passive areas for natural habitat, mediation, bird-watching, and similar activities in parks, where feasible and appropriate, including mediation gardens, wildflower and butterfly gardens, botanic gardens, and similar features.
- Objective CO 9.2: Recognize that trails are an important recreational asset that, when integrated with transportation systems, contribute to mobility throughout the Santa Clarita Valley.
- Policy CO 9.2.1: Plan for a continuous and unified multi-use trail network for a variety of users, to be developed with common standards, in order to unify Santa Clarita Valley communities and connect with regional and state trails such as the Pacific Crest Trail.
- Policy CO 9.2.3: Use the Santa Clara River as a major recreational focal point for development of an integrated system of bikeways and trails, while protecting sensitive ecological areas.
- Policy CO 9.2.4: Ensure that new development projects provide trail connections to local and regional trail systems, where appropriate.
- Policy CO 9.2.6: Provide trails to scenic vistas and viewpoints.
- Policy CO 9.2.8: Ensure that trails are designed to protect habitat, ecosystems, and water quality.
- Policy CO 9.2.9: Pursue funding for trail maintenance and encourage volunteer participation in trail maintenance programs, where appropriate.

Open Space

Goal CO 10: Preservation of open space to meet the community's multiple objectives for resource preservation.

Objective CO 10.1: Identify areas throughout the Santa Clarita Valley which should be preserved as open space in order to conserve significant resources for long-term community benefit.

Policy CO 10.1.5: Maintain open space corridors along canyons and ridgelines as a way of delineating and defining communities and neighborhoods, providing residents with access to natural areas, and preserving scenic beauty.

Policy CO 10.1.7: Acquire adequate open space for recreational uses, coordinating location and type of open space with master plans for trails and parks.

Policy CO 10.1.13: Provide reasonable accommodation to ensure that residents throughout the Santa Clarita Valley have equal access to open space areas, in consideration of the health benefits to residents from access to nature.

Objective CO 10.2: Ensure the inclusion of adequate open space within development projects.

Policy CO 10.2.1: Encourage provision of vegetated open space on a development project's site, which may include shallow wetland and ponds, drought tolerant landscaping, and pedestrian hardscape that includes vegetated areas.

Policy CO 10.2.2: Encourage that open space provided within development projects be usable and accessible, rather than configured in unusable strips and left-over remnants, and that open space areas are designed to connect to each other and to adjacent open spaces, to the extent reasonable and practical.

Policy CO 10.2.3: Where feasible, integrate open space areas with neighboring uses and parcels, to create shared amenities and green spaces.

Policy CO 10.2.4: Seek opportunities to incorporate site features into the open space of a project design, which may include significant trees, vegetation, terrain, or water features, to provide thermal, acoustic, and aesthetic benefits.

Park Standards

California Government Code §66477 allows cities and counties to require, as a condition of approval of a subdivision, the dedication of land or the payment of a fee in lieu of dedication, or a combination of both, for park or recreational purposes at a minimum of three acres per 1,000 population. This legislation is commonly known as the "Quimby Act." As allowed under the Quimby Act, the City's Unified Development Code (UDC) requires a minimum of three acres per 1,000 persons using the latest State Department of Finance population figures. UDC Section 16.15,

Parks Fees or Dedication Requirements, provides details regarding private development's requirements to meet the standard. The UDC identifies the following park and recreation facilities that may be eligible for Quimby credit: publicly or privately owned playgrounds, tennis, basketball or other similar game court areas, swimming pools, athletic fields, picnic areas, and other types of natural or scenic areas that comply with established criteria and as recommended by the Department of Parks, Recreation and Community Services for passive or active recreation.⁹⁶ Partial credit may be permitted for private parkland usable for active recreational purposes. The amount of the credit may be based on the commitment of the developer to install within the private open space any of the local park basic elements listed below, or a combination of such and other recreation improvements that would meet the specific recreation needs of future residents of the area:

- Recreational open spaces, which are generally defined as parks areas for active recreation pursuits, such as soccer, golf, baseball, softball, and football, and have at least three acres of maintained turf with less than 3% slope.
- Recreation buildings and facilities designed and primarily used for the recreational needs of residents of the development.
- Court areas, which are generally defined as tennis courts, badminton courts, shuffleboard courts, or similar hard-surfaced areas especially designed and exclusively used for court games.
- Recreational swimming areas, which are defined generally as fenced areas devoted primarily to swimming, diving, or both. They must also include decks, lawned area, bathhouses, or other facilities developed and used exclusively for swimming and diving and consisting of not less than 15 square feet of water surface area for each 3% of the population of the subdivision with a minimum of 800 square feet of water surface area per pool together with an adjacent deck and/or lawn area twice that of the pool.

Quimby credit is given for active parkland and not open space. The City also requires parallel and adjacent Class I bike trails along all new major and secondary highways.

In selected areas along the Santa Clara River, the City of Santa Clarita also requires parallel and adjacent Class I bike trails along all new major and secondary highways and, when a project is located adjacent to the Santa Clara River, along the River Corridor.

4.14-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to parks and recreation are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand

⁹⁶ City of Santa Clarita Unified Development Code, Chapter 16.15.

Canyon Plaza Mixed-Use Project could result in significant adverse impacts to parks and recreation if any of the following could occur.

-
- Rec-1** Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Rec-2** Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
-

The State of California (*California Government Code* §66477 [Quimby Act]), and the City's UDC Chapter 16.15 have established a minimum standard of 3 acres per 1,000 population as the proportionate amount of land necessary to satisfy the park requirement for new subdivisions. If it is determined by the City that land dedication is not required, the Applicant may pay fees in-lieu of the dedicated parkland or construct amenities on dedicated parkland that are of equal dollar value to the park fee, or a combination of the two alternatives to satisfy the requirement. Therefore, a project would be required to satisfy the park requirements through the provision of on-site park facilities and/or payment of fees for any parkland deficiency.

4.14-6 Impacts Analysis

-
- Rec-1** Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Rec-2** Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment
-

Project Amenities

Open Space

The Project would provide 28.6 acres of open space/landscaped areas throughout the Project site, between planning areas, and along the northern and eastern Project boundaries.

Recreation Areas

Three recreational areas would be included in the Project. Each facility would contain a pool, a spa, restroom facilities, and a recreation building. Recreation areas are provided in Planning Areas 2, 3, and 5. These locations may change in final design.

Trails

The Project would provide a Class II bike lane along the Project's frontage on Soledad Canyon Road. A Class I trail would be provided along the east side of Sand Canyon Road along the Project's frontage. Internal trails would connect to each of these facilities allowing for access to

regional trail systems such as the Stetson Ranch trails, the Sand Canyon Trail, and the Santa Clara River Trail. All on-site trails would be accessible to homeowners, as well as to the public.

Neighborhood and Community Parks

The City has adopted park dedication requirements for new subdivisions that are applicable to the proposed Project. These requirements are set forth in the City's UDC Chapter 16.15. The UDC requires that land be dedicated, or equivalent fees be paid, for neighborhood and community park or recreational purposes at the rate of a minimum of three acres per 1,000 persons residing within the Project. Based on 3.10 persons per household, the development of 580 single-family and multi-family residential units would result in a population increase of 1,798 persons, which would require a minimum of 5.39 acres of parkland. However, the City's General Plan strongly encourages new development to provide fees and/or parkland at a rate of five acres per 1,000 persons. Therefore, consistent with the General Plan the Project would be required to provide 8.99 acres of parkland. On-site recreational areas may receive credit against a portion (up to 30%) of the parkland acreage requirement. Prior to Project development, the Project Applicant will be required to pay for an appraisal to establish the value of a finished acre of land in the Project area. The City will collect fees based on the approved appraisal. The payment of the Quimby fees would satisfy the City's park requirement. Therefore, impacts to parks and recreation are less than significant.

Regional Parks

While it is possible that Project that residents would use Los Angeles County Regional Facilities, such as Castaic Lake, no significant regional parkland impacts are expected. With the payment of Quimby fees, the Project would satisfy local park demands. Therefore, it is not expected that the Project residents would need to use regional parks on a regular basis. However, City and County regional park and recreational facilities are in place or programmed to adequately serve user needs generated by the Project. Therefore, impacts in this regard are less than significant.

State and Federal Recreation Areas and National Forests

It is anticipated that new residents of the Project would use the state and federal recreation areas and forests. As such, increased usage would be considered a potentially adverse impact. However, the state and national forest facilities charge user fees for water sports and overnight camping at the reservoirs and camping areas. Additionally, state and federal taxes, which would be paid by residents and businesses located within the Project site, would be available for maintenance of these facilities. Therefore, less than significant state or federal parkland impacts would occur.

Local and Regional Trails

The Santa Clara River Trail East and the Sand Canyon Trail would serve the Project site. The Santa Clara River Trail East is approximately 1.25 miles southwest of the Project site. The existing Sand Canyon Trail is approximately 0.6 mile south of the Project site, and the proposed Sand Canyon Trail is adjacent to the Project site.

According to the City, the Project would create a need for connections to existing trails. As indicated previously, the Project would include trail improvements along Soledad Canyon Road and Sand Canyon Road as well as internal trails/walks throughout the Project site. Therefore, impacts in this regard are less than significant.

New residents of the Project are expected to use the City's and County's existing and proposed trail systems in the Santa Clarita Valley area as they are constructed. Anticipated use of the surrounding trails would increase the density of users on such trails once they are constructed. Once the Project is completed, the trails would connect to those local and regional trails that would be in place at that time. The proposed trail network is considered to have a beneficial impact on the local and regional trail system because it would provide linkages to local and regional trails.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.14-7 Cumulative Impacts

The City of Santa Clarita's park dedication requirements for new subdivisions are applicable to the Project and related projects in the City that include residential development. The County of Los Angeles also requires, through its municipal code, parkland dedication for residential developments. The expected cumulative population growth associated with the Project and related cumulative projects (both in the City and the County) would create a need for additional acres of parkland, regardless of whether this growth occurs within the City of Santa Clarita or unincorporated areas.

Cumulative projects would also be subject to the City and County's parkland dedication requirements. Compliance with these requirements would result in cumulative parks and recreation impacts being less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.14-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This document was sourced to determine consistency with goals and policies of the General Plan.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

Santa Clarita Unified Development Code, Chapter 16.15. Information sourced for consistency with parkland requirements.

Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010.

4.15 Fire Protection

4.15-1 Summary

Fire protection and emergency medical response services for the Project site and the surrounding area are provided by the Los Angeles County Fire Department. Specifically, 13 fire stations with 11 engine companies, 1 assessment engine company, 5 paramedic squads, 1 hazardous materials squad, and 2 ladder trucks serve the Santa Clarita Valley.

Fire Station 132 is the jurisdictional engine company that would respond to emergencies on the project site. Fire Station 132, located at 29310 Sand Canyon Road, is also approximately 0.5 mile north (1 minute) from the Project site. Fire Station 107, located at 18239 West Soledad Canyon Road, is approximately 2.8 miles (6 minutes) southwest of the Project site. Fire Station 123, located at 26321 Sand Canyon Road, is approximately 3 miles (6 minutes) south of the Project site.

The Project site is located within an area described by the Forester and Fire Warden for Los Angeles County as a Fire Zone 4, Very High Fire Hazard Severity Zone, which denotes the County Forester's highest fire hazard potential. All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, water fire flows, brush clearance and fuel modification plans would need to be met by the Project.

The Project Applicant also would pay fire facility fees, which would be used to help fund the construction of new facilities and purchase of additional equipment. In addition, tax revenues generated by the Project would assist in securing additional equipment and hiring of firefighter personnel for the Los Angeles County Fire Department. The Project would be required to comply with City codes and requirements relative to the provision of adequate fire protection services to the site during both the construction and operational stages of the Project. Thus, the Project would not diminish the staffing or the response times of existing fire stations in the City of Santa Clarita, 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 City. In summary, the Project with mitigation would result in less than significant project-specific and cumulative impacts on fire protection services in the City of Santa Clarita.

4.15-2 Introduction

This section describes the existing fire protection facilities within the City, identifies the regulatory framework with respect to regulations that address fire protection, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.15-3 Existing Conditions

Urban Fire Protection Services

As part of the Los Angeles County Consolidated Fire Protection District (a special district of Los Angeles County), the City of Santa Clarita receives urban and wildland fire suppression service from the Los Angeles County Fire Department (LACoFD). Mutual aid or assistance pacts are maintained with several local, state, and federal agencies. As of 2009, there were 13 fire stations with 11 engine companies, one assessment engine, five paramedic squads, one hazardous materials squad, and two ladder trucks serving the City's Planning Area. A nine-person hazardous materials squad operates out of Station 76. Approximately 64 firefighters are on duty every day, 24 hours a day (not including chief officers and fire prevention staff). In 2007, two temporary fire stations with Los Angeles County were moving ahead to build an additional two fire stations within the City's Planning Area. It is expected that 15 stations will be operational by 2016/2017. Since 2008, LACoFD has completed construction of Station 108, and had established temporary Stations 156, 132, and 104. The LACoFD has indicated there are no planned improvements in the immediate vicinity of the Project site. However, the LACoFD's 5-year Developer Fee Detailed Fire Station Plan indicates one replacement station for temporary Station 104 and nine additional stations in the Santa Clarita Valley.⁹⁷

Aside from the personnel and equipment listed above, the LACoFD has additional resources available to provide back-up services to the City as needed, including additional engine companies, truck companies, paramedic squads, hazardous material squads, firefighting helicopters, other fire camps, and a variety of specialty equipment.

The jurisdictional station for the Project site is Fire Station 132, located at 29310 Sand Canyon Road, is approximately 0.5 mile north of the Project site. Additional fire protection services are provided by Fire Stations 107 and 123. Fire Station 107, located at 18239 West Soledad Canyon Road, is approximately 2.8 miles southwest of the Project site. Fire Station 123, located at 26321 Sand Canyon Road, is approximately 3 miles south of the Project site. If a significant incident occurs, the Project site would be served by the full resources of the LACoFD, not just the stations located closest to the site or that have primary jurisdiction within the Santa Clarita Valley.⁹⁸

⁹⁷ Source: Table 3.15-7, Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

⁹⁸ Correspondence from Kevin T. Johnson, Acting Chief, Forestry Division, Prevention Services Bureau, County of Los Angeles Fire Department, January 6, 2016.

Table 4.15-1, Los Angeles County Fire Stations Serving the Santa Clarita Valley Area describes the fire stations within the Santa Clarita Valley and their location. A description of the operational characteristics of the stations closest to the Project site and, therefore, most likely to respond is provided below.

- Los Angeles County Fire Station 132 maintains a 4-person engine company (1 fire captain, 1 fire fighter specialist, and 2 fire fighters). All uniform personnel at this station are trained and certified as Emergency Medical Technicians (EMT) and are capable of providing basic life support. The emergency response time from the station to the Project site would be approximately 1 minute.
- Los Angeles County Fire Station 107 maintains a 3-person engine company (1 fire captain, 1 fire fighter specialist, and 1 fire fighter/paramedic) and a 2-person paramedic squad (2 fire fighter/paramedic). In addition to all personnel being certified as EMTs, three of the personnel are certified as paramedics and are capable of providing advanced life support. The emergency response time from the station to the Project site would be approximately 6 minutes.
- Los Angeles County Fire Station 123 maintains one engine company. The emergency response time from the station to the Project site would be approximately 6 minutes.

Table 4.15-1 Los Angeles County Fire Stations Serving the Santa Clarita Valley Area

Fire Station	Location
Fire Station 73 ¹	24875 N. San Fernando Road, Newhall, CA 91321
Fire Station 76 ^{1,2}	27223 Henry Mayo Drive, Valencia, CA 91355
Fire Station 81	8710 W. Sierra Highway, Aqua Dulce, CA 91350
Fire Station 104 (Temporary)	26201 Golden Valley Road, Santa Clarita, CA 91359
Fire Station 107 ¹	18239 W. Soledad Canyon Road, Canyon Country, CA 91351
Fire Station 111 ¹	26829 Seco Canyon Road, Saugus, CA 91350
Fire Station 123	26321 N. Sand Canyon Road, Canyon Country, CA 91387
Fire Station 124 ^{1,2}	25870 Hemingway Avenue, Stevenson Ranch, CA 91381
Fire Station 126	26320 Citrus Avenue, Santa Clarita, CA 91355
Fire Station 132 (Temporary)	29310 Sand Canyon Road, Santa Clarita, CA 91387
Fire Station 149 ^{1,2}	31770 Ridge Route, Castaic, CA 91387
Fire Station 156 (Temporary) ²	24525 W. Copper Hill Drive, Santa Clarita, CA 91350

Source: Table 3.15-7, Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

- Notes:
1. With paramedic units.
 2. Outside City boundaries (including Sphere of Influence)

No LACoFD improvements are planned in the immediate area of the Project site. However, the LACoFD' 5-year Developer Fee Detailed Fire Station Plan identifies one replacement station for temporary Fire Station 104 and nine additional fire stations in the Santa Clarita Valley. LACoFD

facilities in the Santa Clarita Valley are funded with impact fee revenues generated within the City of Santa Clarita and the unincorporated areas of the Santa Clarita Valley.⁹⁹

The LACoFD also maintains three fire camps with three fire crews, which include Los Angeles County Jail inmate teams of 12 to 15 fire laborers. These camps are located in San Francisquito Canyon, in Soledad Canyon, and at the Peter Pitchess Honor Rancho. An additional County non-inmate crew of eight to ten members provides wildland fire fighting protection for the Santa Clarita Valley area.

The level of service provided to areas within the City is determined by the LACoFD, and LACoFD does not calculate service-to-population ratios. Such ratios do not properly reflect the need for fire protection and emergency medical services because they do not account for demand caused by non-residential structures, vacant land with combustible vegetation, vehicular incidents, and transient population. Indicators of need for additional units or fire stations is based on a combination of response times, incident loads, resident and transient populations, and square footage of improvements. Nationally recognized response time targets for urban areas is five minutes for a basic life support unit (engine company) and eight minutes for an advanced life support unit (paramedic squad). The LACoFD uses the following response guidelines:

- In urban areas, a 5-minute or less response time for the first arriving unit for fire and emergency medical service responses, and an 8-minute or less response for the advanced life support (paramedic) unit, or
- In suburban areas, an 8-minute response time for the first arriving unit, and 12 minutes for the advanced life support (paramedic unit).

The LACoFD is currently meeting these guidelines.

The LACoFD annually updates its Five-Year Capital Plan, which identifies anticipated facilities that would be constructed during the specified planning horizon. Funding used for land acquisitions, facility improvements, and partial funding of new equipment is generated through the LACoFD's Developer Fee Program, and funding used for increases in staffing is generated from local property taxes. The LACoFD has a developer fee in effect in the Antelope Valley, Santa Clarita Valley, and Santa Monica/Malibu Area. The Los Angeles County Board of Supervisors and City Council for Santa Clarita recently approved an update to the developer fee amount to \$1.0883 per square foot of new floor areas of buildings, effective February 1, 2016. The fee is adjusted on an annual basis. The Applicant is required to pay fees in effect at the time of building permit for the construction of fire stations, and the full cost of firefighting equipment. Application of the developer fees and property tax revenues generated by new development help ensure adequate fire service levels for future developments.

⁹⁹ Correspondence from Kevin T. Johnson, Acting Chief, Forestry Division, Prevention Services Bureau, County of Los Angeles Fire Department, January 6, 2016.

Wildland Fire Hazard Potential

The LACoFD designates lands in Los Angeles County in regards to their potential for wildland fire hazards. These designations are made by the County Forester, and are based on criteria, including an area's accessibility, amount, and type of vegetative cover, water availability, and topography. The two designations used by the LACoFD are Moderate Fire Hazard Zone (MFHZ) and Very High Fire Hazard Severity Zone (VHFHSZ). Areas within the County not designated as either MFHZ or VHFHSZ are not considered to be subject to wildland fire hazards.

The differences between MFHZ and VHFHSZ designations are relatively minor, in that one or more of the four criteria (access, topography, vegetation, and water) may pose less of a constraint in an MFHZ than in a VHFHSZ. Additionally, the VHFHSZ designation has more restrictive building requirements than the MFHZ designation, and is considered to be the most severe fire zone. The LACoFD has designated the Project site, consistent with the rest of the Santa Clarita Valley, as a Fire Zone 4, VHFHSZ. Fire Zone 4 typically has the following vegetation types: chaparral, coastal sage, riparian, and oak woodlands vegetation communities. Wildland fires are relatively common occurrences in these vegetation communities, which are similar to the types found in Santa Clarita Valley and surrounding areas. The plant species characteristics of Fire Zone 4 have adapted to periodic wildland fire conditions, and maintain a healthy ecosystem in the regional vicinity. These plant communities pose the greatest threat to expanding urban development due to their high combustibility and their dense biomass. However, 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; whereas fire suppression involves measures, which control fires once they have started (e.g., fuel breaks, use of firefighting equipment).

Typically, vegetation begins to lose its moisture content during the spring months, and by the summer and fall when Santa Ana wind conditions begin to occur, wildland fire conditions become extremely high. Historically, large fires tend to burn these areas every 20 to 25 years. The County Forester has indicated that wildland fire events have occurred in the region. When chaparral and coastal sage growth is younger, it is more succulent with little or no dead or dying branches, provides less horizontal fuel continuity, has higher average fuel moisture content, and is usually more fire retardant. However, as these plant species reach 20 or more years, the dead-to-live fuel ratio increases, creating more available fuel to carry fire with very high intensities and energy releases. Generally, fire prevention for urban development in wildland fire hazard areas focuses on restricting the types of building materials used, building design, and incorporating setbacks. Development within a VHFHSZ is required to meet the building construction requirements specified in the City's Building and Safety Code for construction, access, water mains, fire hydrants, fire flows, brush clearance, and fuel modifications.

The Project site and surrounding area is located within a VHFHSZ that comprises natural brush and oak woodlands.

Development Requirements in High Fire Hazard Zones

The availability of sufficient on-site water pressure is a basic requirement of the LACoFD. The LACoFD requires sufficient capacity for fire flow for public hydrants at residential locations of 1,250 gallons per minute (gpm) at 20 pounds per square inch (psi) residual pressure for a 2-hour duration for single-family residential uses. In a situation where there are five or more single-family dwelling units with shared access on a single driveway, the minimum fire flow is increased to 1,500 gpm at 20 psi residual pressure for a 2-hour duration. These rates are determined based upon square footage of proposed structures.

The Santa Clarita Water Division (SCWD) has indicated that it could provide adequate fire flows in addition to meeting domestic demands. Refer to **Section 4.22, Water Supply** for a discussion of water service and water supply.

Due to the relatively high fire hazard potential that exists in a VHFHSZ, development within these areas is subject to various governmental codes, guidelines, and programs that are aimed at reducing the hazard potential to acceptable levels. The County of Los Angeles has prepared Fuel Modification Plan Guidelines that set forth guidelines and landscape criteria for all new construction to implement ordinances relating to fuel modification planning and help reduce the threat of fires in high hazard areas. Per Section 1117.2.1 of the Los Angeles County 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 ... 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 has been modified and/or partially or totally replaced with drought tolerant, fire resistant plants. The City of Santa Clarita has adopted the Los Angeles County Fire Code, and the Project is subject to the Code requirements.

4.15-4 Regulatory Setting

1. City of Santa Clarita

Fire Code

Title 22, City Fire Code, of the Santa Clarita Municipal Code states the City has adopted by reference the *California Code of Regulations*, Title 24, Part 9, described and referred to as the 2010 California Fire Code published by the California Building Standards and based upon the International Fire Code, 2009 Edition, prepared by the International Code Council. The Santa Clarita Fire Code was adopted on November 23, 2010 and took effect on January 1, 2011. A copy of these codes is on file at the City Hall.

General Plan

Applicable goals, objectives, and policies from the General Plan Safety, Land Use, and Conservation and Open Space Elements are listed below.

Fire Hazards

- Goal S 3: Protection of public safety and property from fires.
- Objective S 3.1: Provide adequate fire protection infrastructure to maintain acceptable service levels as established by the Los Angeles County Fire Department.
 - Policy S 3.1.2: Program adequate funding for capital fire protection costs, and explore all feasible funding options to meet facility needs.
 - Policy S 3.1.3: Require adequate fire flow as a condition of approval for all new development, which may include installation of additional reservoir capacity and/or distribution facilities.
 - Objective S 3.2: Provide for the specialized needs of fire protection services in both urban and wildland interface areas.
 - Policy S 3.2.2: Enforce standards for maintaining defensible space around structures through clearing of dry brush and vegetation.
 - Policy S 3.2.3: Establish landscape guidelines for fire-prone areas with recommended plant materials, and provide this information to builders and members of the public.
 - Policy S 3.2.4: Require sprinkler systems, fire resistant building materials, and other construction measures deemed necessary to prevent loss of life and property from wildland fires.
 - Policy S 3.2.5: Ensure adequate secondary and emergency access for fire apparatus, which includes minimum requirements for road width, surface material, grade, and staging areas.
 - Policy S 3.2.6: For areas adjacent to the National Forest, cooperate with the United States Forest Service regarding land use and development issues.
 - Policy S 3.2.7: Continue to provide information and training to the public on fire safety in wildland interface areas.
 - Objective S 3.3: Maintain acceptable emergency response times throughout the planning area.
 - Policy S 3.3.1: Plan for fire response times of five minutes in urban areas, eight minutes in suburban areas, and 12 minutes in rural areas.
 - Policy S 3.3.2: Require the installation and maintenance of street name signs on all new development.
 - Policy S 3.3.3: Require the posting of address numbers on all homes and businesses that are clearly visible from adjacent streets.

Hazardous Materials

Goal S 4: Protection of public safety and property from hazardous materials.

Objective S 4.2: Cooperate with other agencies to ensure proper handling, storage, and disposal of hazardous materials.

Policy S 4.2.1: On the Land Use Map, restrict the areas in which activities that use or generate large amounts of hazardous materials may locate, to minimize impacts to residents and other sensitive receptors in the event of a hazardous materials incident.

Policy S 4.2.2: Through the development review process, ensure that any new development proposed in the vicinity of a use that stores or generates large amounts of hazardous materials provides adequate design features, setbacks, and buffers to mitigate impacts to sensitive receptors in the event of a hazardous materials incident.

Healthy Neighborhoods

Goal LU 3: Healthy and safe neighborhoods for all residents.

Objective LU 3.3: Ensure that the design of residential neighborhoods considers and includes measures to reduce impacts from natural or man-made hazards.

Policy LU 3.3.2: In areas subject to wildland fire danger, ensure that land uses have adequate setbacks, fuel modification areas, and emergency access routes.

Policy LU 3.3.4: Evaluate service levels for law enforcement and fire protection as needed to ensure that adequate response times are maintained as new residential development is occupied.

Policy LU 3.3.5: Through the development review process, ensure that all new residential development is provided with adequate emergency access and that subdivision and site designs permit ready access by public safety personnel.

Policy LU 3.3.7: Ensure adequate addressing in all residential neighborhoods for emergency response personnel.

Biological Resources

Goal CO 3: Conservation of biological resources and ecosystems, including sensitive habitats and species.

Objective CO 3.4: Ensure that development in the Santa Clarita Valley does not adversely impact habitat within the adjacent National Forest lands.

Policy CO 3.4.2: Consider principles of forest management in land use decisions for projects adjacent to the National Forest, including limiting the use of invasive species, discouraging off-road vehicle use, maintaining fuel modification zones and fire access roads, and

maintaining fuel modification zones and fire access roads, and other measures as appropriate, in accordance with the goals set forth in the Angeles National Forest Land Management Plan.

Objective CO 3.6: Minimize impacts of human activity and built environment on natural plant and wildlife communities.

Policy CO 3.6.5: Ensure revegetation of graded areas and slopes adjacent to natural open space areas with native plants (consistent with fire prevention requirements).

4.15-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to fire protection are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to fire protection if any of the following could occur.

PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

Additionally, based upon the Los Angeles County Fire Code, a proposed project would create a significant threat to the safety of future residents and users of the Project site if the Project would result in the following:

Would the project:

- **Be located in a high fire hazard area (such as Very High Fire Hazard Severity Zone).**
 - **Be located in a high fire hazard area, and is served by inadequate access due to length, width, surface material, turnarounds, or grade of access roads.**
 - **Be located in a high fire hazard area and has more than 75 dwelling units on a single means of access.**
 - **Be located in an area having inadequate water and pressure to meet fire flow standards.**
 - **Be located in close proximity to potential dangerous fire hazard conditions or uses such as refineries, storage of flammable materials, or explosives manufacturing.**
-

4.15-6 Impacts Analysis

PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

Construction-Related Impacts

Because the Project site is located within a VHFHSZ, construction activities associated with the Project would result in an increase in fire hazards, resulting in significant impacts unless mitigated. For projects located within a VHFHSZ, the City requires the following conditions of approval (COA) in order to reduce fire hazard impacts during construction activities:

- All proposed development on the site shall comply with applicable State, City and County code and ordinance requirements for fire protection.
- The Project Applicant shall prepare and submit a Fuel Modification Plan (which includes a landscape plan and irrigation plan) as required for projects located within a Very High Fire Hazard Severity Zone. The Fuel Modification Plan shall be submitted and approved by the Los Angeles County Fire Department prior to final map clearance. The Fuel Modification Plan shall depict a fuel modification zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision.
- Brush clearance shall be conducted prior to initiation of construction activities in accordance with Los Angeles County Fire Department requirements.

In addition, mitigation measures that would reduce construction-related fire impacts to a less than significant level would include availability of adequate water to service construction activities, and that all construction-related requirements of the landscape plan and the irrigation plan be fulfilled, as approved by the LACoFD. Implementation of the applicable General Plan goals and policies, conditions of approval, and Mitigation Measures **MM PS-2** and **MM PS-3** below would reduce impacts to a less than significant level.

Operational Impacts

Although the Project would be in close proximity to existing fire stations, it would increase the demand on existing fire protection resources in the general area. Additional manpower, equipment, and facilities would be needed to accommodate future growth, and the LACoFD has long-range plans to upgrade the level of fire protection in the area as growth occurs. Thus, as required by Mitigation Measure **MM PS-1** the Project Applicant would be required to pay fees, under the Developer Fee Program to provide funds for fire protection facilities, which are required by new residential, commercial, or industrial development in an amount proportionate to the

demand created by the Project. Currently, the developer fee is \$1.0883 per square foot of building space, and is due and payable at the time a building permit is issued.

Because the Project site is located within a VHFHSZ, the Project must comply with all applicable Building and Fire Code requirements for such items as types of roofing materials, building construction, brush clearance, water mains, fire hydrant flows, hydrant spacing, access and design, and other hazard reduction programs for a VHFHSZ. The above requirements would ensure that Project operations would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, and that would not create a special fire protection problem on the site that would result in a decline in existing service levels in the Valley. Implementation of the applicable General Plan goals and policies and Mitigation Measures **MM PS-4** through **MM PS-6** would ensure that operational-related fire service impacts are reduced to a less than significant level.

Wildland Fire Hazards

As indicated previously, pursuant to the Los Angeles County Fire Code, a proposed project would create a significant threat to the safety of future residents and users of the project site if the project would result in the following.

- **Be located in a high fire hazard area (such as Very High Fire Hazard Severity Zone).**
- **Be located in a high fire hazard area, and is served by inadequate access due to length, width, surface material, turnarounds, or grade of access roads.**
- **Be located in a high fire hazard area and has more than 75 dwelling units on a single means of access.**
- **Be located in an area having inadequate water and pressure to meet fire flow standards.**
- **Be located in close proximity to potential dangerous fire hazard conditions or uses such as refineries, storage of flammable materials, or explosives manufacturing.**

The Project site is within a VHFHSZ that is comprised of natural brush. As such, the Project would be required to comply with City and County Building and Fire Code requirements for such items as types of roofing materials, building construction, brush clearance, water mains, fire hydrant flows, hydrant spacing, access and design, and other hazard reduction programs for a VHFHSZ. Compliance with the applicable General Plan goals and policies, the City's conditions of approval, and implementation of the recommended Mitigation Measures **MM PS-4** through **MM PS-6** would reduce impacts to less than significant in this regard.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM PS-1 Concurrent with the issuance of building permits, the Project Applicant shall participate in the Developer Fee Program to the satisfaction of the Los Angeles County Fire Department and/or City of Santa Clarita.

Construction

MM PS-2 Adequate access to all buildings on the Project site shall be provided for emergency vehicles during the building construction process.

MM PS-3 Adequate water availability shall be provided to service construction activities.

Operational

MM PS-4 All on-site development shall comply with the applicable Los Angeles County and City of Santa Clarita code requirements for construction, access, water mains, fire flows, and fire hydrants, as stipulated by the Los Angeles County Fire Department or the City of Santa Clarita through Project approvals or building plan reviews.

MM PS-5 Prior to the issuance of building permits, the Project Applicant, or responsible party, shall obtain the necessary clearances from and shall comply with all applicable conditions imposed by Los Angeles County Fire Department, including but not limited to those from the Planning Division, Land Development Unit, Forestry Division, or Fuel Modification Unit.

MM PS-6 The Project Applicant, or responsible party, shall file all landscape plans with the Los Angeles County Fire Department Fuel Modification Unit to ensure compliance with the High Fire Hazard Severity Zone.

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM PS-1** through **MM PS-6**, impacts would be less than significant.

4.15-7 Cumulative Impacts

Future development within the City and surrounding unincorporated areas associated with the Project and related projects would be required to pay for LACoFD Developer Fees program, as deemed appropriate by the LACoFD, which would provide the tax revenues for the operation and staffing of local fire service facilities. Furthermore, the Project and related cumulative projects are required to meet City/County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the Project. Additionally, because development projects in the Santa Clarita Valley are subject to review and approval by the LACoFD, all developments must meet LACoFD's fire flow, fuel modification, and

site access requirements to protect developments against structure and wildland fire hazards. Consequently, operation of cumulative projects would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, and would not create a special fire protection problem on the various sites that would result in a decline in existing service levels in the area or pose an unacceptable fire risk to people or structures. Therefore, payment of fees and/or development of new fire facilities, as required by the LACoFD, would reduce cumulative fire service impacts to a less than significant level.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.15-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

Written correspondence from Kevin T. Johnson, Acting Chief, Forestry Division, Prevention Services Bureau, County of Los Angeles Fire Department, January 6, 2016.

Los Angeles County GIS Viewer, Fire Hazard Zones, accessed February 16, 2016.

4.16 Police Protection

4.16-1 Summary

Primary law enforcement service for the Project site and the surrounding unincorporated Santa Clarita Valley area is provided by the County of Los Angeles Sheriff's Department (LASD), Santa Clarita Valley Station. The Sheriff Department also provides law enforcement services for the City of Santa Clarita on a contract basis. Additionally, the Department of California Highway Patrol (CHP) provides traffic regulation enforcement; emergency incident management; and service and assistance on Interstate 5, State Route 126, State Route 14, and other major roadways in the unincorporated portions of the Santa Clarita Valley. The existing level of Sheriff Department protection service, without the Project, in the City of Santa Clarita is 1 deputy per 1,395 residents, which is below the desired level of 1 deputy per 1,000 residents. CHP protection service in the City of Santa Clarita is considered adequate.

Implementation of the Project would increase the demand for law enforcement and traffic-related services both on the Project site and within the local vicinity in terms of the number of personnel and the amount of equipment needed to adequately serve the Project site at buildout. Based on the Sheriff Department's standard deputy-to-resident ratio, the Project would require the services of two additional sworn Sheriff Department officers. Payment of the law enforcement facilities fees and new tax revenues would mitigate impacts to the LASD to less than significant. Thus, the Project would not contribute to any cumulatively considerable impacts to sheriff services.

The Project also would increase demands for CHP services in the Project area. Through increased revenues generated by the Project (via motor vehicle registration and driver's license fees paid by new on-site residents and businesses), the Project would generate more than sufficient funding for the additional staffing and equipment would needed to serve the Project area, including future demands. Therefore, Project impacts to the CHP would be less than significant, and would not contribute to any cumulatively considerable impacts to CHP services.

Construction of the Project would increase both the incidence of petty crimes on the site and construction traffic on SR-14 and surrounding roadways, which may potentially delay emergency vehicles traveling through the area. However, by retaining the services of a private security company to patrol the Project construction site, and by implementing a construction traffic control plan, any potentially significant construction-related impacts to law enforcement services would be reduced to less than significant.

Finally, new resident and daytime populations (employees and visitors) at the Project site would be subject to the same potential hazards as existing City residents. It is expected that the City's Emergency Evacuation Plans will be amended periodically to provide for the safe evacuation of all City residents and employees. Therefore, less than significant impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster.

4.16-2 Introduction

This section describes the existing law enforcement facilities within the City, identifies the regulatory framework with respect to regulations that address police protection, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.16-3 Existing Conditions

Los Angeles County Sheriff's Department

The Los Angeles County Sheriff's Department's (LASD) Santa Clarita Valley Station is responsible for providing traffic control in the City by the Sheriff and general law enforcement to the City of Santa Clarita through a vesting contract between the two agencies. The agreement between the City and LASD is renewable for successive periods of 5 years. While the contract is based on 5-year service periods, the rates of service are readjusted by the County-Auditor-Controller annually on July 1 to reflect amendments to County salaries and employee benefits. The City allocated 8.7% – \$22, 230,165 – of its 2015-2016 annual operating budgets to law enforcement services.¹⁰⁰

The Santa Clarita Valley Sheriff Station is responsible for providing general law enforcement to the Project site. The Sheriff Station is located near the intersection of Magic Mountain Parkway and Valencia Boulevard at 23740 Magic Mountain Parkway in Santa Clarita, which is approximately 8.5 miles from the Project site.

The service area boundaries of the Santa Clarita Valley Sheriff Station include the City of Santa Clarita and unincorporated County land between the Los Angeles City limits to the south, the Kern County line to the north, and all areas between the Ventura County line to the west and the township of Agua Dulce to the east. The Sheriff Station maintains a staff of 200 sworn officers and 43 civilian employees, and serves an area of 656 square miles.

The LASD generally prescribes a deputy-to-resident ratio of 1 deputy per 1,000 residents, which is described in the Safety Element of the City of Santa Clarita General Plan. As of July 2015, the resident population of the Santa Clarita Valley Sheriff Station is 279,000. This translates to a ratio of 1 deputy per 1,395 residents (0.75 deputy per 1,000 residents), which represents a deficiency of 79 deputies. Thus, the existing service level ratios are not at a desired level. Equipment and services provided to the City include 24-hour designated County cars, helicopters, search and rescue, mounted posse, and emergency operation centers.

¹⁰⁰ City of Santa Clarita website, <http://www.santa-clarita.com/city-hall/departments/city-manager-s-office/city-budget/budget-fy-2015-2016>, accessed February 16, 2015.

The existing station has operated above-capacity for several years.¹⁰¹ On May 24, 2016, the Santa Clarita City Council approved a Memorandum of Understanding Between the County of Los Angeles and the City of Santa Clarita for the New Santa Clarita Valley Sheriff's Station. The existing Santa Clarita Sheriff Station was completed in 1972 and is 25,100 square feet, plus a 6,360 square-foot service building. The Memorandum of Understanding provides for joint funding by the County of Los Angeles and the City of Santa Clarita for the construction of a new, centrally located, two-story 44,339 square-foot Sheriff's station, with a 4,000 square-foot service garage and a helipad. The new Station would be located on City-owned property on Golden Valley Road between Centre Pointe Parkway and Robert C. Lee Parkway, which is the current location of temporary Los Angeles County Fire Station 104.

There are no jail facilities in the City of Santa Clarita. The Santa Clarita Valley Sheriff Station includes eight holding cells that are utilized by persons awaiting transfers to a court facility or Los Angeles County jail facility. Los Angeles County jail facilities include Century Regional Detention Facility in Lynwood, Men's Central Jail in Los Angeles, Mira Loma Detention Center in Lancaster, North County Correctional Facility in Castaic, Pitchess Detention Center East, North and South Facilities in Castaic, and Twin Towers Correctional Facility in Los Angeles.

The LASD does not have target response times, but does adhere to widely accepted industry standards of 10 minutes or less for emergency response incidents (a crime that is currently occurring and is a life or death situation), 20 minutes or less for priority (immediate) incidents (a crime or incident that is currently occurring but that is not a life or death situation), and 60 minutes or less for routine (non-emergency) responses (a crime that has already occurred and is not a life or death situation). These response times represent the range of time required to handle a service call, which is measured from the time a call is received until the time a patrol car arrives at the incident scene. Response time is variable, particularly because the nearest responding patrol car may be located anywhere within the station's patrol area, and not necessarily responding from the station itself.

The LASD provides helicopter air support, search-and-rescue coordination, and the COBRA unit, which handles juvenile and gang-related crimes. Special programs offered in conjunction with community members and other organizations include the Anti-Gang Task Force, Citizens' Option for Public Safety (COPS) grants, drug education, the Family Violence Task Force, gang education, graffiti abatement, local law enforcement block grants, and emergency response programs. The Santa Clarita Valley Sheriff Station also has an extensive off-road enforcement team that spends considerable time working complaint areas in the rural portions of the City's jurisdiction.

101 Written communication from Tracey Jue, Director, Facilities Planning Bureau, Los Angeles County Sheriff's Department, February 2, 2016.

During the annual budget update in any given fiscal year, the City includes goals and programs for providing adequate protection services from the LASD. The performance standards for the police services program as outlined in the City's 2015-2016 budget include¹⁰²

- Maintain Santa Clarita position as one of the safest cities of its size (population over 150,000) in the nation
- Effectively implement the Crime Prevention Unit (CPU) to ensure Sheriffs are equally distributed throughout the City and utilizing technology to combat crime
- Work to continue reducing Part 1 (major) crimes
- Partner with the City to combat gang-related and juvenile crimes with recreational opportunities, intervention strategies, and traditional enforcement, and make extensive use of the Teen Court and Community Court programs
- Continue the Vital Intervention and Directional Alternatives (VIDA) program, program designed to assist "at-risk" teens between the ages of 12 and 17
- Work to increase resident safety and awareness to prevent auto theft, car burglaries, and other crimes through community outreach
- Work to ensure neighborhoods and business communities are kept free from the blight of graffiti. Continue partnership with the City to combat drug use in Santa Clarita with the Juvenile Intervention Team (J-Team) and through the different City programs such as Drug Free Youth in Town (DFYIT), and informational workshops

California Highway Patrol

The California Highway Patrol (CHP) provides traffic regulation enforcement for unincorporated Santa Clarita Valley and surrounding areas from its station located at 28648 The Old Road, near the interchange of Interstate-5 (I-5) and State Route 126 (SR-126). The CHP patrols a service area of approximately 700 square miles, which includes I-5, SR-126, State Route 14 (SR-14), and all unincorporated areas and roadways. This service area extends westerly to the Ventura County line, east to Agua Dulce, north to State Route 138 (SR-138), and south to SR-118.

The primary responsibility of the CHP is to patrol state highways and unincorporated County roadways in the previously identified service area, enforce traffic regulations, respond to traffic accidents, and to provide service and assistance for disabled vehicles. The CHP also has a major role in the state's enhanced anti-terror activities. CHP's overall staffing level in the State of California is about 11,000 positions; uniformed (sworn) personnel account for approximately 7,600 positions, or 70% of total staff.

In the Santa Clarita Valley area, the CHP maintains a Mutual Aid Agreement with LASD. The Newhall CHP office is staffed by 73 uniform employees and 9 civilian employees. The Los Angeles and Orange County areas are served on a limited basis by a helicopter and a fixed wing aircraft

¹⁰² City of Santa Clarita, Operating Budget & Capital Improvements Program, Fiscal Year 2015-2016

based out of Fullerton Airport. There are currently no plans to centrally base a helicopter to service the Los Angeles County Basin.

CHP does not use long-range planning documents to Project future need within each service area. Additionally, CHP does not maintain uniform staffing, equipment, or facility ratios/objectives to Project future need within each service area. Rather, each station determines its own staffing allocation relative to the geographical needs within the station area's boundaries based on the service area's unique requirements and budget constraints. The Newhall CHP office reviews staffing allocation quarterly, and has indicated that its facilities and staffing are adequate to meet current demands in its service area.

The primary funding source for CHP facilities and staffing is state motor vehicles registration and driver's license fees. CHP Headquarters in Sacramento determines the allocation of these fees to each service area. CHP does not receive or base its deployment on the revenues that may be generated within its service area; instead, CHP's long-range planning and future staffing needs are based on the needs of the entire state and budget constraints.

Law Enforcement Facilities Fees for North Los Angeles County

On June 24, 2008, the Los Angeles Board of Supervisors adopted law enforcement facilities fees for North Los Angeles County.¹⁰³ The mitigation fee (Los Angeles County Municipal Code Chapter 22.74.030) is for new residential, commercial, office, and industrial areas located within the unincorporated areas of North Los Angeles County referred to as Santa Clarita, Newhall, and Gorman (the law enforcement facilities fee zones). Each law enforcement facility area has a separate fee, and the amount of the fee is set at a level sufficient to provide, or contribute to provide, adequate law enforcement services that are in direct proportion to the population increases from new development that warrant or contribute to the need for a new facility. In areas where a new facility is not required, the fees are used to augment existing service capacity through the purchase of equipment directly to serve the new population.

The amount of the fee established must be reviewed annually by the LASD and the County-Auditor-Controller. Further, on July 1 of each year, the fee in each law enforcement facilities fee zone must be adjusted based on the Engineering News Record-Building Construction Cost Index. The related Capital Improvement Construction Plan setting forth the approximate location, size, time of availability, and estimates of cost for the facilities and improvements to be financed with the fee for Santa Clarita will be annually updated by the Board of Supervisors. The fees as of June 30, 2016 Zone 1 (Santa Clarita) follow below:

¹⁰³ Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010

- Per single-family dwelling unit: \$544.00
- Per multi-family dwelling unit: \$392.00
- Per 1,000 square-foot commercial unit: \$81.00
- Per 1,000 square-foot office unit: \$102.00
- Per 1,000 square-foot of industrial unit: \$40.00

The City adopted a comparable fee program on October 9, 2007 after finding that a law enforcement facilities impact fee is needed on parcels at the time of residential and non-residential development in order to mitigate the increased burden placed by such development on police protective services, safety, and general welfare.

The fees as of June 30, 2016 for construction in the Santa Clarita Valley Sheriff Station Zone are as follows:

- Residential Single Family: \$544 (per residential unit)
- Residential Multi-Family: \$392 (per residential unit)
- Nonresidential Commercial: \$81 per 1,000 square-feet or \$0.08 per square-foot
- Nonresidential Office: \$102 per 1,000 square-feet or \$0.10 per square-foot
- Nonresidential Industrial: \$40 per 1,000 square-feet or \$0.04 per square-foot

4.16-4 Regulatory Setting

1. State of California

Emergency Response/Evacuation Plans

After the 1993 Oakland fire, the State of California passed legislation authorizing the State's Office of Emergency Services to prepare a Standard Emergency Management System (SEMS) program for managing response to multi-agency and multi-jurisdictional emergencies, and to facilitate communications and coordination among all levels of government and affected agencies within the City. In summary, the program sets forth measures by which a jurisdiction handles emergency disasters. The SEMS establishes organizational levels for managing emergencies, standardized emergency management methods, and standardized training for responders and managers. When fully activated, SEMS activities occur at five levels: field response, local government, operational areas (Countywide), mutual aid regions, and statewide. By December 1996, each jurisdiction was required to show the Office of Emergency Services that it is in compliance with SEMS through a number of measures, including having an up-to-date emergency management plan, which would include an emergency evacuation plan. Non-compliance with SEMS can result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

The California Office of Emergency Services coordinates an emergency organizational network of local Emergency Operations Centers (EOC) in the state's cities, regional EOCs within each county, and the California Office of Emergency Services. The regional office of the California Office of

Emergency Services is located in Los Alamitos, and the Los Angeles County's EOC is located in downtown Los Angeles. The County Office of Emergency Management has prepared the County's Multi-Hazard Functional Plan, which details the coordination of County agencies during and after a catastrophic event and establishes the framework for the mutual aid agreements with the CHP, and federal, state, and other local governments in the region. It also serves as the emergency management plan (including emergency evacuation plan) for the entire County. The Los Angeles County Board of Supervisors adopted a revised plan on February 17, 1998.

2. City of Santa Clarita

General Plan

Applicable goals, objectives, and policies from the General Plan Safety and Land Use Elements are listed below.

Law Enforcement

- Goal S 5: Protection of public safety through the provision of law enforcement services and crime prevention strategies.
 - Objective S 5.1: Cooperate with the Los Angeles County Sheriff's Department's plans for expansion of facility space to meet current and future law enforcement needs in the Santa Clarita Valley.
 - Policy S 5.1.3: Cooperate on implementation of funding mechanisms for law enforcement services.
 - Objective S 5.2: Cooperate with the Sheriff's Department on crime prevention programs to serve residents and businesses.
 - Policy S 5.2.1: Promote and participate in the Business Watch program to assist business owners in developing and implementing crime prevention strategies.
 - Policy S 5.2.2: Promote and support Neighborhood Watch programs to assist residents in establishing neighborhood crime prevention techniques.
 - Policy S 5.2.3: Provide code enforcement services to maintain minimum health and safety standards and as a deterrent to crime.

Healthy Neighborhoods

- Goal LU 3: Healthy and safe neighborhoods for all residents.
 - Objective LU 3.3: Ensure that the design of residential neighborhoods considers and includes measures to reduce impacts from natural or man-made hazards.
 - Policy LU 3.3.4: Evaluate service levels for law enforcement and fire protection as needed to ensure that adequate response times are maintained as new residential development is occupied.

- Policy LU 3.3.5: Through the development review process, ensure that all new residential development is provided with adequate emergency access and that subdivision and site designs permit ready access by public safety personnel.
- Policy LU 3.3.7: Ensure adequate addressing in all residential neighborhoods for emergency response personnel.

Emergency Response/Preparedness Plans/Evacuation Plans/Evacuation Routes

The City of Santa Clarita is in compliance with SEMS and is responsible for emergency operations within City boundaries. The Santa Clarita City Manager is the Director of Emergency Services for the City. The primary emergency operations center for the City of Santa Clarita is City Hall, located at 23920 Valencia Boulevard. A secondary emergency operations center (if City Hall is unavailable) is the City's Corporate Yard facility, located at 25663 Avenue Stanford in the Valencia Industrial Center.¹⁰⁴

The City's Hazard Mitigation Plan 2010 addresses planned response to emergencies associated with natural disasters and technological incidents, including both peacetime and wartime. The Plan addresses response procedures for a major airplane crash, train derailment, Metrolink accident, truck incident, terrorism, nuclear attack, and civil unrest. Emphasis is given to emergency planning; training of full-time, auxiliary and reserve personnel; public awareness and education; and, assuring the adequacy and availability of sufficient resources to cope with emergencies. The Plan also identifies appropriate land use, design, and construction regulations to reduce losses from disasters. The City's SEMS addresses the following four phases of emergency response.¹⁰⁵

1. Preparedness phase, requiring increased readiness for emergency through preparation of emergency plans and procedures, providing information and training, inspection of critical facilities, recruitment of disaster personnel, mobilization of resources, and testing of systems;
2. Response phase, which may require evacuation of threatened populations, dissemination of public information about the disaster, coordination with other agencies, obtaining mutual aid, declaration of a Local Emergency, evaluation of damage, establishment of care and shelter operations, and restoration of vital services and utilities;
3. Recovery phase, which may include coordinating assistance programs and support priorities, rejoining affected families, providing essential services, restoring property, identifying residual hazards, mitigating future hazards, and recovering costs; and

¹⁰⁴ Riverpark Draft EIR, Impact Sciences, Inc., March 2004

¹⁰⁵ Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010

4. Mitigation phase, designed to mitigate impacts after the disaster through updating local ordinances and codes, upgrading structures, recovering costs, providing information and training, and revising land use plans as needed.

In 2006, the City adopted and implemented the National Incident Management System (NIMS) to comply with the federal Department of Homeland Security requirements, based on Homeland Security Presidential Directive 5 (HSPD-5), Management of Domestic Incidents. HSPD-5 required the phased-in adoption and implementation of NIMS by state and local governments as a condition of receipt of Federal preparedness funding, including Homeland Security grants. HSPD-5 requires all federal, state, local, and tribal jurisdictions to adopt NIMS and use it in their individual domestic incident management, emergency prevention, preparedness, response, recovery, and mitigation activities. NIMS does not replace SEMS, but is rather integrated into SEMS by emergency personnel. Since the federal government modeled NIMS after SEMS, the two systems use similar terminology and procedures, although NIMS also includes new requirements for reporting and qualifications.¹⁰⁶

The City of Santa Clarita serves as the EOC for the Santa Clarita Valley area. The Santa Clarita EOC works in cooperation and coordination with local and regional offices of the California Office of Emergency Services and the Los Angeles County Fire and Sheriff's Departments to coordinate community action in the event of a disaster, such as fire suppression, search and rescue, evacuation, post-disaster safety inspections, and clean-up efforts in its service area, which includes the City of Santa Clarita. The City's EOC can be entirely self-sustaining during disaster operations.¹⁰⁷

Emergency Evacuation Routes

The City has freeway access along three routes (I-5 and SR-14 going north and south, and SR-126 going west) for use as evacuation purposes in the event of an emergency.¹⁰⁸ The City also has developed alternate evacuation routes along surface streets to provide alternative travel routes through and out of the City. The proposed site is located adjacent to SR-14, one of the designated evacuation routes.

4.16-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to police protection are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to police protection if any of the following could occur.

¹⁰⁶ Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010

¹⁰⁷ Riverpark Draft EIR, Impact Sciences, Inc., March 2004

¹⁰⁸ Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010

PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

In addition, the Los Angeles County Sheriff's Department's threshold of one deputy per 1,000 residents is being used.

4.16-6 Impacts Analysis

Construction-Related Impacts

During the construction of the Project, the LASD service requirements on the Project site would be increased over existing demands as a result of increased persons and the presence of buildings and equipment on the Project site. The daytime population would increase due to the presence of construction workers on the Project site. This increase in the daytime population would vary due to the types of construction activities being conducted (e.g., site grading, construction of structures, or infrastructure improvements).

There is a potential for increased calls for service to the Project site as a result of the increased number of persons at the Project site. Due to the presence of building materials, construction equipment, and related temporary office buildings, the potential for vandalism and theft is greater; thereby increasing Sheriff's calls for service demands for property protection. Implementation of the Mitigation Measure **MM PS-7** would reduce impacts to less than significant.

Construction-related traffic on the Project site also is not expected to result in impacts on the CHP, which regulates traffic in the City. Slow-moving construction-related traffic on adjacent roadways could reduce optimal traffic flows and could delay emergency vehicles traveling through the area. However, this would not result in a significant impact on traffic flows because construction-related traffic would only occur during short periods of time during the day and would cease upon completion. In order to prevent slow-moving construction impacts, Mitigation Measure **MM PS-8** has been included to prepare a construction traffic control plan prior to the initiation of any construction activities, and reduce impacts to less than significant.

Operational Impacts

The LASD would have the responsibility to provide general law enforcement, including traffic control and enforcement, for the Project under the existing contract between the City and the

County. Based upon a growth rate of 3.10 persons per single-family dwelling unit, the Project would yield a population growth of approximately 1,798 persons.¹⁰⁹

The LASD has estimated the responses times to the Project site for emergent, priority, and routine service calls to be 5.2, 11.2, and 51.1 minutes, respectively. The estimated times are below the widely-accepted industry standards for emergent, priority and routine service of 10 minutes or less, 20 minutes or less, and 60 minutes or less, respectively.

Based on the LASD threshold of one deputy per 1,000 residents, the Project would generate the need for two additional deputies. This would increase the Santa Clarita Valley Sheriff Station shortfall from 79 deputies to 81 deputies. The LASD has also indicated that the retail, restaurant, and assisted living components of the Project are expected to increase the number of employees, patrons, and visitors entering that portion of the Station's service area on a daily basis, which would require the station to adjust its patrol and traffic enforcement resources and operations to provide necessary coverage. The Project would generate an increased demand for police services. To offset this potential increase, the Project as it develops, would create revenues from property and sales taxes that would be deposited into the City of Santa Clarita General Fund. A portion of these revenues would then be allocated, in accordance with the City of Santa Clarita and County of Los Angeles contractual service agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Station in response to related demands. In addition, capital facilities and equipment would be funded in part by the law enforcement facilities fee discussed above. Finally, the population growth for the Project site has been accounted for in the General Plan. Therefore, with the inclusion of **MM PS-9**, impacts related to police staffing or facilities impacts would be less than significant.

The LASD prescribes to the principles of Crime Prevention Through Environmental Design (CPTED), which includes defensible space, territoriality, surveillance, lighting, landscaping, and physical security. Implementing CPTED principles serves to discourage criminal activity, while encourage the legitimate use of proposed on-site uses. Potentially significant impacts to police protection could arise as a result of Project design. Incorporation of safety design techniques into the Project design (refer to Mitigation Measures **MM PS-10**) and implementation of applicable General Plan goals and policies, potentially significant security impacts to persons and property would be reduced to a less than significant level.

Level of Significance Before Analysis and Mitigation

Potentially significant.

¹⁰⁹ Based upon 3.10 persons per household. California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2015, with 2010 Benchmark (2015).

Mitigation Measures

MM PS-7	During construction, private security patrols shall be utilized to protect the Project site.
MM PS-8	Prior to construction activities, the Project Applicant shall have a construction traffic control plan approved by the City of Santa Clarita.
MM PS-9	Project Applicant, or designee, shall pay the City's law enforcement facilities impact fee in effect at the time of issuance of a building permit.
MM PS-10	<p>As final development plans are submitted to the City of Santa Clarita for approval in the future, the Los Angeles County Sheriff's Department design requirements that reduce demands for service and ensure adequate public safety shall be incorporated into the building design. The design requirements for this Project shall include:</p> <ul style="list-style-type: none"> • Proper lighting in open areas and parking lots to the satisfaction of the Los Angeles County Sheriff's Department, around and throughout the development to enhance crime prevention and enforcement efforts • Sufficient street lighting for the Project's streets • Good visibility of doors and windows from the streets and between buildings on the Project site • Building address numbers on both residential and commercial/retail uses are lighted and readily apparent from the streets for emergency response agencies • Plant low-growing groundcover and shade trees, to the extent feasible, rather than a predominance of shrubs that could conceal potential criminal activity around buildings and parking areas.

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM PS-7** through **MM PS-10**, impacts would be less than significant.

4.16-7 Cumulative Impacts

Cumulative population growth attributable to the Project and related projects would decrease the existing level of service of the LASD in the City and unincorporated areas in the Santa Clarita Valley. However, as the Project and related projects are developed, tax revenues from property and sales taxes would be generated and accrued by the City of Santa Clarita and Los Angeles County, as applicable. A portion of these revenues would then be allocated, in accordance with the City of Santa Clarita and County of Los Angeles contractual service agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Sheriff Station in response to related demands. Although the Project and related projects would increase demands for police services, these service demands can be met through the allocation of revenues collected from the cumulative project developments using existing sources. Therefore, less than significant impacts are anticipated.

Increased revenues generated by the Project and related projects via motor vehicle registration fees paid by new on-site residents would provide funding for additional staffing and equipment for the CHP that could be allocated by the CHP office to the Santa Clarita Valley Station to meet future demands. Based on the CHP's anticipation to maintain the same level of service, less than significant cumulative impacts on CHP services are anticipated.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.16-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This document was sourced to determine consistency with goals and policies of the General Plan.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010.

Riverpark Draft Environmental Impact Report, Impact Sciences, Inc., March 2004.

City of Santa Clarita, Operating Budget & Capital Improvements Program, Fiscal Year 2015-2016

Written correspondence from Tracey Jue, Director, Facilities Planning Bureau, Los Angeles County Sheriff's Department, February 2, 2016.

4.17 Schools

4.17-1 Summary

The Sulphur Springs Union School District (SSUSD) and the William S. Hart Union High School District (WSHUHSD) currently provide public elementary, junior/middle school, and senior high school education in the Project area. The Sand Canyon Plaza Mixed-Use Project would generate an estimated 214 elementary school students, 27 junior high students, and 72 high school students.

There are 9 elementary schools within the SSUSD, providing a total enrollment of 5,427 students as of March 2015. All schools within SSUSD are operating at or above capacity. As of the 2015/2016 school year, student enrollment within WSHUHSD was 26,161 students, and total student current design capacity was 20,825 seats. Therefore, WSHUHSD is currently operating at over-capacity conditions by 5,336 students at both the junior high school and high school levels, or approximately 126% of its capacity.

Implementation of the School Facilities Mitigation Agreement between the SSUSD and the Project Applicant (dated March 9, 2016) and the Agreement for Fair Share Funding of School Facilities between the WSHUHSD and the Project Applicant would mitigate all project impacts to less-than-significant.

Cumulative student generation under the Santa Clarita Valley Build-Out Scenario cannot be accommodated by existing or planned facilities within the school facilities that serve the Valley; therefore, cumulative impacts would be significant. Similar to the proposed Project, future development would likely be required to enter into mitigation agreements with each applicable school district. Compliance with these agreements would reduce cumulative impacts on the school districts to less than significant.

4.17-2 Introduction

This section describes the existing public education facilities within the City, identifies the regulatory framework with respect to regulations that address education facilities, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.17-3 Existing Conditions

The Sulphur Springs Union School District provides elementary school service (grades K through 6), while the William S. Hart Union High School District provides junior high education (grades 7 and 8) and high school education (grades 9 through 12) for the Project area.

Sulphur Springs Union School District

Nine elementary schools exist within the Sulphur Springs Union School District (SSUSD), providing a total enrollment of 5,427 students as of March 2015.¹¹⁰ The SSUSD has no plans to construct a new elementary school within its jurisdiction within the next few years. All of the schools within SSUSD are at or above capacity and will have no room to accommodate new development projects.

William S. Hart Union High School District

There six junior high schools and six high schools within the William S. Hart Union High School District (WSHUHSD). Sierra Vista Junior High School and Canyon High School would serve the Project. The WSHUHSD's school facilities in school year 2013/2014 had a capacity of 20,825 seats per Education Code Section 17071.10. Of these 20,825 seats, 6,320 were at the junior high school level and 14,505 were at the high school level. These capacities include seats from all new school facility construction projects funded by the state.

As illustrated in **Table 4.17-1** below, total 2013/2014 student enrollment within WSHUHSD was 25,028 students, and total student current design capacity was 20,825 seats. Therefore, WSHUHSD is currently operating at over-capacity conditions by 4,023 students at both the junior high school and high school levels. To accommodate existing and future students, WSHUHSD plans to open Castaic High School, which is scheduled to open in Fall 2019 for grade 9 students. The design capacity of Castaic High School would be similar to other WSHUHSD high schools.

Table 4.17-1 Hart District Enrollment/Capacity

School Level	2013/2014 Facilities Capacity	2013/2014 Student Enrollment	Excess/(Shortage) Capacity
Junior High School	6,320	7,301	(981)
High School	14,505	17,727	(3,222)
Total	20,825	25,028	(4,203)

Source: Table 5, William S. Hart Union School District, School Facilities Needs Analysis, May 16, 2014.

Note: Student enrollment from October 2013.

110 Source: <http://dq.cde.ca.gov/dataquest/Enrollment/GradeEnr.aspx?cChoice=DistEnrGr2&cYear=2014-15&cSelect=1965045--Sulphur%20Springs%20Union&TheCounty=&cLevel=District&cTopic=Enrollment&myTimeFrame=S&cType=ALL&cGender=B>, accessed March 23, 2016.

4.17-4 Regulatory Setting

1. State of California

Assembly Bill 2926

The State of California has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the state passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

Senate Bill 50

Senate Bill 50 (SB 50) and Proposition 1A (both of which passed in 1998) provided a comprehensive school facilities financing and reform program by, among other methods, authorizing a \$9.2 billion school facilities bond issue, school construction cost containment provisions, and an 8-year suspension of the Mira, Hart, and Murrieta court cases. Specifically, the bond funds are to provide \$2.9 billion for new construction and \$2.1 billion for reconstruction/ modernization needs. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions (e.g., general plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart, and Murrieta court cases. According to *California Government Code* §65996, the development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation.” These provisions remain in place as long as subsequent state bonds are approved and available.

SB 50 establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a district. These three levels are described below:

1. Level 1 fees are the base statutory fees. These amounts are the maximum that can be legally imposed upon new development projects by a school district unless the district qualifies for a higher level of funding.
2. Level 2 fees allow the school district to impose developer fees above the statutory levels, up to 50 percent of certain costs under designated circumstances. The state would match the 50 percent funding if funds are available. Under Level 2, the governing board of a school district may require a developer to finance up to 50 percent of new school construction costs. However, to qualify for Level 2 funding, the district must satisfy at least one of the following four requirements until January 1, 2000, or satisfy at least two of the four requirements after January 1, 2000:

- 1) Impose a Multi Track Year Round Education (MTYRE) with:
 - At least 30% of K-6 enrollment in the high school attendance area on MTYRE for unified and elementary school districts; or
 - At least 30% of high school district enrollment on MTYRE; or
 - At least 40% of K-12 enrollment on MTYRE within boundaries of the high school attendance area for which the district is applying for funding.
 - 2) Place a local bond measure on the ballot in the last four years which received at least 50 percent plus 1 of the votes.
 - 3) District has issued debt or incurred obligations for capital outlay equal to a specified (under *California Government Code* §65995.5(b)(3)(C)) percentage of its local bonding capacity.
 - 4) At least 20% of teaching stations within the district are portable classrooms.
3. Level 3 fees apply if the state runs out of bond funds after 2006, allowing the school district to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school moneys.

To accommodate students from new development projects, school districts may alternatively finance new schools through special school construction funding resolutions (e.g., the School Facilities Funding Mitigation Agreement) and/or agreements between developers, the affected school districts and, occasionally, other local governmental agencies. These special resolutions and agreements often allow school districts to realize school mitigation funds in excess of the developer fees allowed under SB 50.

2. City of Santa Clarita

General Plan

Applicable goals and policies from the General Plan Land Use Element are listed below.

Environmental Justice

Goal LU 8: Equitable and convenient access to social, cultural, educational, civic, medical and recreational facilities and opportunities for all residents.

Policy LU 8.1.1: Coordinate plans for new residential development with affected school districts to ensure adequate mitigation of impacts on school facilities; provision of facilities and programs to promote academic excellence for Santa Clarita Valley students; coordination on joint use of facilities and transportation; and long-range planning.

4.17-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to education facilities are contained in the Environmental Checklist contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to education facilities if any of the following could occur.

PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

4.17-6 Impacts Analysis

Sulphur Springs Union School District

The Project proposes the development of 580 residential units. Based upon a generation factor of 0.368 students per single-family or multi-family residential unit, the Project would generate approximately 214 elementary age students¹¹¹. As previously discussed, the Sulphur Springs schools are all at or above capacity. In addition, the Sulphur Springs Union School District has no room to accommodate students from the proposed development without full mitigation being provided by the Project.

The Project Applicant entered into a School Facilities Mitigation Agreement with the Sulphur Springs Union School District; the Agreement was executed on March 9, 2016 (refer to **Appendix 10-2** to this EIR). The Agreement stipulates that the Project Applicant shall pay 1.5 times the Level 2 fees (\$3.50) or \$5.25 per square foot, and for any age-restricted residential units or commercial uses, the Project Applicant shall pay the fees established in *California Education Code* §17620 and *California Government Code* §65993(b)(3) (non-residential mitigation payments). The Residential Mitigation Payment shall be adjusted annually with the District's revisions of its SFNA in conformance with *California Government Code* §65995.5 and §65995.6. In addition, the Project Applicant would receive credit for the assessable square footage of the existing on-site mobile home units as they are removed. Therefore, the Project Applicant would be required to pay the statutory fees as stipulated in the School Facilities Mitigation Agreement (refer to Mitigation Measure **MM PS-11**), reducing impacts to a less than significant level.

111 Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010

William A. Hart Union High School District

The WSHUSD provides student generation rates based upon the type of residential development. As illustrated in **Table 4.17-2** below, the Project would result in a total of 99 students – 27 junior high school students and 72 high school students.

Table 4.17-2 William S. Hart Union High School District Student Generation Rates

School	Student Generation Factor		Project Total*
	Single-Family Detached	Multi-Family	
Junior High School	0.1015	0.0277	27
High School	0.1748	0.1053	72

Source: Table 1, William S. Hart Union School District, School Facilities Needs Analysis, May 16, 2014.

*The Project involves the development of 434 multi-family attached units and 146 single-family detached residential units.

As illustrated in **Table 4.17-2**, WSHUSD is currently operating at over-capacity conditions by 4,203 students. To accommodate existing and future students, WSHUSD plans to open Castaic High School, which is scheduled to open in August 2017. WSHUSD would not displace currently assigned neighborhoods to accommodate new students. Therefore, the Project would result in less than significant impacts in this regard.

The Project Applicant is finalizing an Agreement for Fair Share Funding of School Facilities with WHUSD; the Agreement is expected to be executed in 2017 (refer to the draft Agreement included in **Appendix 10-2** to this EIR). The Agreement stipulates that the Project Applicant shall pay \$13,060.98 for any single-family dwelling unit, \$10,562.78 for any detached condominium unit, and \$6,707.58 for any multi-family dwelling unit. For any age-restricted residential units or commercial uses, the Project Applicant shall pay the fees established in *California Education Code* §17620 and *California Government Code* §65993(b)(3) (non-residential mitigation payments). In addition, the Project Applicant would receive credit for the assessable square footage of the existing on-site mobile home units as they are removed. Therefore, the Project Applicant would be required to pay the statutory fees as stipulated in the Agreement for Fair Share Funding of School Facilities (refer to Mitigation Measure **MM PS-12**), reducing impacts to a less than significant level.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM PS-11 The Project Applicant, or responsible party, shall pay the required mitigation fees to the Sulphur Springs Union School District as stipulated in the School Facilities Mitigation Agreement.

MM PS-12 The Project Applicant, or responsible party, shall enter into an Agreement with the William S. Hart Union High School District prior to final map. All fees shall be paid in accordance with the Agreement.

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM PS-11** and **MM PS-12**, impacts would be less than significant.

4.17-7 Cumulative Impacts

A significant cumulative impact could occur if a Project does not contribute its fair share to mitigate adverse effects on school facilities. Cumulative student generation under the Santa Clarita Valley Build-Out Scenario cannot be accommodated by existing or planned facilities within the school facilities that serve the Valley; therefore, cumulative impacts would be significant. Similar to the Project, future development would likely be required to enter into mitigation agreements with each applicable school district.

Cumulative impacts on schools can be mitigated through the school facilities funding agreements between the districts and the Project Applicant, or through other mechanisms, such as SB 50, the School Facilities Funding and Mitigation Agreement, and/or future facilities funding agreements between the districts and the developers of new projects. Assuming such mechanisms are implemented for each new development included in the related projects, cumulative impacts on schools caused by other future development would be mitigated to less than significant

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.17-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This document was sourced to determine consistency with goals and policies of the General Plan.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010.

William S. Hart Union School District, School Facilities Needs Analysis, May 16, 2014.

California Department of Education,

<http://dq.cde.ca.gov/dataquest/Enrollment/GradeEnr.aspx?cChoice=DistEnrGr2&cYear=2014-15&cSelect=1965045--Sulphur%20Springs%20Union&TheCounty=&cLevel=District&cTopic=Enrollment&myTimeFrame=S&cType=ALL&cGender=B>, accessed March 23, 2016.

4.18 Library Services

4.18-1 Summary

Occupancy of the Project's residential uses would increase the demand placed on the City of Santa Clarita's library facilities, increasing the need for additional library facility space and library items. Based on the City's library service level guideline of 0.50 square foot of library facilities per capita, the Project would require a total of 899 square feet of library facilities. Additionally, based on the City's library service level guidelines of 2.75 items per capita, it is anticipated that 4,945 library items would be required to serve the Project population.

Residents of the Project would generate new tax revenues and, as noted above, funding sources for the Santa Clarita Public Library consist of property taxes, state assistance, and revenue from fines, fees, and other miscellaneous revenue. The tax revenues collected would not adequately cover all the costs of serving the Project population, and a significant impact on the library system would result.

To minimize potentially adverse effects, the City established a library facilities mitigation fee program, and the Project Applicant would be required to remit payment pursuant to the City's program to account for library-related construction and acquisition costs. Based on the City's current library facilities fee of \$800 per residential unit, the estimated fees that would be collected from the Project to pay for new library construction and item purchases would be \$464,000.

Implementation of the Project and related projects would create additional demands on existing Library services and resources. The General Plan EIR concluded that that expected population at buildout of the General Plan is 275,000; and that population would require 756,250 library items and 137,500 square feet. Related projects would increase the City's population, number of businesses, and employment opportunities. By increasing the local population through the development of residential units, existing and future businesses would benefit from a larger customer base. These changes would increase tax revenues and would allow for additional funding for the Library, in addition to the Library Facilities Fee that would be required for all new residential development. Therefore, cumulative impacts would be less than significant.

4.18-2 Introduction

This section describes the existing library facilities within the City, identifies the regulatory framework with respect to regulations that address libraries, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon-Plaza Mixed-Use Project.

4.18-3 Existing Conditions

In 2011, the City of Santa Clarita assumed library services from Los Angeles County and established the Santa Clarita Public Library system. The City of Santa Clarita operates three public libraries within the City, which include Canyon Country Jo Anne Darcy Library, Old Town Newhall Library, and the Valencia Library. The public schools in the City's Planning Area maintain their own library collections. The Master's College and the California Institute of the Arts also provide private library facilities, and College of the Canyons has a library that is open to the public.

Currently, the Santa Clarita Public Libraries are open varying hours six to seven days per week; with Valencia Library open Sunday afternoons. Typical library hours range from 10:00 a.m. to 9:00 p.m. Monday through Thursday, with reduced hours on Fridays and weekends.

The Santa Clarita Public Library's first 3 years were marked by successful completion of the 2011-2014 Strategic Plan. The Old Town Newhall Library opened during this period, which combined with the Canyon Country Jo Anne Darcy Library and the Valencia Library, brought total library space to almost 71,000 square feet. The collection grew to 412,000 print, electronic, and audiovisual items. More than 4.7 million items were borrowed by 103,000 card holders.¹¹²

In Fiscal Year 2014-2015, the Santa Clarita Public Library received 894,329 Library patron visits, circulated 1,500,557 books and materials, issued 15,810 new Library cards, and filled 150,450 hold requests made by patrons. The libraries hosted 2,420 programs and welcomed 60,848 patrons of all ages at a Library program. Additionally, the libraries provided 216,173 patrons the use of public computers, and 61,400 patrons used the Library's free Wi-Fi service on their personal devices. Finally, visits to the Library's website increased by nearly 80% to 614,268 visits.¹¹³

Members of the community were enriched by 5,297 programs such as technology classes, Homework Help, and 25 story times per week. Five service priorities have been identified for 2015-2018: Technology, Facilities, 21st Century Literacy, Self-Enrichment, and Success in School. Strategies for service improvements in these five priority areas have been developed in response to input gathered from online surveys, paper surveys, community groups, and staff focus groups. In addition, the Saugus Library Center is identified as one of several projects and initiatives on the Santa Clarita 2020 Plan.

The Library's current planning guidelines specify 2.75 library material items per capita and 0.5 square foot per capita. In 2013-2014, the total collection included 384,601 items housed in 71,066

112 Source: Santa Clarita Public Library Strategic Plan 2015-2018

113 Source: City of Santa Clarita Public Library Fiscal Year 2014-2015 Annual Report.

square feet, which equates to 1.84 items per capita and 0.3398 square feet per capita. Both statistics are below the planning guidelines.^{114, 115}

The Santa Clarita Public Library is funded primarily by property taxes, rental income, miscellaneous revenues, including revenue from fines and fees, and developer fees for new residential development.

4.18-4 Regulatory Setting

1. State of California

There are no state statutes related to library resources that would apply to the Project.

California Library Services Act

It is the intent of the California Legislature to provide all residents the opportunity to obtain from their public libraries needed materials and informational services by facilitating access to the resources of all libraries in California. This policy shall be accomplished by assisting public libraries to improve service to the underserved of all ages, and by enabling public libraries to provide their users with the services and resources of all libraries in this state.

2. City of Santa Clarita

General Plan

The City'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. City policies pertaining to library services are included in Chapter 4, Economy and Community. Applicable goals and policies from the City's General Plan Land Use Element are listed below.

Goal LU 8: Equitable and convenient access to social, cultural, educational, civic, medical, and recreational facilities and opportunities for all residents.

Objective LU 8.1: Work with service providers to plan for adequate community facilities and services to meet the needs of present and future residents.

Policy LU 8.1.5: Coordinate with the Los Angeles County Library System to assist in expanding library services as needed to meet the needs of the community.

114 Source: State of California Public Library, 2013-2014 Collection, <http://www.countingopinions.com/pireports/report.php?f49b0d213d9bd5f8e8bda8381f211639>, accessed February 17, 2016.

115 Source: State of California Public Library, 2013-2014 Facility & Hours, <http://www.countingopinions.com/pireports/report.php?c088142c2751dd47fea6dc835cc17c32>, accessed February 17, 2016.

Library Facilities and Technology Mitigation Fee

Library impact fees are currently collected for new residential development within the City.¹¹⁶ The current library impact fee is \$800 per residential unit. The mitigation fee is subject to an annual Consumer Price Index (CPI) adjustment on July 1 of each year. In addition, State Bond Act money is available to all public libraries through competitive applications for state matching grants in three funding cycles.

4.18-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to library services are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to library services if any of the following could occur.

PS-1 Would the project create substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, including library facilities?

4.18-6 Impacts Analysis

Construction-related activities would not impact the Santa Clarita Public Library as the activities would not create a foreseeable demand for library services. That is, construction workers are not likely to frequent the Library system as a direct result of the Project.

Occupancy of the Project's residential uses would increase the demand placed on the City's library services, increasing the need for additional library facility space and library items. Based on the City's Library service level guideline of 0.50 square foot of library facilities per capita, the Project would require a total of 899 square feet of library facilities. And, based on the City's Library service level guidelines of 2.75 items per capita, it is anticipated that 4,945 items would be required to serve the Project population.

Residents of the Project would generate new tax revenues and, as noted above, funding sources for the Santa Clarita Public Library consist of property taxes, state assistance, and revenue from fines, fees, and other miscellaneous revenue. According to Library staff, increased tax revenues funding addresses only library operations and, because of uncertainty regarding General Fund contribution levels, it is not adequate to offset the impact of the Project on the Santa Clarita Public Library's

¹¹⁶ City of Santa Clarita Municipal Code, Section 17.51.010 Development Impact Fees.

ability to construct new libraries and purchase new items (e.g., books, periodicals, audio cassettes, videos). Consequently, the tax revenues collected would not adequately cover all the costs of serving the Project population, and a significant impact on the library system would result.

To minimize potentially adverse effects, the City established a library facilities mitigation fee program, and the Project Applicant would be required to remit payment pursuant to the City's program to account for library-related construction and acquisition costs. Based on the City's current library facilities fee of \$800.00 per residential unit, the estimated fees that would be collected from the Project to pay for new library construction and item purchases would be \$464,000.00.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

The following mitigation measure shall be implemented.

MM PS-13 The Project Applicant shall pay a library facilities mitigation fee. Currently this fee is \$800.00 per residential unit. This is the estimated fee that would be collected to pay for new library construction and items totaling \$464,000.00.

Level of Significance After Mitigation

With implementation of Mitigation Measure MM PS-13, impacts would be less than significant.

4.18-7 Cumulative Impacts

Implementation of the Project and related projects would create additional demands on existing Library services and resources. The General Plan EIR concluded that that expected population at buildout of the General Plan is 275,000; and that population would require 756,250 library items and 137,500 square feet. As the City reaches buildout, the Library system would need to supply an additional 195,936 items to meet the guidelines of 2.75 library items per capita, and would have a surplus of 45,172 square feet to meet the 0.5 square foot per capita criterion. Related projects would increase the City's population, number of businesses, and employment opportunities. By increasing the local population through the development of residential units, existing and future businesses would benefit from a larger customer base. These changes would increase tax revenues and would allow for additional funding for the Library, in addition to the Library Facilities Fee that would be required for all new residential development. Therefore, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.18-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. This document was sourced to determine consistency with goals and policies of the General Plan.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

City of Santa Clarita Municipal Code, Section 17.51.010 Development Impact Fees. Information sourced for requirement of impact fees.

Santa Clarita Public Library Strategic Plan 2015-2018.

City of Santa Clarita Public Library Fiscal Year 2014-2015 Annual Report.

State of California Public Library, 2013-2014 Collection,
<http://www.countingopinions.com/pireports/report.php?f49b0d213d9bd5f8e8bda8381f211639>,
accessed February 17, 2016. Information necessary for number of books and media
information acquired by the City.

State of California Public Library, 2013-2014 Facility & Hours,
<http://www.countingopinions.com/pireports/report.php?c088142c2751dd47fea6dc835cc17c32>
accessed February 17, 2016. Information sourced per each facility and hours of operation.

4.19 Traffic and Circulation

4.19-1 Summary

The Project is located on the northeast corner of the intersection of Sand Canyon Road and Soledad Canyon Road in the City of Santa Clarita. The Project site is illustrated in **Figure 4.19-1**. The Project includes development of the property with a mixed-use community consisting of approximately 130,600 square feet of commercial uses (including 55,600 square feet of retail/restaurants, and a 75,000-square-foot assisted living facility with up to 120 beds), 312 apartment units, 122 townhome units, and 146 condominium units, for a total of 580 residential units. The Project site currently includes 123 mobile homes that would be removed as part of the proposed development.

Based on the results of the LOS analyses and the criteria set forth by the City of Santa Clarita, the intersection of Sand Canyon Road at Soledad Canyon Road would be significantly impacted by the Project (i.e., impacted based on the “Existing Plus Project” condition). Mitigation identified for this scenario includes traffic signal modifications to coordinate Kenroy Avenue, Sand Canyon Avenue, and SR-14 southbound ramp intersections along Soledad Canyon Road, and a change to traffic signal phasing at the SR-14 southbound ramp intersection to provide a protective permissive westbound left-turn onto the ramp instead of the current permissive left-turn. Under the Los Angeles County CMP methodology, the Project does not result in a direct impact on the freeway ramps or mainline.

Under cumulative conditions, the intersection of Sand Canyon Road at Soledad Canyon Road would be significantly impacted by the Project. Because this impact is under cumulative conditions, the Project would contribute its pro rata share of the improvement cost, and the improvement would be implemented when necessary given the anticipated growth in future traffic volumes.

The analysis of the freeway ramps and the mainline under cumulative conditions indicates that the Project would not result in a significant impact on those facilities. However, the Project would contribute its pro rata share to the anticipated costs for design and implementation of future improvements on SR-14 as required by Caltrans.

The supplemental freeway and ramp facilities analysis for Project opening day conditions shows that the Project would not result in a significant impact on those facilities. However, Synchro/SimTraffic simulations show that the queue length at the SR-14 northbound off-ramp left-turn lane would exceed turn storage length due to downstream traffic blockage at the Sand Canyon Road and Soledad Canyon Road intersection. Mitigation identified for this scenario is identical to that identified in the “Existing Plus Project” scenario.

4.19-2 Introduction

This section presents the findings of a traffic study conducted to determine the impacts of the Sand Canyon Plaza Mixed-Use Project (Project) located in the City of Santa Clarita. This Traffic Impact Analysis (**Appendix 11-1** to this EIR) was prepared by Stantec Consulting Services Inc. (December 2016) in support of the Project's environmental documentation under the California Environmental Quality Act (CEQA) and is consistent with the requirements outlined in the City of Santa Clarita traffic study guidelines.

1. Project

The Project is located on the northeast corner of the intersection of Sand Canyon Road and Soledad Canyon Road in the City of Santa Clarita. The Project site is illustrated in **Figure 4.19-1, Traffic Study Area**. The Project includes development of the property with a mixed-use community consisting of approximately 130,600 square feet of commercial uses and 580 residential units as described in the Project Description. The Project site currently includes 123 mobile homes that would be removed as part of the proposed development.

The study area, along with intersection locations addressed in this traffic study, is shown in the previously referenced **Figure 4.19-1**. The study area includes intersections where the Project would generally add 50 or more trips during either the AM or PM peak hours.

2. Methodology

This traffic study evaluated the Project utilizing the established traffic analysis guidelines of the City of Santa Clarita. The scenarios analyzed are as follows:

1. Existing Conditions
2. Existing Plus Project
3. Cumulative (2030) Conditions Without Project
4. Cumulative (2030) Conditions With Project
5. Supplemental Analysis (2018 Analysis)

This analysis addresses both the hypothetical Existing plus Project scenario, which assumes immediate buildout of the entire Project, and the Cumulative Conditions scenario, which includes buildout of the Project as well as the related projects in the proximity of the study area. Impact methodology for each setting is discussed in the next section.

Additionally, a supplemental analysis for freeway segments and ramp locations was performed for the Project Opening Day (2018) conditions at the request of the California Department of Transportation (Caltrans).

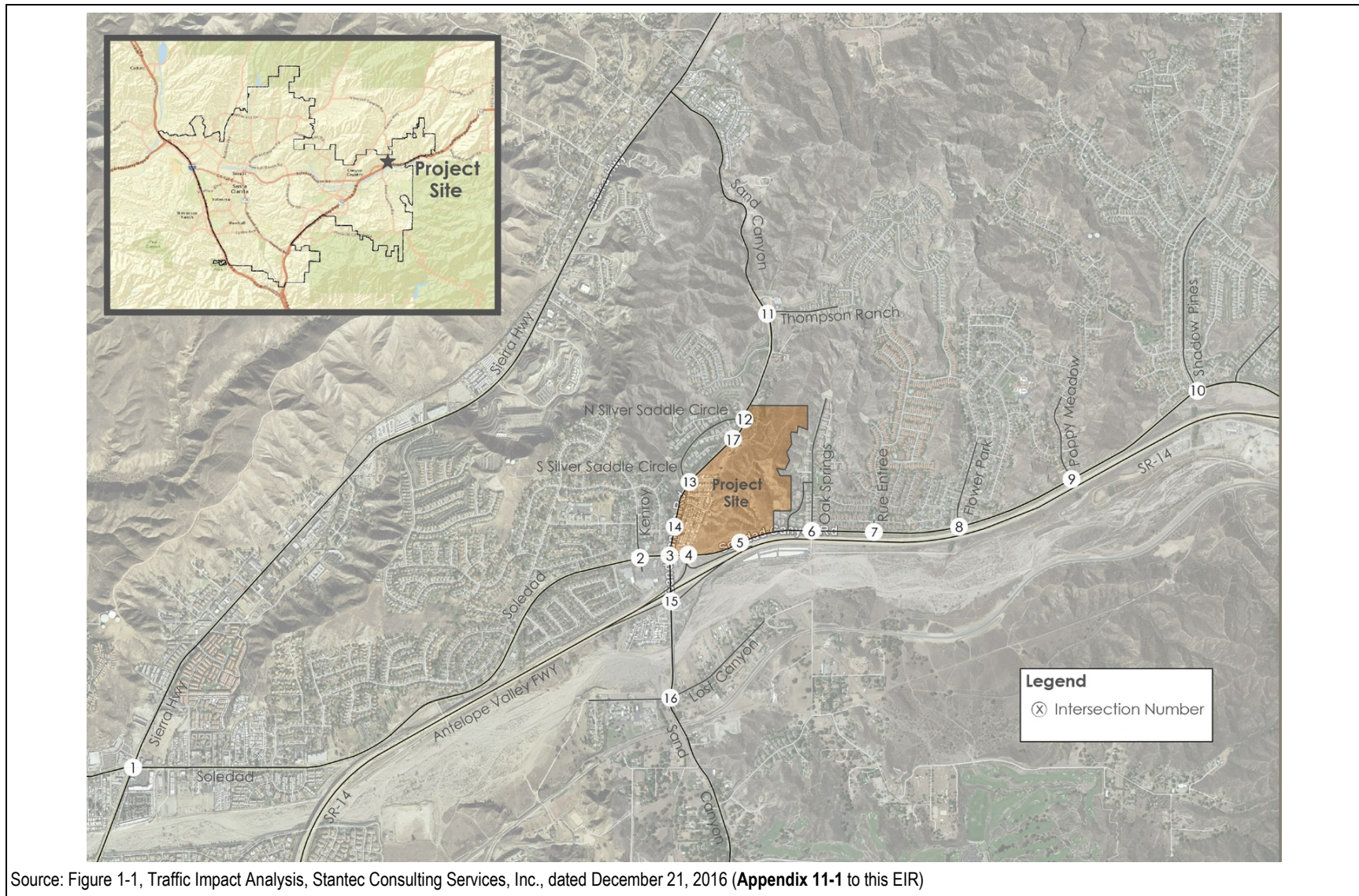


Figure 4.19-1 Traffic Study Area

3. Traffic Model

The Santa Clarita Valley is a growing area with numerous proposed, approved, and pending projects (i.e., “Related Projects”), and to forecast the complex interaction of vehicle trips between existing and future land uses, the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) is utilized.

The SCVCTM was developed jointly by the County of Los Angeles Department of Public Works and the City of Santa Clarita and is the primary tool used for forecasting traffic volumes for the Santa Clarita Valley. The SCVCTM has the ability to provide traffic volume forecasts for a long-range setting, which represents buildout conditions (generally considered as year 2035 or later), as well as Interim Year forecasts that are based on a defined list of planned, approved, and pending projects. The SCVCTM is regularly updated with known cumulative projects and the buildout version of the model is based on the currently approved General Plans of the County of Los Angeles and City of Santa Clarita.

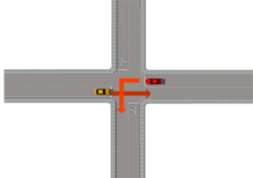
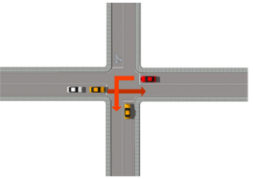
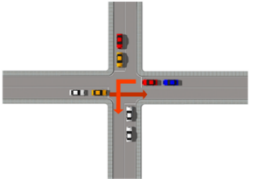


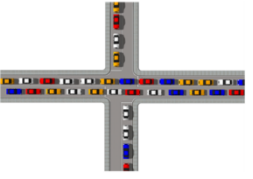
4. Performance Criteria

Arterial Roadways and Intersections

Defined performance criteria are utilized to determine if a proposed project would cause a significant impact. Performance criteria are typically based on two primary measures. The first is “capacity,” which establishes the vehicle-carrying ability of a roadway, and the second is “volume.” The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. For arterial roadways in an urban or suburban setting, the intersection of two roadways will typically be the limiting factor regarding the overall capacity of the roadway network.

Methodology outlined in the 2010 Highway Capacity Manual (HCM 2010) produces estimates of average vehicle delay as a function of intersection capacity and the volume of traffic passing through the intersection. From this a corresponding level of service (LOS) is defined. Traffic LOS is designated “A” through “F” with LOS A representing free flow conditions and LOS F representing severe traffic congestion. Traffic flow quality for each LOS is described in **Table 4.19-1, Level of Service Descriptions – Intersections**.

Table 4.19-1 Level of Service Descriptions – Intersections

LOS	Traffic Flow Description	Delay (sec/veh)
A	 <p>Minimal or no vehicle delay</p>	0 – 10.00
B	 <p>Slight delay to vehicles</p>	10.01 – 20.00
C	 <p>Moderate vehicle delays, traffic flow remains stable</p>	20.01 – 35.00
D	 <p>More extensive delays at intersections</p>	35.01 – 55.00
E	 <p>Long queues create lengthy delays</p>	55.01 – 80.00
F	 <p>Severe delays and congestion</p>	> 80.01

Source: HCM 2010

The indicated values of delay are applicable to signalized intersections

sec/veh = seconds per vehicle

Source: Table 1-1, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11-1 to this EIR)

Table 4.19-2 below summarizes the ranges of vehicle delay that correspond to LOS A through LOS F for arterial roads and intersections. The ranges are those defined in the HCM 2010 and are used by the City of Santa Clarita for estimating intersection LOS.

Table 4.19-2 Intersection Delay Level of Service Ranges

LOS	Roadway Volume-to-Capacity (V/C) Ranges	Highway Capacity Manual (HCM) Average Delay for Signalized Intersections and Roundabouts (seconds per vehicle)	HCM Average Delay for Unsignalized Intersections (seconds per vehicle)
A	0.00 – 0.60	≤10	0 – 10
B	0.61 – 0.70	>10 – 20	>10 – 15
C	0.71 – 0.80	>20 – 35	>15 – 25
D	0.81 – 0.90	>35 – 55	>25 – 35
E	0.91 – 1.00	>55 – 80	>35 – 50
F	Above 1.00	>80	>50

Source: Table 1-2, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11 to this EIR); and Congestion Management Program of Los Angeles County; HCM 2010

In establishing delay-based performance criteria, certain items need to be addressed to obtain suitable delay estimates and relate them to LOS. For instance, while average daily traffic (ADT) is a useful measure to show general levels of traffic on a facility and to provide data for other related aspects such as noise and greenhouse gas (GHG) emissions, congestion is largely a peak hour or peak period occurrence and ADT does not reflect peak period conditions very effectively. Because of this, ADT is not used here as the basis for capacity evaluation but instead this evaluation focuses on those parts of the day when such congestion can occur, specifically the AM and PM peak hours.

For the arterial system, the peak hour is the accepted time period used for impact evaluation, and a number of techniques are available to define intersection LOS. Both the level of delay and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable by the City, and increases in delay that cause or contribute to the LOS being unacceptable are defined as a significant impact. These definitions and procedures are established by individual local jurisdictions, such as the City of Santa Clarita.

Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours and the geometric configuration of the intersection. Synchro software was used to calculate the intersection delay and LOS. For signalized intersections, this methodology assumes optimized signal timing/phasing for existing and future signal analysis.

The HCM 2010 calculation methodology and associated LOS performance standards used in this analysis are summarized in **Table 4.19-3** below.

Table 4.19-3 Arterial Intersection Performance Criteria

<p>Delay Methodology</p> <p>Calculation Methodology</p> <p>Level of service based on "average vehicle delay" calculated as follows:</p> <ul style="list-style-type: none"> - Synchro/HCM delay based intersection methodology for traffic signals - HCM 2010 delay based intersection methodology for stop sign control - Sidra delay based intersection methodology for roundabouts <p>Performance Standard</p> <p>Level of Service D defined as follows:</p> <ul style="list-style-type: none"> - stopped delay to not exceed 55 seconds for signalized intersections - stopped delay to not exceed 35 seconds for stop sign control - stopped delay to not exceed 50 seconds for roundabouts
<p>Significant Impact Thresholds – An intersection is considered to be significantly impacted if the Project would:</p> <ul style="list-style-type: none"> - Worsen an intersection maintained by the City of Santa Clarita from LOS D or better to LOS E or F - Cause the following increase in delay at an intersection maintained by the City of Santa Clarita that operated (with the Project) at LOS D or worse <ul style="list-style-type: none"> - LOS D with the Project: more than 4-second increase in delay is significant - LOS E or F with the Project: more than 2-second increase in delay is significant <p>Note: For intersections under joint jurisdiction of the City and Caltrans, the analysis utilizes the corresponding threshold of the local agency (City) as applicable.</p>

Source: Table 1-3, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11** to this EIR)

LOS – Level of Service

Freeways

Table 4.19-4 summarizes the volume-to-capacity ranges that correspond to LOS A through LOS F for segments. The V/C ranges listed for freeway segments are based on the V/C and LOS relationships specified in the HCM 2010¹¹⁷ for basic freeway sections with free-flow speeds of 65 miles per hour, and the V/C methodology is specified in the Los Angeles County Congestion Management Plan (CMP) for the evaluation of CMP freeway monitoring stations. Caltrans recommends the HCM volume density methodology for the analysis of freeway mainline segments. Each approach has been utilized for this analysis.

Table 4.19-4 Volume/Capacity Ratio Level of Service Ranges

LOS	Freeway Segment V/C Ranges (based on a free flow speed of 65 mph)
A	0.00 – 0.30
B	0.31 – 0.50
C	0.51 – 0.71
D	0.72 – 0.89
E	0.90 – 1.00
F	Above 1.00







Source: Table 1-5, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR); and Congestion Management Program of Los Angeles County and HCM 2010

The analysis of the freeway system is based on peak hour volumes by direction. The measure used to provide an estimate of LOS can be V/C, speed (miles per hour), or density (passenger cars per mile per lane).

117 "Highway Capacity Manual 2010," Transportation Research Board, National Research Council, 2010.

Freeway traffic flow quality for each LOS is described in **Table 4.19-5**.

Table 4.19-5 Level of Service Descriptions – Freeways

LOS		Traffic Flow Description	Density (pc/mi/ln)
A		Free-flow conditions. Free-flow speed prevails and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.	≤11
B		Reasonably free-flow operations, and free-flow speed on the freeway is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.	>11 – 18
C		Traffic flow and speeds near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.	>18 – 26
D		Speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.	>26 – 35
E		Operation at capacity. Operations on the freeway at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. The physical and psychological comfort afforded to drivers is poor.	>35 – 45
F		Breakdown, or unstable flow. Breakdown occurs when the ratio of demand to capacity exceeds 1.00. Whenever queues due to a breakdown exist, they have the potential to extend upstream for considerable distances.	>45
<p>Source: HCM 2010 pc/mi/ln = passenger cars per mile per lane</p>			

Source: Table 1-4, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

As with the arterial roadways and intersections, certain LOS values are deemed unacceptable, and increases in the V/C ratio that cause or contribute to the LOS being unacceptable are defined as a significant impact. Note that while the Caltrans guidelines for the preparation of traffic studies recommend the HCM 2010 method for the evaluation of state highway facilities, those guidelines

do not include a threshold of significance criteria for the determination of a significant project impact that is based on the HCM 2010 methodologies. While the Caltrans guidelines do not identify specific impact criteria due to differences between rural and urban areas of the state, as well as differences between the northern, central, and southern regions, the local Caltrans Districts will determine the impact criteria based on the appropriate requirements of that District. For this analysis, the thresholds of significance criteria specified by the LA County CMP are utilized.

The freeway mainline and ramp V/C calculation methodology and associated impact criteria for the study area freeway system are summarized in **Table 4.19-6**. The County CMP specifies that LOS E or existing LOS, whichever is worse, represents the performance standard for freeway segments, and the Caltrans goal is to maintain no worse than LOS E in urban areas.

Table 4.19-6 Six Freeway Mainline Segments Performance Criteria

V/C Calculation Methodology	
Level of service to be based on peak hour V/C values calculated using the following assumptions for a planning level analysis:	
Saturation/Service Flow Rates:	
Mainline Mixed-flow/General Purpose Lane:	2,000 vehicles/hour/lane
High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane:	1,600* vehicles/hour/lane
Auxiliary Lane:	1,000 vehicles/hour/lane
Saturation flow rates derived from Caltrans PeMS data and through discussions with Caltrans staff.	
Impact Threshold	
A freeway mainline segment is considered to be significantly impacted if each of the following conditions is met:	
<ul style="list-style-type: none"> - The segment is forecast to operate deficiently (i.e., worse than LOS E (urban areas) or existing LOS, whichever is worse) - Compared to the V/C in the No-Project alternative, the V/C in the With Project alternative increases by greater than or equal to .02 (the impact threshold specified in the CMP) 	

Source: Table 1-7, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11** to this EIR)

*For buffered or contiguous HOV facilities, LOS C occurs at approximately 1,650 vph, or less if there is significant bus volume or if there are physical constraints (source: High Occupancy Vehicle Guidelines for Planning, Design and Operations, Caltrans, 2003, Chapter 2, page 4). For the purpose of planning studies, Caltrans District 7 has specified a capacity of 1,600 vph based on the desire to maintain an operating condition for the HOV lanes that is better than for general purpose lanes. As such, a V/C ratio of 1.00 in the HOV lane represents a better operating condition than a V/C ratio of 1.00 in the general purpose lanes.

PeMS – Performance Monitoring System; CMP – Congestion Management Program

4.19-3 Existing Conditions

1. Existing Roadway System

The Project is located in the northeast corner at the intersection of Soledad Canyon Road and Sand Canyon Road. The portion of Soledad Canyon Road in the study area is located north of the SR-14 Freeway and is designated as a Major Highway in the City of Santa Clarita General Plan as shown in **Figure 4.19-2, Master Plan of Highways**. It is an east-west arterial with six lanes between Sierra Highway and Galetton Road, and four lanes for the remaining portion in the study area.

Sand Canyon Road is a north-south arterial with mostly two lanes between Sierra Highway and Soledad Canyon Road, four lanes between Soledad Canyon Road and SR-14 northbound ramps, and back down to two lanes south of SR-14 northbound ramps. It is designated as a Major Highway between Soledad Canyon Road and Lost Canyon Road, a Secondary Highway between Sierra Highway and Soledad Canyon Road, and a Limited Secondary Highway south of Lost Canyon Road.

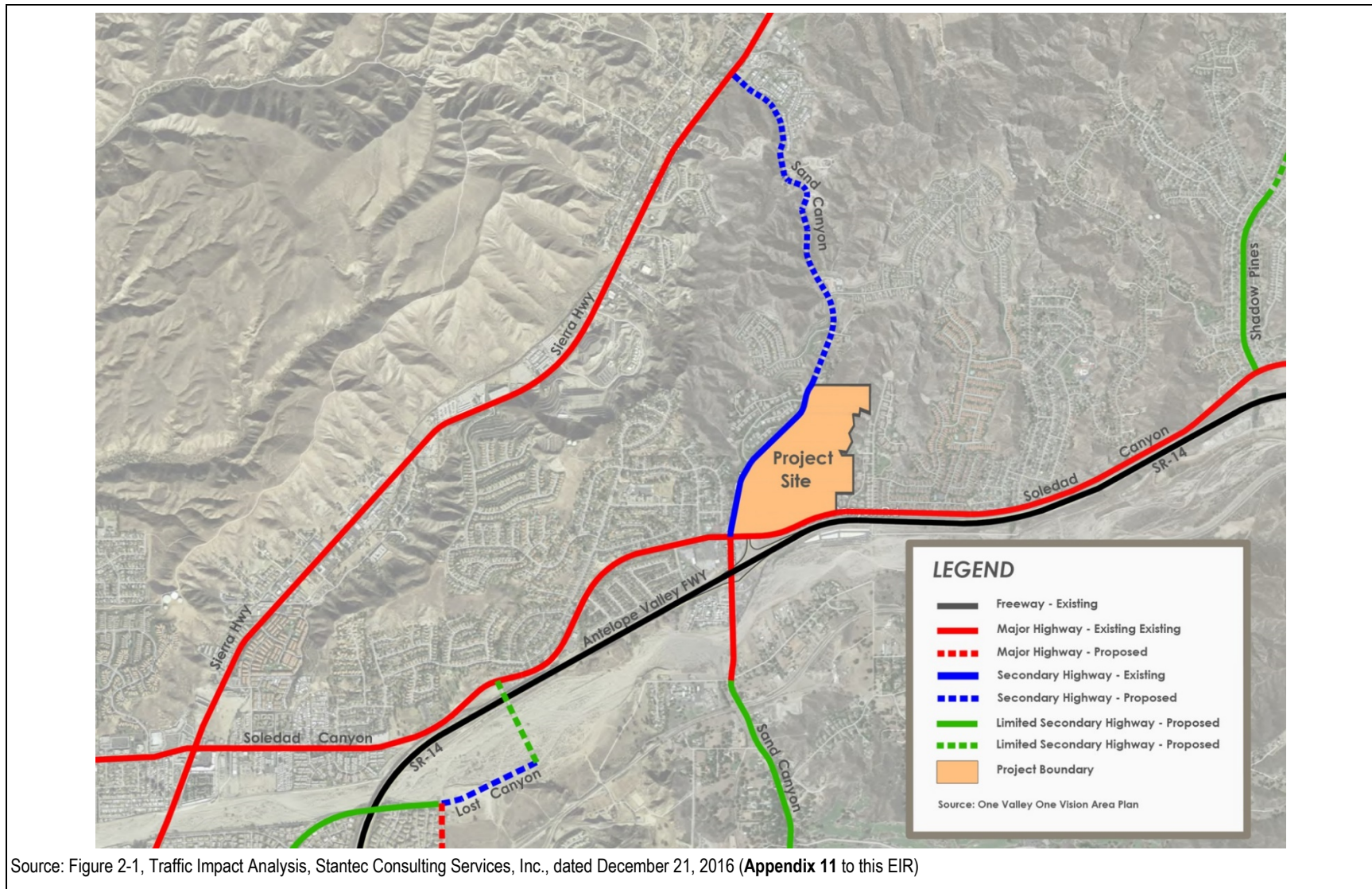


Figure 4.19-2 Master Plan of Highways

The portion of Sierra Highway within the study area is also classified as a Major Highway with four lanes between Sand Canyon Road and Soledad Canyon Road.

The SR-14 Freeway is located south of the Project site. It provides access to the Antelope Valley to the northeast, and connects to the I-5 Freeway to the southwest.

The results of the LOS analysis for the study area intersections under existing conditions are shown in **Table 4.19-7**. The signalized intersections and the stop-controlled intersections in the study area were analyzed using HCM delay methodology. Detailed LOS calculation worksheets are provided in Appendix B of the Traffic Impact Analysis (**Appendix 11** to this EIR). The table below shows that all the study area intersections currently operate at LOS C or better except for Sierra Highway at Soledad Canyon Road, which is operating at LOS E in the AM peak hour and LOS D in the PM peak hour, and Sand Canyon Road at Lost Canyon Road, which is operating at LOS D in the AM peak hour. Queue length counts were collected at the study area freeway ramp intersection locations, and average queue lengths were estimated based on an average distance of 25 feet per vehicle.

Table 4.19-7 Intersection LOS Summary – Existing Conditions

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour		Count Date
		Delay	LOS	Delay	LOS	
1. Sierra Hwy & Soledad Canyon	Signalized	60.4	E	44.8	D	2/17/2015
2. Kenroy & Soledad Canyon	Signalized	13.2	B	12.9	B	5/5/2015
3. Sand Canyon & Soledad Canyon	Signalized	30.3	C	26.0	C	2/17/2015
4. SR-14 SB Ramp & Soledad Canyon	Signalized	9.8	A	11.3	B	3/15/2016
6. Oak Springs Canyon & Soledad Canyon	Signalized	15.1	B	12.8	B	2/17/2015
7. Rue Entree & Soledad Canyon	Signalized	14.3	B	13.0	B	2/17/2015
8. Flower Park & Soledad Canyon	Signalized	14.0	B	12.5	B	2/19/2015
9. Poppy Meadow & Soledad Canyon	Signalized	12.9	B	12.4	B	2/17/2015
10. Shadow Pines & Soledad Canyon	Signalized	8.4	A	11.7	B	2/19/2015
11. Sand Canyon & Thompson Ranch	Signalized	6.0	A	4.9	A	2/17/2015
12. Sand Canyon & N Silver Saddle	Two-Way Stop	11.9	B	10.8	B	2/17/2015
13. Sand Canyon & S Silver Saddle	Two-Way Stop	11.6	B	10.1	B	2/17/2015
15. Sand Canyon & SR-14 NB Ramp	Signalized	13.5	B	20.6	C	3/15/2016
16. Sand Canyon & Lost Canyon Rd	All-Way Stop	27.4	D	14.4	B	2/19/2015

Source: Table 2-1, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11** to this EIR)

Each freeway segment in the study area currently operates under capacity, except for the SR-14 southbound and northbound between Placerita Canyon Road and Newhall Avenue and SR-14 southbound between Golden Valley Road and Placerita Canyon Road. Each freeway ramp in the study area currently operates at an acceptable LOS.

2. Public Transportation

The Project site is currently serviced by City of Santa Clarita Transit (SCT) Route 5, with the nearest stop at the intersection of Kenroy Avenue and Soledad Canyon Road. SCT Routes 5 travels along Soledad Canyon Road and provides services between the Eastside of the City and Stevenson Ranch with stops at the Santa Clarita and Newhall Metrolink stations, as well as at the McBean Regional Transit Center. Additional routes, accessible from this route, provide service to the greater Santa Clarita Valley area.

SCT Commuter Express offers express commuter bus travel to Los Angeles, Warner Center, Van Nuys, Century City and the Antelope Valley. Three Metrolink stations exist within the City of Santa Clarita, which serve the Antelope Valley line. This line travels between Lancaster and Union Station, Los Angeles.

3. Bicycle and Pedestrian Facilities

The City of Santa Clarita approved the Non-Motorized Transportation Plan Update in September 2014, and it provides a comprehensive overview of the state of bicycling and walking in the city as well as direction for future investments in bicycle and pedestrian facilities programs.

The Project site is currently served by Class II Bike Lanes along Soledad Canyon Road between Galeton Road and Shadow Pines Boulevard. It would also be served by a proposed Class I Bike Path that would be completely separated from the roadway for the exclusive use of bicycles and pedestrians along Sand Canyon Road between Soledad Canyon Road and the northern Project boundary. The County of Los Angeles and the City of Santa Clarita each have Bicycle Master Plans (BMPs) with additional facilities planned in the Project area. **Figure 4.19-3, Existing and Future Bicycle Facilities** illustrates the existing and planned future bicycle facilities in the area.

4.19-4 Regulatory Setting

1. Federal

Transportation Security Administration

The Transportation Security Administration (TSA) is a component of the Department of Homeland Security (DHS) and is responsible for security of the nation's transportation systems. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports. A majority of its resources are dedicated to aviation security and especially screening passengers and baggage.

National Incident Management System/Standardized Emergency Management System

The National Incident Management System/Standardized Emergency Management System (NIMS) is a tool for states, counties, and local jurisdictions to respond to catastrophic events through better communication and coordination. NIMS provides a consistent nationwide template to enable federal, state, local, and tribal governments and private sector and non-governmental organizations to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of catastrophic terrorism.

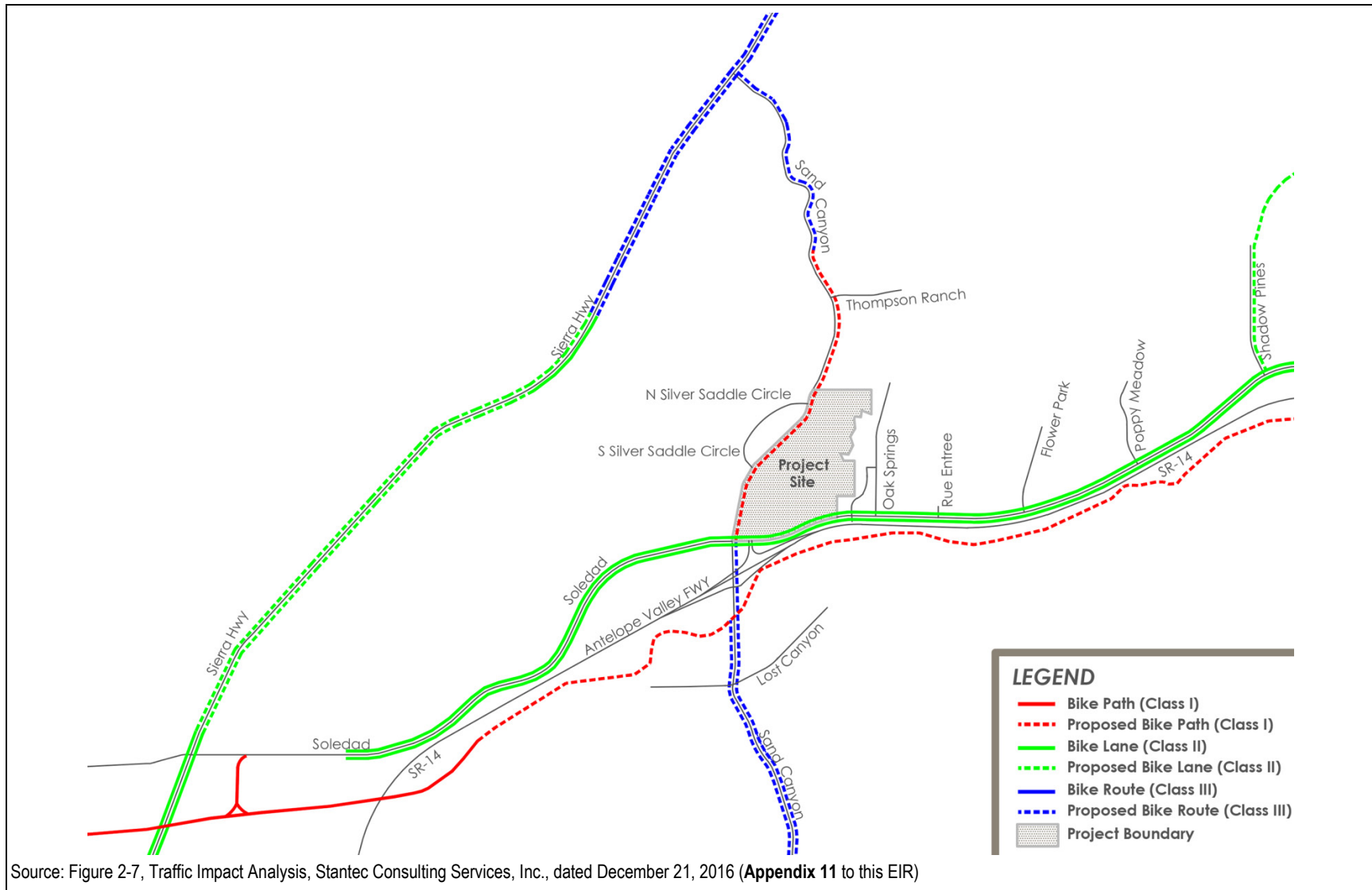


Figure 4.19-3 Existing and Future Bicycle Facilities

California has a similar management system called the Standard Emergency Management System (SEMS) which is mandated under *California Government Code §8607(a)*. State of California Executive Order S205 requires the state to integrate, to the extent appropriate, the NIMS, into the state's SEMS.

2. State of California

Regional Transportation Improvement Program

The Regional Transportation Improvement Program (RTIP) is the Southern California Association of Government's (SCAG) compilation of state, federal, and local funded transportation projects. In addition to projects identified in the State Transportation Improvement Program (STIP), the RTIP includes federal Congestion Mitigation and Air Quality Improvement (CMAQ) and Surface Transportation Program (STP) funds, other federal funds, and projects entirely funded out of local and private funds. The RTIP identifies all transportation projects proposed over a 6-year period for the SCAG region. The projects include highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, and freeway ramps.

Regional Transportation Plan/Sustainability Communities Strategy

The Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range transportation and land use plan that is developed and updated by SCAG every 4 years. The RTP provides a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out over a 20-year period, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address our mobility needs.

The SCS integrates land use and transportation strategies that will achieve Air Resources Board (ARB) emissions reduction targets in compliance with the Senate Bill 375 regulations.

Senate Bill 375

Senate Bill 375 (SB 375) requires metropolitan planning organizations (MPOs) to prepare a SCS that demonstrates how the region will meet its greenhouse gas (GHG) reduction targets through integrated land use, housing and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the plan area and will reduce GHG emissions from automobiles and light trucks in accordance with targets set by the California Air Resources Board. The targets for SCAG are a 9% reduction in per capita transportation by 2020 and 16% by 2035.

Senate Bill 743

Senate Bill 743 (SB 743) was enacted in July 2014. The bill limits the use of LOS as a criterion for impact identification under CEQA. Key SB 743 language includes the following:

- (b)(1) The Office of Planning and Research shall prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the guidelines adopted pursuant to Section 21083 establishing criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, the office shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. The office may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section.
- (2) Upon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any.

As indicated in Section (b)(1), the Office of Planning and Research (OPR) is required to prepare revisions to the CEQA Guidelines establishing new significance criteria within transit priority areas. In section (2), the statute states that upon certification of those guidelines, LOS may no longer be used except if specifically identified in the guidelines. OPR has indicated that maintaining LOS would not “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” as required by the statute.

Thresholds have been refined and are now aligned with the state’s climate policies.

“... OPR finds, absent any more project-specific information to the contrary, that *VMT fifteen percent below that of existing development* may be a reasonable threshold...” –

Threshold suggestions recognize the diversity of communities across the state. Threshold suggestions allow for quick screening of smaller projects. Transit Oriented Development (TOD) projects still presumed to be LTS.

California Emergency Management Agency

The California Emergency Management Agency (EMA) is responsible for assuring the state's readiness to respond to and recover from natural, human-made, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response, and recovery efforts. The EMA serves as the central contact point in the state for any emergency or imminent disaster. It coordinates the notification of appropriate state administering agencies that may be required to respond, as well as the emergency activities of all state agencies in the event of an emergency. In doing so, the EMA does not focus on security specifically, but rather more broadly on addressing all potential incidents that could affect the state, such as earthquakes, fires, floods, and terrorist attacks. Furthermore, EMA coordinates with federal agencies, such as the DHS and FEMA, as well as other state and local agencies such as the CHP. California's vision, mission, and principles for emergency management, as well as goals and objectives are located in its publication "Strategic Plan 2010–2015 – Keeping California Safe."

California Complete Streets Act

In California, a multimodal/complete streets assessment is required by law. The California Complete Streets Act of 2008 (AB 1358, Chapter 657, 2009), was adopted into law on September 30, 2008. Commencing January 1, 2011, the bill requires "that the legislative body of a city or county, upon any substantive revision of the circulation element of the general plan, modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan."

3. City of Santa Clarita

General Plan

The City'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 programs that were developed to accomplish the goals and policies of the General Plan. Applicable goals and policies from the General Plan Circulation Element are listed below.

Multi-Modal Circulation Network

- Goal C 1: An inter-connected network of circulation facilities that integrates all travel modes, provides viable alternatives to automobile use, and conforms with regional plans.
- Objective C 1.1: Provide multi-modal circulation systems that move people and goods efficiently while protecting environmental resources and quality of life.

- Policy C 1.1.1: Reduce dependence on the automobile, particularly single-occupancy vehicle use, by providing safe and convenient access to transit, bikeways, and walkways.
- Policy C 1.1.2: Promote expansion of alternative transportation options to increase accessibility to all demographic and economic groups throughout the community, including mobility-impaired persons, senior citizens, low-income persons, and youth.
- Policy C 1.1.3: Work with local and regional agencies and employers to promote an integrated, seamless transportation system that meets access needs, including local and regional bus service, dial-a-ride, taxis, rail, van pools, car pools, bus pools, bicycling, walking, and automobiles.
- Policy C 1.1.4: Promote public health through provision of safe, pleasant, and accessible walkways, bikeways, and multi-purpose trail systems for residents.
- Policy C 1.1.5: Plan for efficient links between circulation systems at appropriate locations, including but not limited to bus-rail connections and pedestrian-bus connections.
- Policy C 1.1.6: Provide adequate facilities for multi-modal travel, including but not limited to bicycle parking and storage, expanded park-and-ride lots, and adequate station and transfer facilities in appropriate locations.
- Policy C 1.1.7: Consider the safety and convenience of the traveling public, including pedestrians and cyclists, in design and development of all transportation systems.
- Policy C 1.1.8: Acquire and/or reserve adequate right-of-way in transportation corridors to accommodate multiple travel modes, including bus turnouts, bus rapid transit (BRT), bikeways, walkways, and linkages to trail systems.
- Policy C 1.1.9: Incorporate funding for all modes of transportation in the capital improvement program, and seek funding from all available sources for multi-modal system development.
- Policy C 1.1.10: Provide for flexibility in the transportation system to accommodate new technology as it becomes available, in order to reduce trips by vehicles using fossil fuels where feasible and appropriate.
- Policy C 1.1.11: Promote use of multi-modal facilities by providing adequate and attractive way-finding programs directing users to transit stations, park-and-ride lots, bicycle storage, and other facilities.
- Policy C 1.1.12: Implement recommendations of the City's Non-Motorized Transportation Plan to expand opportunities for alternative travel modes.

- Policy C 1.1.13: Design new activity centers and improve existing activity centers to prioritize walking, bicycling and circulator transit for internal circulation of person-travel.
- Objective C 1.2: Coordinate land use and circulation planning to achieve greater accessibility and mobility for users of all travel modes.
- Policy C 1.2.1: Develop coordinated plans for land use, circulation, and transit to promote transit-oriented development that concentrates higher density housing, employment, and commercial areas in proximity to transit corridors.
- Policy C 1.2.2: Create walkable communities, with paseos and walkways connecting residential neighborhoods to multi-modal transportation services such as bus stops and rail stations.
- Policy C 1.2.3: Require that new commercial and industrial development provide walkway connections to public sidewalks and transit stops, where available.
- Policy C 1.2.4: Consider location, availability, and accessibility of transit in evaluating new development plans.
- Policy C 1.2.5: In mixed use projects, require compact development and a mix of land uses to locate housing, workplaces, and services within walking or bicycling distance of each other.
- Policy C 1.2.6: Provide flexible standards for parking and roadway design in transit-oriented development areas to promote transit use, where appropriate.
- Policy C 1.2.7: In pedestrian-oriented areas, provide a highly connected circulation grid with relatively small blocks to encourage walking.
- Policy C 1.2.8: Provide safe pedestrian connections across barriers, which may include but are not limited to major traffic corridors, drainage and flood control facilities, utility easements, grade separations, and walls.
- Policy C 1.2.9: Emphasize providing right-of-way for non-vehicular transportation modes so that walking and bicycling are the easiest, most convenient modes of transportation available for short trips.
- Policy C 1.2.10: Protect communities by discouraging the construction of facilities that sever residential neighborhoods.
- Policy C 1.2.11: Reduce vehicle miles traveled (VMT) through the use of smart growth concepts.
- Policy C 1.2.12: Balance the anticipated volume of people and goods movement with the need to maintain a walkable and bicycle friendly environment.

4.19-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related traffic and circulation are contained in the Environmental Checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse traffic and circulation impacts if any of the following could occur.

-
- T-1** Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
 - T-2** Would the project conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?
 - T-3** Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
 - T-4** Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
 - T-5** Would the project result in inadequate emergency access?
 - T-6** Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
-

4.19-6 Impacts Analysis

Project Trip Generation

The Project is a mixed-use community consists of approximately 130,600 square feet of commercial uses, 312 apartment units, 122 townhome units, and 146 condominium units. The Project site currently includes 123 mobile homes that would be removed as part of the proposed development and is shown in **Table 4.19-8** below.

Table 4.19-8 Trip Generation Rates

Category	ITE Code	Units	AM Peak Hour			PM Peak Hour			Average Daily Trip Ends	Source
			In	Out	Total	In	Out	Total		
1. Single-Family Detached Housing	210	DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52	ITE 9 th Edition
2. Condominium/Townhouse	NA	DU	0.06	0.48	0.54	0.47	0.26	0.73	8.00	LACo TIA Guidelines 1997
3. Apartment	220	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.65	ITE 9 th Edition
4. Assisted Living	254	Beds	0.09	0.05	0.14	0.1	0.12	0.22	2.66	ITE 9 th Edition
5. Mobile Home Park	240	DU	0.09	0.35	0.44	0.37	0.22	0.59	4.99	ITE 9 th Edition
6. Shopping Center	820	TSF	AM – $\ln(T) = 0.61 \ln(X) + 2.24$, 62% IB / 38% OB PM – $\ln(T) = 0.67 \ln(X) + 3.31$, 48% IB / 52% OB ADT – $\ln(T) = 0.65 \ln(X) + 5.83$, 50% IB / 50% OB						ITE 9 th Edition	

Source: Table 3-1, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

DU = Dwelling Unit; LACo = Los Angeles County

TSF = Thousand Square Feet; X = Amount of Land Use in Thousand Square Feet; ADT = Average Daily Trip Ends; T = Trip Ends

The Project includes approximately 55,600 square feet of retail commercial and restaurant uses. According to the ITE Trip Generation Manual, trip generation characteristics for retail commercial shopping centers are best approximated using a logarithmic equation as opposed to an average rate. The logarithmic curve reflects the observed conditions of larger shopping centers, which have been shown to generate fewer trips on a square footage basis than do smaller centers.

Detailed trip generation estimates based on the trip generation rates and equations referenced above are provided in **Table 4.19-9**. As shown, the existing mobile homes to be removed generate approximately 54 AM peak hour trips, 73 PM peak hour trips, and 614 daily trips, while the Project is estimated to generate approximately 9,451 daily trips, with 462 trips during the AM peak hour, and 864 trips during the PM peak hour.

Due to the mix of residential and commercial land uses planned for the site, some trips generated by the Project would remain internal to the Project site, particularly where the trip can be made by walking. As a result, the total number of external trips (those entering and exiting the Project site) generated would be less than the sum of the trips generated by each discrete land use.

Table 4.19-9 Land Use and Trip Generation Summary

Category	Units	AM Peak Hour			PM Peak Hour			Average Daily Trip Ends
		In	Out	Total	In	Out	Total	
Existing (To Be Removed)								
5. Mobile Home Park	123 DU	11	43	54	46	27	73	614
Total To Be Removed	–	11	43	54	46	27	73	614
Project								
1. Detached Housing (Condo Lots)	146 DU	28	82	110	92	54	146	1,390
2. Townhouse	122 DU	7	59	66	57	32	89	976
3. Apartment	312 DU	31	128	159	125	69	194	2,075
4. Assisted Living	120 beds	11	6	17	12	14	26	319
6. Shopping Center (Retail and Restaurant)	56,600* SF	68	42	110	196	213	409	4,691
Project Total		145	317	462	482	382	864	9,451

Source: Table 3-2, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

DU = Dwelling Unit

*See Table 4.19-10, Internal and External Trip Volumes and Percentages for net volume of external trips.

The Project trips that remain in the Project site (referred to as “internal capture trips”) would vary depending on the mix of the land use types. The internal capture for the Project is derived using the recommended methodology presented in the ITE Trip Generation Handbook. The NCHRP report provides details of the estimation procedure, its underlying data, and validation of the estimation procedure. As shown in **Table 4.19-10** below, after the internal capture trips and the removal of existing mobile home trips are taken into account, the Project generates approximately 393 new AM peak hour trips, 695 new PM peak hour trips, and 7,986 new daily trips.

Table 4.19-10 Internal and External Trip Volumes and Percentages

Category	Units	AM Peak Hour			PM Peak Hour			Average Daily Trip Ends
		In	Out	Total	In	Out	Total	
Project								
1. Detached Housing (Condo Lots)	146 DU	28	82	110	92	54	146	1,390
2. Townhouse	122 DU	7	59	66	57	32	89	976
3. Apartment	312 DU	31	128	159	125	69	194	2,075
4. Assisted Living	120 beds	11	6	17	12	14	26	319
6. Shopping Center (Retail and Restaurant)	56,600* SF	68	42	110	196	213	409	4,691
Project Total		145	317	462	482	382	864	9,451
Internal %		4%	3%	3%	10%	12%	11%	9%
Internal		6	9	15	50	46	96	851
External		139	308	447	432	336	768	8,600
Existing Trips to be Removed		11	43	54	46	27	73	614
Total Trips Added to Roadway Network		128	265	393	386	309	695	7,986

Source: Table 3-3, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

DU = Dwelling Unit

Note: See Appendix C of the Traffic Impact Analysis (**Appendix 11-1** to this EIR) for detailed calculation worksheet

*The amount of retail and restaurant uses was reduced by 1,000 square feet (to 55,500 SF) subsequent to the traffic impact analysis.

Finally, it should be noted that the Project would generate nearly 40% less traffic than what was analyzed for the site in the General Plan. The General Plan estimated that a future development of the site with commercial and residential uses would generate approximately 13,400 ADT. The Project would generate 7,986 ADT.

Site Access

There would be three Project driveways along Sand Canyon Road and one access along Soledad Canyon Road. The existing South Silver Saddle Circle intersection at Sand Canyon Road is proposed to be converted into a four-way roundabout intersection, and a new three-way roundabout intersection is proposed along Sand Canyon Road just south of the existing North Silver Saddle Circle intersection. The two roundabout intersections providing access mostly to the residential portion of the Project would be constructed as single-lane roundabouts, but additional right of way (ROW) would be reserved to allow reconstruction to two-lane roundabouts in the future, if needed. A new on-site driveway providing access for the commercial use portion of the Project would access Soledad Canyon Road to the south and Sand Canyon Road to west. This new driveway would intersect Soledad Canyon Road east of the SR-14 southbound ramps, and Sand

Canyon Road just north of Soledad Canyon Road. Each of these two driveway accesses has been evaluated based on providing full ingress into the site (i.e., both right-turns and left-turns allowed) and right-turns only (i.e., left-turns prohibited) egress exiting the site. A conceptual striping plan has been prepared by Alliance Land Planning & Engineering Inc. for the roadways surrounding the Project site and the Project's access points. An exhibit showing the prepared striping layout is provided in Appendix D to the Traffic Impact Analysis (**Appendix 11-1** to this EIR).

Vehicle Miles of Travel

A memorandum was prepared to address Vehicle Miles of Travel (VMT) impacts associated with the Project. This memorandum was prepared by Stantec Consulting Services dated December 21, 2016 (**Appendix 11-2** to this EIR). The mixed-use nature of the Project, which includes the addition of retail and restaurant uses to an area currently characterized by mostly residential development, has the potential to reduce the miles traveled by current residents to fulfill their shopping needs. To test this hypothesis, the average trip length for the area was estimated using the SCVCTM for conditions with and without the Project. The SCVCTM estimates of daily vehicle miles of travel (VMT) for conditions both with and without the Project were prepared, and the average trip lengths were estimated for each scenario based on the VMT.

The average trip length for development in this part of the Santa Clarita Valley is 12.5 miles. An all residential development with no commercial component would generate an average trip length of 12.5 miles resulting in 58,000 VMT. An all commercial development with no residential component would generate an average trip length of 5.3 miles resulting in 72,818 VMT. The proposed mixed-use Project would generate an average trip length of 7.0 miles resulting in 55,902 VMT. The reason for the increase in VMT in the all commercial scenario is a substantial increase in average daily trips (ADT) as compared to the mixed-use and residential project scenarios. The commercial scenario would generate nearly 13,870 ADT, while the mixed-use Project would generate approximately 7,986 ADT and the residential scenario would generate nearly 4,640 ADT.

Approximately one-half of the traffic generated by the Project would be related to the Project's retail and restaurant uses. Those uses would largely be serving the local community, thereby reducing the distance local residents drive to access those types of services. As indicated in the VMT Memo, the average trip length in the area around the Project would reduce from 12.5 miles to 11.9 miles, or a reduction of about 5% due in part to the new commercial uses provided by the Project. Similarly, shorter trip lengths result in lower overall VMT. Applying the shorter trip lengths to the traffic generated in the vicinity of the Project site results in approximately 43,699 fewer VMT.

Another benefit of the mix of uses with the Project would be the ability for residents to walk or bike to adjacent commercial uses. The Project's traffic study determined that approximately 9% of the Project's trip generation would remain internal to the Project site. Because the Project includes a mix of complementary uses, it would result in lower than average VMT in comparison to single-use development scenarios.

T-1 Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Construction Impacts

Buildout of the Project would occur over approximately 18 months. During construction of the Project, construction workers would arrive at and depart from the Project site during off-peak hours, minimizing trips during the AM and PM peak traffic periods. As such, construction-related trips associated with buildout of the Project would result in a less than significant impact.

Operational Impacts

Based on the mixed-use trip generation model described above, which was approved by the Santa Clarita Department of Public Works, buildout of the Project would generate approximately 393 new AM peak hour trips, 695 new PM peak hour trips, and 7,986 new daily trips.

Existing Plus Project Traffic

This section provides an analysis of Project traffic impacts by comparing pre-Project Existing traffic conditions to Existing plus Project traffic conditions. This CEQA impact analysis documents Project-related trips and their addition to the existing, observed traffic count data (i.e., existing conditions) in order to identify potential traffic impacts. This analysis is referred to as the Existing plus Project scenario. This scenario assumes full buildout of the entire Project, including the removal of the mobile homes currently occupying the Project site.

Results from a peak hour intersection LOS analysis are summarized in **Table 4.19-11** below. As shown in the table, all study area intersections are forecast to operate at LOS D or better except for the intersection of Sierra Highway at Soledad Canyon Road, which currently operates at LOS E in the AM peak hour without the Project.

As shown in **Table 4.19-11**, the intersection of Sand Canyon Road and Soledad Canyon Road would be significantly impacted by the Project. No other intersections would be impacted by the Project. Mitigation has been identified to address the Project's impact to the Sand Canyon Road and Soledad Canyon Road intersection.

Table 4.19-11 Intersection LOS Summary – Existing Plus Project Conditions

Location	Traffic Control	Existing (2015)				Existing Plus Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
1. Sierra Hwy & Soledad Cyn	Signalized	60.4	E	44.8	D	61.1	E	46.7	D	0.7	1.9
2. Kenroy & Soledad Cyn	Signalized	13.2	B	12.9	B	13.7	B	14.4	B	0.5	1.5
3. Sand Cyn & Soledad Cyn	Signalized	30.3	C	26.0	C	36.1	D	34.3	C	5.8	8.3
4. SR-14 SB Ramps & Soledad Cyn	Signalized	9.8	A	11.3	B	12.3	B	23.2	C	2.5	11.9
5. A Drive & Soledad Cyn	Side Street Stop	n/a	n/a	n/a	n/a	23.1	C	12.8	B	n/a	n/a
6. Oak Springs Cyn & Soledad Cyn	Signalized	15.1	B	12.8	B	16.3	B	13.0	B	1.2	0.2
7. Rue Entree & Soledad Cyn	Signalized	14.3	B	13.0	B	15.8	B	13.0	B	1.5	0.0
8. Flower Park & Soledad Cyn	Signalized	14.0	B	12.5	B	14.1	B	12.5	B	0.1	0.0
9. Poppy Meadow & Soledad Cyn	Signalized	12.9	B	12.4	B	12.9	B	12.5	B	0.0	0.1
10. Shadow Pines & Soledad Cyn	Signalized	8.4	A	11.7	B	8.6	A	12.2	B	0.2	0.5
11. Sand Cyn & Thompson Ranch	Signalized	6.0	A	4.9	A	6.0	A	4.9	A	0.0	0.0
12. Sand Cyn & N Silver Saddle	Side Street Stop	11.9	B	10.8	B	12.2	B	11.0	B	0.3	0.2
13. Sand Cyn & S Silver Saddle	Side Street Stop/ Roundabout	11.6	B	10.1	B	8.6	A	8.7	A	-3.0	-1.4
14. Sand Cyn & A Drive	Side Street Stop	n/a	n/a	n/a	n/a	10.7	B	12.5	B	n/a	n/a
15. Sand Cyn & SR-14NB Ramps	Signalized	13.5	B	20.6	C	14.3	A	23.6	C	0.8	3.1
16. Sand Cyn & Lost Cyn	All-Way Stop	27.4	D	14.4	B	31.2	D	16.2	C	3.8	1.8
17. Sand Cyn & C Drive	Roundabout	n/a	n/a	n/a	n/a	7.5	A	7.6	A	n/a	n/a

Source: Table 4-1, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

Bold = Significant Impact (see impact criteria in Table 1-3 of the Traffic Impact Analysis [Table 4.19-3 of this EIR, above])

Table 4.19-12 identifies mitigation to address Project impacts in the Existing Plus Project conditions setting. In summary, mitigation identified for this scenario includes traffic signal timing modifications to coordinate Kenroy Avenue, Sand Canyon Avenue, and SR-14 southbound ramp intersections along Soledad Canyon Road to improve traffic progression, and a change to traffic signal phasing at SR-14 southbound ramp intersection to provide a protective permissive westbound left-turn on to the ramp instead of the current permissive left-turn (refer to Mitigation Measures **MM T-1** and **MM T-2**).

Table 4.19-12 Mitigation Measures for Project Impacts – Existing Plus Project Conditions

Location	Jurisdiction	Mitigation
3. Sand Canyon at Soledad Canyon	City	Traffic signal timing modification to coordinate with Kenroy Avenue and SR-14 SB Ramp intersections along Soledad Canyon Road.
4. SR-14 SB Ramps at Soledad Canyon	City/Caltrans	Traffic signal modification to change westbound left-turn phasing from permissive to protective permissive.

Source: Table 4-7, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

Each identified improvement would fully mitigate the Project's significant impact, as shown in **Table 4.19-13** below.

Table 4.19-13 Intersection LOS Summary – Existing Plus Project Conditions with Mitigation

Location	Existing without Project				Existing with Project and Mitigation				Net Change with Mitigation	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
2. Kenroy & Soledad Cyn	13.2	B	12.9	B	11.3	B	13.9	B	-1.9	1.0
3. Sand Cyn & Soledad Cyn	30.3	C	26.0	C	33.1	C	34.3	C	2.8	8.3
4. SR-14 SB Ramps & Soledad Cyn	9.8	A	11.3	B	12.4	B	14.5	B	2.6	3.2

Source: Table 4-8, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

Freeway AADT volumes for conditions Without Project (Existing) and With Project are provided in **Table 4.19-14** below.

Table 4.19-14 Freeway AADT Volumes – Existing Plus Project Conditions

Segment	Without Project	With Project
SR-14 between I-5 & Newhall Avenue	166,000	167,000
SR-14 between Newhall Avenue & Placerita Canyon Road	151,000	152,000
SR-14 between Placerita Canyon Road and Golden Valley Road	144,000	145,000
SR-14 between Golden Valley Road and Sierra Highway	144,000	146,000
SR-14 between Sierra Highway & Sand Canyon Road	112,000	115,000
SR-14 between Sand Canyon Road & Soledad Canyon Road	99,000	100,000
SR-14 between Soledad Canyon Road & Agua Dulce Canyon Road	96,000	97,000

Source: Table 4-2, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

AADT – Annual Average Daily Traffic

Peak hour freeway mainline volumes and the corresponding V/C ratios and densities for conditions Without Project (Existing) and With Project are provided in **Table 4.19-15** and **Table 4.19-16**, respectively, below. Peak hour freeway ramp volumes and corresponding V/C ratios are provided in **Table 4.19-17** below. As shown in **Table 4.19-15**, **Table 4.19-16**, and **Table 4.19-17**, all of the freeway mainline segments and ramps in the study area would operate at LOS E or better, except for the segment of SR-14 southbound between Newhall Avenue and Golden Valley Road in both the northbound and southbound directions. These segments are shown to exceed capacity in the AM and PM peak hour under Without Project and With-Project conditions, and to operate at LOS E (based on volume-density calculations). However, based on the CMP impact criteria (V/C increase greater than 0.02), the Project would not create a significant impact on the SR-14 mainline. Notwithstanding, the Project Applicant and Caltrans are negotiating a traffic mitigation agreement that would require the Applicant to pay an in-lieu fee to Caltrans for future improvements to SR-14 based on the Project's fair share. The mitigation agreement would be signed by both parties prior to recordation of a final map for the Project (refer to Mitigation Measure **MM T-3**).

Table 4.19-15 Freeway Peak Hour Volumes and V/C Summary – Existing Plus Project Conditions

Segment	Lanes	Capacity	Without Project				With Project				Project Increment	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
			Volume	V/C	Volume	V/C	Volume	V/C	Volume	V/C		
Northbound												
SR-14 btwn I-5 & Newhall	5M + 1H	11,600	3,171	.273	8,333	.718	3,190	.275	8,383	.723	0.002	0.005
SR-14 btwn Newhall & Placerita Cyn	3M + 1H	7,600	2,884	.379	7,580	.997	2,908	.383	7,645	1.006	0.004	0.009
SR-14 btwn Placerita Cyn & Golden Valley	3M + 1H	7,600	2,750	.362	7,229	.951	2,775	.365	7,298	.960	0.003	0.009
SR-14 btwn Golden Valley & Sierra Hwy	3M + 1H + 1A	8,600	2,750	.320	7,229	.841	2,780	.323	7,313	.850	0.003	0.009
SR-14 btwn Sierra Hwy & Sand Cyn	3M + 1H	7,600	2,139	.281	5,622	.740	2,181	.287	5,741	.755	0.006	0.015
SR-14 btwn Sand Cyn & Soledad Cyn	2M + 1H	5,600	1,891	.338	4,970	.887	1,912	.341	4,995	.892	0.003	0.005
SR-14 btwn Soledad Cyn & Agua Dulce Cyn	3M + 1H	7,600	1,834	.241	4,819	.634	1,855	.244	4,844	.637	0.003	0.003
Southbound												
SR-14 btwn I-5 & Newhall	5M + 1H	11,600	8,914	.768	4,665	.402	8,943	.771	4,709	.406	0.003	0.004
SR-14 btwn Newhall & Placerita Cyn	3M + 1H	7,600	8,109	1.067	4,243	.558	8,149	1.072	4,299	.566	0.005	0.008
SR-14 btwn Placerita Cyn & Golden Valley	3M + 1H	7,600	7,733	1.017	4,046	.532	7,776	1.023	4,105	.540	0.006	0.008
SR-14 btwn Golden Valley & Sierra Hwy	3M + 1H + 1A	8,600	7,733	.899	4,046	.471	7,787	.905	4,117	.479	0.006	0.008
SR-14 btwn Sierra Hwy & Sand Cyn	3M + 1H	7,600	6,014	.791	3,147	.414	6,092	.802	3,246	.427	0.011	0.013
SR-14 btwn Sand Cyn & Soledad Cyn	2M + 1H	5,600	5,316	.949	2,782	.497	5,326	.951	2,814	.502	0.002	0.005
SR-14 btwn Soledad Cyn & Agua Dulce Cyn	3M + 1H	7,600	5,155	.921	2,698	.482	5,165	.922	2,730	.487	0.001	0.005

Source: Table 4-3, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

M = Mixed Flow Lane; H = HOV or HOT Lane

Table 4.19-16 Freeway Peak Hour Volumes and Density Summary – Existing Plus Project Conditions

Segment	Lanes	Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
Northbound													
SR-14 btwn I-5 & Newhall	5M + 1H	3,171	8.7	A	8,333	23.6	C	3,190	8.8	A	8,383	23.8	C
SR-14 btwn Newhall & Placerita Cyn	3M + 1H	2,884	11.9	B	7,580	37.5	E	2,908	12.0	B	7,645	38.1	E
SR-14 btwn Placerita Cyn & Golden Valley	3M + 1H	2,750	11.4	B	7,229	34.5	D	2,775	11.5	B	7,298	35.0	E
SR-14 btwn Golden Valley & Sierra Hwy	3M + 1H + 1A	2,750	9.1	A	7,229	24.8	C	2,780	9.2	A	7,313	25.2	C
SR-14 btwn Sierra Hwy & Sand Cyn	3M + 1H	2,139	8.8	A	5,622	24.0	C	2,181	9.0	A	5,741	24.6	C
SR-14 btwn Sand Cyn & Soledad Cyn	2M + 1H	1,891	10.4	A	4,970	30.0	D	1,912	10.5	A	4,995	30.2	D
SR-14 btwn Soledad Cyn & Agua Dulce Cyn	3M + 1H	1,834	7.6	A	4,819	20.1	C	1,855	7.7	A	4,844	20.2	C
Southbound													
SR-14 btwn I-5 & Newhall	5M + 1H	8,914	25.7	C	4,665	12.9	B	8,943	25.8	C	4,709	13.0	B
SR-14 btwn Newhall & Placerita Cyn	3M + 1H	8,109	42.9	E	4,243	17.5	B	8,149	43.3	E	4,299	17.8	B
SR-14 btwn Placerita Cyn & Golden Valley	3M + 1H	7,733	38.9	E	4,046	16.7	B	7,776	39.4	E	4,105	17.0	B
SR-14 btwn Golden Valley & Sierra Hwy	3M + 1H + 1A	7,733	27.2	D	4,046	13.4	B	7,787	27.4	D	4,117	13.6	B
SR-14 btwn Sierra Hwy & Sand Cyn	3M + 1H	6,014	26.1	D	3,147	13.0	B	6,092	26.6	D	3,246	13.4	B
SR-14 btwn Sand Cyn & Soledad Cyn	2M + 1H	5,316	33.3	D	2,782	15.3	B	5,326	33.4	D	2,814	15.5	B
SR-14 btwn Soledad Cyn & Agua Dulce Cyn	3M + 1H	5,155	31.7	D	2,698	14.9	B	5,165	31.8	D	2,730	15.1	B

Source: Table 4-4, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11-1 to this EIR)

Table 4.19-17 Freeway Ramp Peak Hour Volumes and V/C Summary – Existing Plus Project Conditions

Interchange	Ramp	Lanes	Peak Hour Capacity	Without Project						With Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
SR-14 at Sand Canyon	SB On	1	1,500	800	.53	A	563	.38	A	878	.59	A	662	.44	A
	NB On	1	1,500	218	.15	A	496	.33	A	239	.16	A	521	.35	A
	SB Off	1	1,500	337	.22	A	250	.17	A	347	.23	A	282	.19	A
	NB Off	1	1,500	479	.32	A	992	.66	B	521	.35	A	1,111	.74	C

Source: Table 4-5, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11-1 to this EIR)

LOS – level of service NB – northbound
 V/C – volume/capacity ratio SB – southbound

Impact Conclusion

Peak hour intersection LOS summary for the study area ramp intersections with mitigation measures (Mitigation Measures **MM T-1** and **MM T-2**) implemented are listed in **Table 4.19-18** below, and both intersections would operate at LOS C or better during both the AM and PM peak hours.

Table 4.19-18 Intersection LOS Summary – Existing Plus Project Conditions with Mitigation

Location	Cumulative Without Project				Cumulative With Project and Mitigation				Net Change with Mitigation	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
4. SR-14 SB Ramps & Soledad Cyn	10.4	B	12.1	B	13.0	B	16.5	B	2.6	4.4
15. Sand Cyn & SR-14 NB Ramps	13.7	B	21.5	C	14.6	B	24.8	C	0.9	3.3

Source: Table 5-9, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

Opening Day (2018) Traffic – Freeway and Ramp Facilities

This section provides an analysis of Project traffic impacts for freeway and ramp facilities by comparing Project Opening Day (2018) Without Project traffic conditions to Project Opening Day (2018) With Project traffic conditions. To estimate the 2018 Without Project traffic conditions, an ambient growth rate of 2% per year is applied to the existing counts to account for the background traffic growth. For 2018 With Project traffic conditions, Project-related trips are added to the 2018 No Project conditions to identify potential traffic impacts. This scenario assumes full buildout of the entire Project, including removal of the mobile homes currently occupying the Project site. For this analysis, existing freeway lanes were assumed for Without Project and With Project conditions.

The results of a peak hour intersection LOS analysis for the study area ramp intersections are summarized in **Table 4.19-19**. The table indicates that under the Project Opening Day (2018) With Project conditions, the study area ramp intersections would both operate at LOS C or better during both the AM and the PM peak hour, and no impact would occur at these locations.

Table 4.19-19 Intersection LOS Summary – Opening Day Conditions

Location	Traffic Control	Without Project				With Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
4. SR-14 SB Ramps & Soledad Cyn	Signalized	10.4	B	12.1	B	13.5	B	28.1	C	3.1	16.0
15. Sand Cyn & SR-14 NB Ramps	Signalized	13.7	B	21.5	C	14.6	B	24.8	C	0.9	3.3

Source: Table 5-1, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

Freeway AADT volumes for conditions Without Project and With Project are provided in **Table 4.19-20** below.

Table 4.19-20 Freeway AADT Volumes – Opening Day (2018) Conditions

Segment	Without Project	With Project
SR-14 Between I-5 & Newhall Avenue	179,000	180,000
SR-14 Between Newhall Avenue & Placerita Canyon Road	163,000	164,000
SR-14 Between Placerita Canyon Road & Golden Valley Road	156,000	157,000
SR-14 Between Golden Valley Road & Sierra Highway	156,000	158,000
SR-14 Between Sierra Highway & Sand Canyon Road	121,000	124,000
SR-14 Between Sand Canyon Road & Soledad Canyon Road	107,000	108,000
SR-14 Between Soledad Canyon Road & Agua Dulce Canyon Road	104,000	105,000

Source: Table 5-2, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)
AADT – Annual Average Daily Traffic

Peak hour freeway mainline volumes and the corresponding V/C ratios and densities for conditions Without Project and With Project are provided in **Table 4.19-21** and **Table 4.19-22**, respectively, below.

Peak hour freeway ramp volumes and corresponding V/C ratios are provided in **Table 4.19-23**. Peak hour queue lengths at ramp intersections were modeled using the Synchro/SimTraffic traffic simulation package, and are summarized in **Table 4.19-24**. As shown, the ramp queues do not exceed the available turn lane storage lengths, with the exception of the Sand Canyon northbound off-ramp left-turn lane during the PM peak hour because of downstream traffic blockages at Sand Canyon Road and Soledad Canyon Road intersection. Roadway improvements have been identified to mitigate the congestion at this intersection (refer to Mitigation Measure **MM T-1**). These measures are identical to the measures identified in the Existing Plus Project conditions. With these roadway improvements in place, Sand Canyon northbound off-ramp left turn lane queue would only be slightly longer than the Without Project condition, but it would still exceed the left-turn lane storage length during the PM peak hour. However, with the reduced queue, the adjacent left-turn lane has ample storage available to accommodate the additional left-turn volume. Therefore, no modifications to the ramp are necessary.

Table 4.19-21 Freeway Peak Hour Volumes and V/C Summary – Opening Day (2018) Conditions

Segment	Lanes	Capacity	Without Project				With Project				Project Increment	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
			Volume	V/C	Volume	V/C	Volume	V/C	Volume	V/C		
SR-14 Northbound												
Between I-5 & Newhall	5M + 1H	11,600	3,424	.295	9,000	.776	3,443	.297	9,050	.780	0.002	0.004
Between Newhall & Placerita Cyn	3M + 1H	7,600	3,115	.410	8,187	1.077	3,139	.413	8,252	1.086	0.003	0.009
Between Placerita Cyn & Golden Valley	3M + 1H	7,600	2,970	.391	7,807	1.027	2,995	.394	7,876	1.036	0.003	0.009
Between Golden Valley & Sierra Hwy	3M + 1H + 1A	8,600	2,970	.345	7,807	.908	3,000	.349	7,891	.918	0.004	0.010
Between Sierra Hwy & Sand Cyn	3M + 1H	7,600	2,310	.304	6,072	.799	2,352	.310	6,191	.815	0.006	0.016
Between Sand Cyn & Soledad Cyn	2M + 1H	5,600	2,042	.365	5,367	.958	2,063	.368	5,392	.963	0.003	0.005
Between Soledad Cyn & Agua Dulce Cyn	3M + 1H	7,600	1,980	.261	5,205	.685	2,001	.263	5,230	.688	0.002	0.003
SR-14 Southbound												
Between I-5 & Newhall	5M + 1H	11,600	9,627	.830	5,038	.434	9,656	.832	5,082	.438	0.002	0.004
Between Newhall & Placerita Cyn	3M + 1H	7,600	8,757	1.152	4,583	.603	8,797	1.158	4,639	.610	0.006	0.007
Between Placerita Cyn & Golden Valley	3M + 1H	7,600	8,351	1.099	4,370	.575	8,394	1.105	4,429	.583	0.006	0.008
Between Golden Valley & Sierra Hwy	3M + 1H + 1A	8,600	8,351	.971	4,370	.508	8,405	.977	4,441	.516	0.006	0.008
Between Sierra Hwy & Sand Cyn	3M + 1H	7,600	6,496	.855	3,399	.447	6,574	.865	3,498	.460	0.010	0.013
Between Sand Cyn & Soledad Cyn	2M + 1H	5,600	5,742	1.025	3,004	.537	5,752	1.027	3,036	.542	0.002	0.005
Between Soledad Cyn & Agua Dulce Cyn	3M + 1H	7,600	5,568	.994	2,913	.520	5,578	.996	2,945	.526	0.002	0.006

Source: Table 5-3, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

M = Mixed Flow Lane

H = HOV or HOT Lane

Table 4.19-22 Freeway Peak Hour Volumes and Density Summary – Opening Day (2018) Conditions

Location	Lanes	Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
SR-14 Northbound													
Between I-5 & Newhall	5M + 1H	3,424	9.4	A	9,000	26.1	D	3,443	9.5	A	9,050	26.2	D
Between Newhall & Placerita Cyn	3M + 1H	3,115	12.9	B	8,187	43.8	E	3,139	13.0	B	8,252	44.6	E
Between Placerita Cyn & Golden Valley	3M + 1H	2,970	12.3	B	7,807	39.7	E	2,995	12.4	B	7,876	40.4	E
Between Golden Valley & Sierra Hwy	3M + 1H + 1A	2,970	9.8	A	7,807	27.5	D	3,000	9.9	A	7,891	27.9	D
Between Sierra Hwy & Sand Cyn	3M + 1H	2,310	9.6	A	6,072	26.5	D	2,352	9.7	A	6,191	27.2	D
Between Sand Cyn & Soledad	2M + 1H	2,042	11.3	B	5,367	33.8	D	2,063	11.4	B	5,392	34.1	D
Between Soledad & Agua Dulce Cyn	3M + 1H	1,980	8.2	A	5,205	21.9	C	2,001	8.3	A	5,230	22.0	C
SR-14 Southbound													
Between I-5 & Newhall	5M + 1H	9,627	28.6	D	5,038	13.9	B	9,656	28.7	D	5,082	14.0	B
Between Newhall & Placerita Cyn	3M + 1H	8,757	51.4	F	4,583	19.0	C	8,797	52.0	F	4,639	19.3	C
Between Placerita Cyn & Golden Valley	3M + 1H	8,351	45.8	F	4,370	18.1	C	8,394	46.3	F	4,429	18.3	C
Between Golden Valley & Sierra Hwy	3M + 1H + 1A	8,351	30.3	D	4,370	14.5	B	8,405	30.6	D	4,441	14.7	B
Between Sierra Hwy & Sand Cyn	3M + 1H	6,496	29.1	D	3,399	14.1	B	6,574	29.6	D	3,498	14.5	B
Between Sand Cyn & Soledad	2M + 1H	5,742	38.2	E	3,004	16.6	B	5,752	38.3	E	3,036	16.7	B
Between Soledad & Agua Dulce Cyn	2M + 1H	5,568	36.1	E	2,913	16.1	B	5,578	36.2	E	2,945	16.2	B

Source: Table 5-4, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

M = Mixed Flow Lane

H = HOV or HOT Lane

Table 4.19-23 Freeway Ramp Peak Hour Volumes and V/C Summary – Opening Day Conditions

Interchange	Ramp	Lanes	Peak Hour Capacity	Without Project						With Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
SR-14 at Sand Canyon	SB On	1	1,500	770	.51	A	590	.39	A	870	.58	A	710	.47	A
	NB On	1	1,500	200	.13	A	570	.38	A	220	.15	A	600	.40	A
	SB Off	1	1,500	370	.25	A	240	.16	A	380	.25	A	270	.18	A
	NB Off	1	1,500	490	.33	A	1,080	.72	C	530	.35	A	1,200	.80	C

Source: Table 5-5, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

LOS – level of service

NB – northbound

V/C – volume/capacity ratio

SB – southbound

Table 4.19-24 Ramp Intersection Peak Hour Queue Length Summary – Opening Day Conditions

Interchange	Lane	Lane Length (feet)	Without Project		With Project	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
			Queue Length (feet)	Queue Length (feet)	Queue Length (feet)	Queue Length (feet)
SR-14 SB Off-Ramp at Soledad Cyn	NBL	1,070	220	112	302	228
	NBLR	450	298	287	286	243
SR-14 NB Off-Ramp at Sand Cyn	EBL	270	117	314	140	461
	EBLT	1,150	89	312	109	473
	EBR	580	68	86	87	381

Source: Table 5-6, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

NB – northbound; SB – southbound; NBL – northbound left-turn lane; NBLR – northbound shared left- and right- turn lane

EBL – eastbound left-turn lane; EBLT – eastbound shared left-turn and through lane; EBR – eastbound right-turn lane

Level of Significance Before Mitigation

Impacts would be less than significant during Project construction.

Impacts would be significant during Project operations.

Mitigation Measures

MM T-1	Sand Canyon at Soledad Canyon. Modify traffic signal timing to coordinate with Kenroy Avenue and SR-14 SB Ramp intersections along Soledad Canyon Road.
MM T-2	SR-14 SB Ramps at Soledad Canyon. Modify traffic signal to change westbound left-turn phasing from permissive to protective permissive.
MM T-3	The Project Developer shall enter into a Mitigation Agreement with Caltrans. Said Mitigation Agreement shall be finalized prior to the recordation of a final map.

Level of Significance After Mitigation

Impacts would be less than significant during Project construction.

Impacts during Project operations would be less than significant.

T-2 Would the project conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?

Under Los Angeles County's CMP Traffic Impact Analysis criteria, a project impact is considered to be significant if the Project increases traffic demand on a CMP facility (e.g., a freeway or intersection) by 2% of capacity ($V/C > 0.02$), causing or worsening LOS F ($V/C > 1.00$). Under this criterion, a proposed project would not have a regionally significant impact if the analyzed facility is operating at LOS E or better after the addition of project traffic, regardless of the increase in V/C ratio caused by the Project. However, if the facility is operating at LOS F with project traffic and the incremental change in the V/C ratio caused by the Project is 0.02 or greater, the Project would be considered to have a significant impact.

As shown in **Table 4.19-21** (page [4.19.30](#) above) and **Table 4.19-22** (page [4.19.31](#) above), all of the freeway mainline segments and ramps in the study area would operate at LOS E or better, except for the segment of SR-14 southbound between Newhall Avenue and Golden Valley Road in both the northbound and southbound directions. These segments are shown to exceed capacity in the AM and PM peak hour under both Without Project and With Project conditions, and to operate at LOS E (based on volume-density calculations). However, based on the CMP impact criteria (V/C increase greater than 0.02), the proposed Project would not create a significant impact on the SR-14 mainline.

Notwithstanding, the Project Applicant and Caltrans are negotiating a traffic mitigation agreement that would require the Applicant to pay an in-lieu fee to Caltrans for future improvements to SR-14 based on the Project's fair share. The mitigation agreement would be signed by both parties prior to recordation of a final map for the Project (refer to Mitigation Measure **MM T-3**). The Project share is calculated based on the Project's percentage of future vehicle trips, and is estimated to be approximately 1.6%.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

Refer to Mitigation Measure **MM T-3**. No additional mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

T-3 Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The Project site is not located within an airport land use plan or within two miles of an airport or a private airstrip. There are no airports or private airstrips within or adjacent to the City of Santa Clarita. Thus, implementation of the Project would not result in any change in air traffic patterns or traffic levels. Therefore, no impact would occur in this regard.

Level of Significance Before Mitigation

No impacts.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

No impacts.

T-4 Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Implementation of the Project would not result in the construction and/or operation of hazardous design features (e.g., sharp curves and/or dangerous intersections) or the interaction of incompatible uses. However, the Project's goals and policies do encourage pedestrian linkages, the implementation of bicycle facilities, and the reconfiguration of roadways. Thus, it is imperative that facilities designed for non-automobile modes include enhanced safety features to minimize conflicts between transit riders, bicyclists, pedestrians, and motor vehicles. The Project incorporates street improvement standards that would provide a defined and often separated space for pedestrians, motorists, and bicyclists.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

2. Emergency Access

T-5 Would the project result in inadequate emergency access?

Construction

As discussed in **Section 4.8, Hazards and Hazardous Materials**, construction activities associated with buildout of the Project could reduce the number of vehicle lanes or temporarily close certain street segments that are usually accessible to emergency vehicles, including those used for evacuation routes. Further, construction equipment and vehicles may block or slow traffic. Possible street closures and slower traffic during construction could interfere with emergency response, including evacuations. However, construction would be temporary and would affect a limited number of streets or intersections at any one time.

Additionally, the City's Standardized Emergency Management System (SEMS) Multi-Hazard Emergency Functional Plan (MHEFP), which provides guidance for the City's planned response to extraordinary emergency situations associated with natural disasters, terrorism, technological incidents, and nuclear defense operations, would continue to be implemented. However, the impact to the City of Santa Clarita evacuation routes from construction would be potentially significant. Impacts would be reduced through implementation of Mitigation Measure **MM Haz-2** (page [4.8-26](#)), which requires project applicants/developers to prepare a Traffic Control Plan for implementation during the construction phase, as deemed necessary by the City Traffic Engineer, which would ensure that the Los Angeles County Sheriff's Department is aware of temporary roadway closures due to construction activities and alternative travel.

Operation

Operational activities associated with buildout of the Project are not anticipated to have any impacts on an established emergency response plan. Individual projects within the City would be subject to compliance with Santa Clarita requirements.

Compliance with the Los Angeles County Fire Department requirements regarding access for emergency and public safety vehicles are required. Thus, impacts related to emergency access would be less than significant.

Level of Significance Before Mitigation

Construction-related impacts would be potentially significant.

Operational impacts would be less than significant.

Mitigation Measures

Refer to Mitigation Measure **MM Haz-2**. No additional mitigation is required.

Level of Significance After Mitigation

With implementation of Mitigation Measure **MM Haz-2**, construction-related impacts would be less than significant.

Operational impacts would be less than significant.

T-6 Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The Project is consistent with the General Plan and Development Code. The Project includes the installation of a Class I Trail along Sand Canyon Road and the preservation of the Class II Trail along Soledad Canyon Road. Direct connections from the Project to the City's trail system would be provided. All required Transit facilities have been incorporated into the project design. As proposed, the Project would not conflict with transit, bicycle and pedestrian facilities, but instead enhances these facilities. Therefore, less than significant impacts would occur.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.19-7 Cumulative Impacts

Cumulative Conditions traffic volumes presented in this analysis are derived by the SCVCTM. A horizon year of 2030 is utilized to encompass the broad range of Related Projects within the study area.

2030 Cumulative Conditions traffic volumes are derived by the SCVCTM and based on a land use database that is interpolated between existing conditions and 2035 Valley buildout conditions. In addition, the 2030 land use database used by the SCVCTM includes the specific project information for Related Projects near the study area.

The SCVCTM is regularly updated as specific development projects are proposed. Pending, recorded, and approved projects are incorporated into the Long-Range Buildout/Cumulative database. A list of the known cumulative projects that have been included within the Year 2030 database is provided in **Table 4.19-25**. Interpolated growth for areas in which the One Valley One Vision (OVOV) plan anticipates future development is not included, although such growth is accounted for in the impacts analysis. **Figure 4.19-4** shows the general location of the projects listed in **Table 4.19-25**.

Table 4.19-25 Defined Related Projects Included in the Cumulative Database

No.	Project	Description
1	Tract 46018	201 single-family detached residential units
2	Skyline Ranch (TR060922)	1,260 single-family detached residential units and elementary school
3	Beneda Lane Apartments (TR62252)	24 multi-family residential units
4	Sierra 55 (TR60536)	55 multi-family residential units
5	Vista Canyon	Transit-oriented mixed-use development consisting of 1,100 residential units, 950,000 square feet of commercial retail and office, and hotel uses
6	Tract 46353	110 multi-family residential units
7	Tract 066202	31 multi-family residential units
8	Tract 52790	41 single-family detached residential units
9	Tick Canyon/Park Place (TR060259)	492 single-family detached residential units
10	Spring Canyon (TR48086)	499 single-family detached residential units
11	PM068498	60,496 square feet commercial
12	TTM63022	109 single-family detached residential units
13	Robinson Annexation (TR65159)	40 single-family detached residential units
14	Tract 060359	34 single-family detached residential units
15	Tract 54372	26 single-family detached residential units
16	Brook Street (TTM68601)	35 single-family detached residential units
17	Tract 52990	179 single-family detached residential units

Source: Table 2-8, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

See Figure 2-8 in the Traffic Impact Analysis in **Appendix 11-1** of this EIR for locations.

Sources: City of Santa Clarita Community Development Department, LA County Dept. of Public Works (March 2014); LA County Dept. of Regional Planning GIS-NET3 (accessed March 2014).

For the evaluation of impacts to the regional freeway system, the SCVCTM is used to derive the volume of project generated traffic that is anticipated to utilize the freeway. Project-generated trips are then incrementally added to background condition freeway volumes.

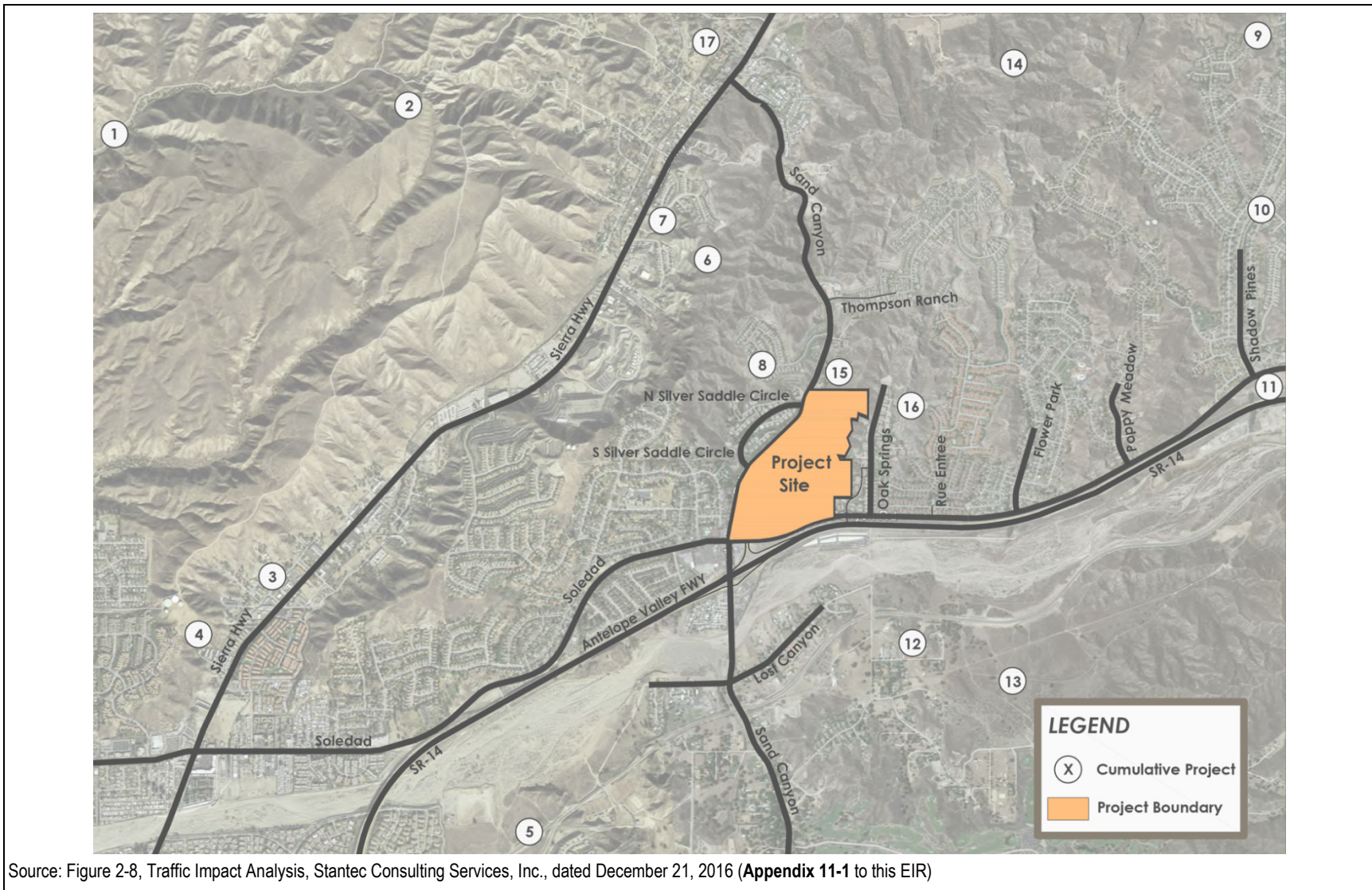


Figure 4.19-4 Cumulative Project Location Map

Peak hour intersection levels of service calculated from the cumulative conditions traffic forecasts referenced above can be found in **Table 4.19-26** below, which provides a comparison between the Without Project and the With Project conditions. HCM delay methodology was used to analyze both the signalized intersections and the stop-controlled intersections.

Table 4.19-26 Intersection LOS Summary – Cumulative Conditions Without Project and With Project

Location	Traffic Control	Existing (2015)				Existing Plus Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
1. Sierra Hwy & Soledad Cyn	Signalized	119.7	F	132.8	F	121.6	F	134.0	F	1.9	1.2
2. Kenroy & Soledad Cyn	Signalized	14.3	B	15.8	B	15.0	B	21.3	C	0.7	5.5
3. Sand Cyn & Soledad Cyn	Signalized	54.3	D	71.6	E	59.1	E	93.3	F	4.8	21.7
4. SR-14 SB Ramps & Soledad Cyn	Signalized	27.5	C	12.8	B	41.1	D	31.5	C	13.6	18.7
5. A Drive & Soledad Cyn	Side Street Stop	n/a	n/a	n/a	n/a	33.7	D	14.1	B	n/a	n/a
6. Oak Springs Cyn & Soledad Cyn	Signalized	17.1	B	15.0	B	17.2	B	15.6	B	0.1	0.6
7. Rue Entree & Soledad Cyn	Signalized	15.9	B	14.5	B	17.8	B	14.8	B	1.9	0.3
8. Flower Park & Soledad Cyn	Signalized	18.5	B	13.5	B	21.6	C	13.7	B	3.1	0.2
9. Poppy Meadow & Soledad Cyn	Signalized	14.0	B	13.3	B	14.9	B	13.3	B	0.9	0.0
10. Shadow Pines & Soledad Cyn	Signalized	7.9	A	12.0	B	8.1	A	12.5	B	0.2	0.5
11. Sand Cyn & Thompson Ranch	Signalized	7.0	A	5.8	A	7.0	A	6.3	A	0.0	0.5
12. Sand Cyn & N Silver Saddle	Side Street Stop	25.2	D	22.7	C	26.5	D	22.2	C	1.3	-0.5
13. Sand Cyn & S Silver Saddle	Side Street Stop/ Roundabout	19.6	C	15.9	C	10.9	B	9.8	A	-8.7	-6.1
14. Sand Cyn & A Drive	Side Street Stop	n/a	n/a	n/a	n/a	12.1	B	21.5	C	n/a	n/a
15. Sand Cyn & SR-14NB Ramps	Signalized	14.0	B	26.6	C	14.8	B	31.7	C	0.8	5.1
16. Sand Cyn & Lost Cyn	All-Way Stop	65.6	F	55.3	F	67.6	F	55.9	F	2.0	0.6
17. Sand Cyn & C Drive	Roundabout	n/a	n/a	n/a	n/a	7.5	A	7.5	A	n/a	n/a

Source: Table 4-10, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

Bold = Significant Impact (see impact criteria in Table 1-3 of the Traffic Impact Analysis [Table 4.19-3 of this EIR])

To assess the levels of service for the two proposed roundabout intersections, specialized software (Sidra Intersection) is used. Sidra Intersection is a micro-analytical modeling software widely accepted for roundabout analysis, and is recognized by the HCM 2010 and TRB-FHWA Roundabout Guide. For this analysis, existing lanes were assumed for Without Project and With Project conditions. The table indicates that under cumulative conditions, the following intersections are forecast to be significantly impacted by the Project:

1. Sand Canyon Road and Soledad Canyon Road
3. SR-14 SB Ramps and Soledad Canyon Road

Freeway AADT volumes for conditions Without Project and With Project are provided in **Table 4.19-27** below.

Table 4.19-27 Freeway AADT Volumes – Cumulative Conditions

Segment	Without Project	With Project
SR-14 between I-5 & Newhall Avenue	219,000	220,000
SR-14 between Newhall Avenue & Placerita Canyon Road	199,000	200,000
SR-14 between Placerita Canyon Road and Golden Valley Road	190,000	191,000
SR-14 between Golden Valley Road and Sierra Highway	190,000	192,000
SR-14 between Sierra Highway & Sand Canyon Road	148,000	151,000
SR-14 between Sand Canyon Road & Soledad Canyon Road	131,000	132,000
SR-14 between Soledad Canyon Road & Agua Dulce Canyon Road	127,000	128,000

Source: Table 4-11, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)
AADT – Annual Average Daily Traffic

Peak hour queue lengths at ramp intersections are summarized in **Table 4.19-28**. As shown, the ramp queues are forecast to exceed the available turn lane storage lengths for both southbound and northbound off-ramps. However, only the queue lengths for southbound off-ramp at Soledad Canyon Road would increase in with Project conditions, and need be addressed in the mitigation.

Table 4.19-28 Ramp Intersection Peak Hour Queue Length Summary – Cumulative Conditions

Interchange	Lane	Lane Length (feet)	Without Project		With Project	
			AM Peak Hour Queue Length (feet)	PM Peak Hour Queue Length (feet)	AM Peak Hour Queue Length (feet)	PM Peak Hour Queue Length (feet)
			SR-14 SB Off-Ramp at Soledad Cyn	NBL	1,070	323
	NBLR	450	289	281	1,705	870
SR-14 NB Off-Ramp at Sand Cyn	EBL	270	137	496	135	465
	EBLT	1,150	127	523	135	501
	EBR	580	87	547	132	576

Source: Table 4-15, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)
NB – northbound; SB – southbound; NBL – northbound left-turn lane; NBLR – northbound shared left- and right- turn lane
EBL – eastbound left-turn lane; EBLT – eastbound shared left-turn and through lane; EBR – eastbound right-turn lane

Peak hour freeway mainline volumes and the corresponding V/C ratios and densities for conditions with and without the Project are shown in **Table 4.19-29** and **Table 4.19-30**, respectively. Peak hour freeway ramp volumes and corresponding V/C ratios are shown in **Table 4.19-31**, and all the freeway ramps in the study area are shown to operate within capacity.

Table 4.19-29 Freeway Peak Hour Volumes and V/C Summary – Cumulative Conditions

Segment	Lanes	Capacity	Without Project				With Project				Project Increment	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
			Volume	V/C	Volume	V/C	Volume	V/C	Volume	V/C		
SR-14 Northbound												
Between I-5 & Newhall	5M + 1H	11,600	4,185	.361	11,000	.948	4,204	.362	11,050	.953	0.001	0.005
Between Newhall & Placerita Cyn	3M + 1H	7,600	3,807	.501	10,006	1.317	3,831	.504	10,071	1.325	0.003	0.008
Between Placerita Cyn & Golden Valley	3M + 1H	7,600	3,631	.478	9,542	1.256	3,656	.481	9,611	1.265	0.003	0.009
Between Golden Valley & Sierra Hwy	3M + 1H + 1A	8,600	3,631	.422	9,542	1.110	3,661	.426	9,626	1.119	0.004	0.009
Between Sierra Hwy & Sand Cyn	3M + 1H	7,600	2,824	.372	7,422	.977	2,866	.377	7,541	.992	0.005	0.015
Between Sand Cyn & Soledad Cyn	2M + 1H	5,600	2,496	.446	6,560	1.171	2,517	.449	6,585	1.176	0.003	0.005
Between Soledad Cyn & Agua Dulce Cyn	3M + 1H	7,600	2,420	.318	6,361	.837	2,441	.321	6,386	.840	0.003	0.003
SR-14 Southbound												
Between I-5 & Newhall	5M + 1H	11,600	11,767	1.014	6,157	.531	11,796	1.017	6,201	.535	0.003	0.004
Between Newhall & Placerita Cyn	3M + 1H	7,600	10,703	1.408	5,601	.737	10,743	1.414	5,657	.744	0.006	0.007
Between Placerita Cyn & Golden Valley	3M + 1H	7,600	10,027	1.343	5,341	.703	10,250	1.349	5,400	.711	0.006	0.008
Between Golden Valley & Sierra Hwy	3M + 1H + 1A	8,600	10,207	1.187	5,341	.621	10,261	1.193	5,412	.629	0.006	0.008
Between Sierra Hwy & Sand Cyn	3M + 1H	7,600	7,939	1.045	4,154	.547	8,017	1.055	4,253	.560	0.010	0.013
Between Sand Cyn & Soledad Cyn	2M + 1H	5,600	7,018	1.253	3,672	.656	7,028	1.255	3,704	.661	0.002	0.005
Between Soledad Cyn & Agua Dulce Cyn	3M + 1H	7,600	6,805	1.215	3,561	.636	6,815	1.217	3,593	.642	0.002	0.006

Source: Table 4-12, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)

M = Mixed Flow Lane

H = HOV or HOT Lane

Table 4.19-30 Freeway Peak Hour Volumes and Density Summary – Cumulative Conditions

Segment	Lanes	Without Project						With Project					
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
		Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
Northbound													
SR-14 btwn I-5 & Newhall	5M + 1H	4,185	11.5	B	11,000	35.3	E	4,204	11.6	B	11,050	35.6	E
SR-14 btwn Newhall & Placerita Cyn	3M + 1H	3,807	15.7	B	10,006	79.1	F	3,831	15.8	B	10,071	81.2	F
SR-14 btwn Placerita Cyn & Golden Valley	3M + 1H	3,631	15.0	B	9,542	66.2	F	3,656	15.1	B	9,611	67.9	F
SR-14 btwn Golden Valley & Sierra Hwy	3M + 1H + 1A	3,631	12.0	B	9,542	38.0	E	3,661	12.1	B	9,626	38.6	E
SR-14 btwn Sierra Hwy & Sand Cyn	3M + 1H	2,824	11.7	B	7,422	36.1	E	2,866	11.9	B	7,541	37.1	E
SR-14 btwn Sand Cyn & Soledad Cyn	2M + 1H	2,496	13.8	B	6,560	51.2	F	2,517	13.9	B	6,585	51.8	F
SR-14 btwn Soledad Cyn & Agua Dulce Cyn	3M + 1H	2,420	10.0	A	6,361	28.2	D	2,441	10.1	A	6,386	28.4	D
Southbound													
SR-14 btwn I-5 & Newhall	5M + 1H	11,767	40.1	E	6,157	15.9	B	11,796	40.2	E	6,201	17.1	B
SR-14 btwn Newhall & Placerita Cyn	3M + 1H	10,703	117.9	F	5,601	22.9	C	10,743	112.3	F	5,657	24.2	C
SR-14 btwn Placerita Cyn & Golden Valley	3M + 1H	10,027	90.4	F	5,341	21.6	C	10,250	87.8	F	5,400	22.8	C
SR-14 btwn Golden Valley & Sierra Hwy	3M + 1H + 1A	10,207	43.5	E	5,341	16.6	B	10,261	44.0	E	5,412	17.9	B
SR-14 btwn Sierra Hwy & Sand Cyn	3M + 1H	7,939	40.8	E	4,154	16.1	B	8,017	41.9	E	4,253	17.6	B
SR-14 btwn Sand Cyn & Soledad Cyn	2M + 1H	7,018	63.5	F	3,672	19.4	C	7,028	62.4	F	3,704	20.6	C
SR-14 btwn Soledad Cyn & Agua Dulce Cyn	3M + 1H	6,805	57.4	F	3,561	18.7	C	6,815	56.8	F	3,593	19.9	C

Source: Table 4-13, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11-1 to this EIR)

M = Mixed Flow Lane
H = HOV or HOT Lane

Table 4.19-31 Freeway Ramp Peak Hour Volumes and V/C Summary – Cumulative Conditions

Interchange	Ramp	Lanes	Peak Hour Capacity	Without Project						With Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
SR-14 at Sand Canyon	SB On	1	1,500	1,360	.91	E	800	.53	A	1,440	.96	E	900	.60	A
	NB On	1	1,500	460	.31	A	800	.53	A	480	.32	A	830	.55	A
	SB Off	1	1,500	480	.32	A	270	.18	A	500	.33	A	300	.20	A
	NB Off	1	1,500	600	.40	A	1,270	.85	D	640	.43	A	1,390	.93	E

Source: Table 4-14, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11-1 to this EIR)

LOS – level of service NB – northbound
V/C – volume/capacity ratio SB – southbound

As shown in **Table 4.19-29** (page [4.19-41](#) above), SR-14 northbound segments between Newhall Avenue and Soledad Canyon Road are generally shown to exceed capacity under Without Project and With Project conditions during the PM peak hour. SR-14 southbound segments between I-5 and Agua Dulce Canyon Road are shown to exceed capacity under Without Project and With Project conditions during the AM peak hour. **Table 4.19-30** (page [4.19-42](#) above) shows that these segments are also forecast to operate at LOS E and LOS F conditions based on volume-density calculations. However, the volume of project traffic does not exceed the CMP threshold of significance and, therefore, does not result in a significant impact to the freeway mainline based on CMP criteria.

Even though the amount of increased traffic due to the Project would not exceed the CMP threshold of significance since the V/C increase due to the Project would be less than 0.02 at each location, the Project would contribute its pro rata share to the anticipated costs for design and implementation of future improvements on SR-14 as required by Caltrans. The Project share is calculated based on the Project's percentage of future vehicle trips, and is estimated to be approximately 1.6%. See Appendix E to the Traffic Impact Analysis (**Appendix 11-1** to this EIR) for fair share calculations.

Roadway improvements have been identified to mitigate the Project impacts identified above. **Table 4.19-32** below identifies the mitigation measures to address Project impacts in the Cumulative Conditions scenario. Also listed in the table is the Project's share of the cumulative growth in traffic.

Table 4.19-32 Mitigation Measures for Project Impacts – Cumulative Conditions

Location	Jurisdiction	Mitigation	Project Traffic Share %
3. Sand Canyon at Soledad Canyon	City	Intersection modification to restripe one northbound right-turn lane to a through lane (for 2 NB left, 2 NB through, and 1 NB right). Traffic signal timing modification to coordinate with Kenroy Avenue and SR-14 SB ramp intersections along Soledad Canyon Road.	24%
4. SR-14 SB Ramps at Soledad Canyon	City/Caltrans	Traffic signal modification to change westbound left-turn phasing from permissive to protective permissive.	26%

Source: Table 4-16, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (**Appendix 11-1** to this EIR)
See Appendix to the Traffic Impact Analysis (**Appendix 11-1** to this EIR) for fair share calculations based on peak hour volumes.

Each identified improvement in **Table 4.19-32** above would fully mitigate the Project's significant impacts, as shown in **Table 4.19-33** below.

Table 4.19-33 Intersection LOS Summary – Cumulative Conditions with Project Mitigation

Location	Cumulative Without Project				Cumulative With Project and Mitigation				Net Change with Mitigation	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		

Location	Cumulative Without Project				Cumulative With Project and Mitigation				Net Change with Mitigation	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
2. Kenroy & Soledad Cyn	14.3	B	15.8	B	8.5	A	18.5	B	-5.8	2.7
3. Sand Cyn & Soledad Cyn	54.3	D	71.6	E	48.2	D	67.8	E	-6.1	-3.8
4. SR-14 SB Ramps & Soledad Cyn	27.5	C	12.8	B	33.9	C	29.6	C	6.4	16.8

Source: Table 4-17, Traffic Impact Analysis, Stantec Consulting Services, Inc., dated December 21, 2016 (Appendix 11-1 to this EIR)

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM T-4	Sand Canyon at Soledad Canyon (Cumulative Conditions). Modify traffic signal timing to coordinate with Kenroy Avenue and SR-14 SB Ramp intersections along Soledad Canyon Road.
MM T-5	Sand Canyon at Soledad Canyon (Cumulative Conditions). Modify intersection to restripe one northbound right-turn lane to a through lane (for 2 NB Left, 2 NB Through and 1 NB Right) (Project Share = 24%).
MM T-6	SR-14 SB Ramps at Soledad Canyon (Cumulative Conditions). Modify traffic signal to change westbound left-turn phasing from permissive to protective permissive.
MM T-7	SR-14 Freeway Mainline (Cumulative Conditions). Contribute pro-rata share to the anticipated costs for design and implementation of future improvements. (Project Share = 1.6%).

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM T-4** through **MM T-7**, impacts would be less than significant.

4.19-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. Information sourced for consistency determination of goals and policies.

Stantec Consulting Services Inc., Sand Canyon Plaza Traffic Impact Analysis, December 2016.

4.20 Solid Waste

4.20-1 Summary

Upon buildout of the Project, and assuming that no solid waste would be recycled (worst-case scenario) the proposed Project would generate a total of 6,931.5 pounds of solid waste per day, or approximately 1,265 tons of solid waste per year. It can be assumed that the Project would meet the current recycling goals of the City and therefore, generate approximately 632.5 tons of solid waste per year.

While the Project would generate approximately 1,265 tons per year, it can also be assumed that the Project would meet the current recycling goals of the community and in actuality would only generate approximately 632.5 tons per year due to state mandate to divert at least 50% of potential waste disposal.

As indicated in this section, there is sufficient capacity at landfills that would serve the site to accommodate the project's solid waste. Therefore, impacts would be less than significant.

4.20-2 Introduction

This section describes the existing solid waste facilities used by the City, identifies the regulatory framework with respect to regulations that address solid waste, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project.

4.20-3 Existing Conditions

Existing Solid Waste Generation, Collection, and Disposal in the City of Santa Clarita

The City of Santa Clarita is served primarily by three Class III (nonhazardous) landfills:

- Chiquita Canyon Landfill
- Antelope Valley Landfill
- Sunshine Canyon Landfill

These landfills are all located near the City. The City exports a majority of its waste to the Chiquita Canyon Landfill and the remainder of its waste to the Antelope Valley Landfill and Sunshine Canyon Landfill in Sylmar.

The City's target per capita disposal rate is 5.8 pounds per person per day (ppd) for population and 15.0 ppd for employment. In 2007, the City disposed of 163,442 tons of waste with a population of 176,168 and employment of 67,729; the per capita waste generation equates to 5.07 ppd for population and 13.20 ppd for employment. In 2014, the City disposed of 141,395 tons of waste with a population of 209,130 and employment of 69,149; the per capita waste generation equates to 3.70 ppd for population and 11.20 for employment. From 2007 to 2014, the City was always below the targets established for population and employment. In addition, the City continues to improve its progress in diverting waste from landfills with its solid waste management programs. The City's

franchised haulers use commingled recycling facilities, construction and demolition recycling facilities, and composting facilities to divert materials from landfills.

Six private haulers are franchised by the City of Santa Clarita Department of Public Works to collect residential, commercial, and industrial waste in the City of Santa Clarita. The haulers operate under a three-franchise system – one for commercial uses, one for residential uses, and one for temporary bin/roll-off service. Under the residential franchise, the three haulers provide semi-automated and fully automated weekly service for recycled materials, trash, and yard trimmings. The collected waste may be taken to any landfill that is willing to accept it, and that provides the greatest economic advantages to the hauler based on location and disposal fees. Currently, most solid waste collected within Los Angeles County by private haulers is disposed of within Los Angeles County. However, this is not to say with absolute certainty that independent solid waste haulers do not take solid wastes over the County line. Landfills in the California desert, which would receive Los Angeles area waste by rail car, are currently in the permitting process. And, inter-county transfer of solid waste may occur in the near future if landfills outside Los Angeles County provide greater economic advantages to haulers or if landfills within the County reach capacity.

In 2014, approximately 141,395 tons of solid waste was disposed of by the City of Santa Clarita; refer to **Table 4.20-1** below. The table also provides a summary of landfill facilities utilized by the City of Santa Clarita since 2010, and identifies the permitted through date, daily permitted throughput, permitted capacity, and remaining capacity. The Project site is currently occupied with 123 mobile home units and generates solid waste.

Table 4.20-1 Landfills Summary

Facility	Permitted Through Date	Disposed from Santa Clarita in 2014 (tons/year) ¹	Permitted Throughput (tons/day) ²	Permitted Capacity (cubic yards) ²	Remaining Capacity (cubic yards) ²
Altamont Landfill ³			2,000		
American Avenue Disposal Site	8/31/2031		2,200	32,700,000	29,358,535
Antelope Valley Public Landfill	1/1/2042	1,304	3,654	6,480,000	2,978,143
Azusa Land Reclamation Company, Inc.	1/1/2045	137	8,000	80,571,760	51,512,201
Chiquita Canyon Sanitary Landfill	11/24/2019	126,371	6,000	63,900,000	22,400,000
Commerce Refuse-To-Energy Facility ³			1,000		
Covanta Stanislaus, Inc. ³			1,700		
El Sobrante Landfill	1/1/2045	2,574	16,054	184,930,000	145,530,000
Frank R. Bowerman Facility Landfill	12/31/2053	180	11,500	266,000,000	205,000,000
Lancaster Landfill and Recycling Center	3/1/2044	16	5,100	27,700,000	14,514,648
McKittrick Waste Treatment Site	12/31/2059	38	3,500	5,474,900	769,790
Mid-Valley Sanitary Landfill	4/1/2033		7,500	101,300,000	67,520,000
Olinda Alpha Sanitary Landfill	12/31/2021	138	8,000	148,800,000	36,589,707
Simi Valley Landfill & Recycling Center		2,215	3,000	43,500,000	9,473,131
Southeast Resource Recovery Facility ³			2,240		
Sunshine Canyon City/Landfill	12/31/2037	8,373	12,100	140,900,000	96,800,000
Victorville Sanitary Landfill	10/1/2047		3,000	83,200,000	81,510,000
Total		141,347	96,548	224,100,000	178,310,000

1. Source: Jurisdiction Disposal and ADC by Facility, CalRecycle <http://www.calrecycle.ca.gov/>, accessed February 17, 2016.

2. Source: Solid Waste Information System (SWIS), CalRecycle <http://www.calrecycle.ca.gov/>, accessed February 17, 2016.

3. The total permitted capacity excludes this facility.

Chiquita Canyon Sanitary Landfill

The landfill commenced operations in 1972 and has operated under a series of zoning entitlements approved by Los Angeles County. On May 20, 1997, the Los Angeles County Board of Supervisors approved Conditional Use Permit (CUP) 89-081-(5). CUP 89-081 was set to terminate upon the completion of the approved fill design or on November 24, 2019, except that the portion of the CUP as it applies to the materials recovery facility, household hazardous waste facility, and composting facility terminates on November 24, 2027. In addition, the CUP limited the maximum capacity of the landfill to 23 million tons. In July 2016, the landfill reached the 23 million ton disposal limit specified in Condition 46 of CUP 89-081, and in anticipation of reaching this limit the operator requested and the Los Angeles County Department of Regional Planning (DRP) granted a limited Waiver of County Code Section 22.04.110 to avoid closure of the landfill. The Waiver was issued to allow the landfill to continue receiving waste while a new CUP (CUP No. 200400042) is being processed, subject to the landfill's continued compliance with the conditions of the existing CUP. The Waiver expires when any of the following occurs: 1) the new CUP is approved, denied, or withdrawn; 2) July 31, 2017; or 3) the Waiver is revoked by the Director. The operator is pursuing a new CUP. A Partially Recirculated Draft EIR was available for public comment from November 9, 2016 to January 9, 2017. Public hearings began in early 2017 regarding the Partially Recirculated Draft EIR and the CUP.

4.20-4 Regulatory Setting

1. State of California

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan, that identifies how each jurisdiction will meet the mandatory state waste diversion goal of 50% by and after the year 2000. The purpose of AB 939 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.”

Subsequent legislation changed the reporting requirements and threshold, but restated source reduction as a priority. With the passage of Senate Bill 1016 (Solid Waste Disposal Measurement Act of 2008), jurisdictions are still required to divert waste at a rate equal to or greater than 50%, but rather than calculate a straight percentage value, the diversion rate is now based on tons of waste disposed per person per day. As of March 2010, neither CalRecycle nor the State Legislature has introduced new legislation to set diversion requirements beyond, the 50% as still stands with the passage of Senate Bill 1016, as discussed above.

The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment.

State Recycling Market Development Zone (RMDZ)

The City of Santa Clarita requested and was granted designation as a Recycling Market Development Zone (RMDZ). This designation provides the City with a small amount of funding and staff support from the CalRecycle to assist in the creation of business enterprises that take recycled materials and make them into marketable products for sale.

2. City of Santa Clarita

Integrated Solid Waste Management Program

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-Use and Recycling Access Act of 1991 (*California Public Resources Code* §42900-42911) directed the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate facilities for collecting and loading recyclable materials in development projects. If by September 1, 1994, a local agency did not adopt its own ordinance based on the CIWMB model, the CIWMB model took effect for that local agency. The City of Santa Clarita chose to use the CIWMB Model Ordinance by adopting City Resolution No. 93-97 in July 1993.

The Model Ordinance is used by the City as the basis for imposing recycling conditions on new development projects and on existing projects that add 30% or more to their existing floor area. The City of Santa Clarita has established a comprehensive Integrated Waste Management Program, which incorporates the hierarchy of preferred solid waste management practices as established by AB 939. These are, in order of priority: Source Reduction, Recycling, Composting, Transformation, and Landfilling. City-sponsored programs intended to address these solid waste management practices include:

- Sharps recycling
- Curbside manure recycling
- Curbside residential and commercial recycling
- Curbside Christmas tree recycling
- Educational outreach
- Yard trimming recycling
- Certified oil recycling collection centers
- Participation in the Household Hazardous Waste Program
- Home Composting Program
- City Facilities Recycling Program
- Procurement Policy
- Curbside Oil and Filter Recycling
- Project Pollution Prevention Week (including River Rally)
- Construction and Demolition Ordinance (Chapter 15.46) of the City's *Municipal Code*.

Source Reduction and Recycling Element

The City's Source Reduction and Recycling Element (SRRE) was prepared in response to AB 939. It described policies and programs that were implemented by the City to achieve the state's mandates of 25% and 50% waste disposal reductions by the years 1995 and 2000. Per the Integrated Waste Management Act of 1989, the SRRE projects disposal capacity needs for a 15-year period. The current SRRE 15-year period commenced in 1991. The City is in full compliance with the SRRE with regard to preparation of plans and policies. The City's 2006 diversion rate is 54%.

Household Hazardous Waste Element

The City's household hazardous waste management program, consisting of collection and public education/information services, has been formulated to serve residents throughout the City in a convenient and cost-effective manner. In addition to reducing the amount of waste that might otherwise be sent to a landfill as required by AB 939, these programs are important facets in the City's effort to clean up the solid waste stream. The City of Santa Clarita adopted its HHWE in 1991.

Non-Disposal Facility Element

The City's NDFE identifies proposed and existing materials recovery facilities/transfer station that the City intends to utilize to implement its SRRE and meet the diversion requirements of AB 939. In addition, the City's NDFE also identifies the utilization of the Chiquita Canyon Landfill for diversion of yard trimmings. The Chiquita Canyon Landfill received approval to operate a composting facility and the composting operation was initiated in October 1996. The City amended the NDFE to include six new facilities which sort construction and demolition waste, green waste, and commingled recyclables. The City Council adopted a resolution and the State approved it in 2009.

Beyond 50% Waste Reduction by 2000 Report

In July 1996, the City Council adopted the Beyond 50% Waste Reduction by 2000 Report. The report identifies the current state of waste management service provided to residents. The report found that a franchise arrangement for citywide refuse collection remains the most cost-effective alternative for the City to comply with the established waste reduction goal of 50% by the end of 2005.

As part of the City's ongoing efforts to divert waste from landfills, the City Council adopted the Construction and Demolition Debris Recycling Ordinance in July 2005. The ordinance will require a minimum of 50% diversion of the waste materials generated through construction and demolition related projects valued over \$500,000 (including the proposed project) and tenant improvement projects valued \$100,000 or more throughout the City. The program requires recycling of waste materials coming from construction and demolition projects such as wood, cement, and bricks.

Construction and Demolition Ordinances

The City has adopted two construction and demolition ordinances, Ordinance 05-9 (June 28, 2005) and Ordinance 08-1 (February 12, 2008). Ordinances 05-9 and 08-1 apply to all new construction projects valued over \$500,000 and all tenant improvements valued at over \$100,000. These ordinances required covered projects to recycle a minimum of 50% of all inert materials (concrete, rock, dirt, and sand) and recycle a minimum of 50% of all other materials (wood, drywall, cardboard, and metal) generated during a covered project. Covered projects shall comply with the provisions of the City's *Municipal Code* Chapter 15.46 through Conditions of Approval (COA) and shall submit a Construction and Demolition Materials Management Plan to the City's Building and Safety Division for review and approval by the Director of Public Works.

General Plan

Applicable goals, objectives, and policies from the General Plan Land Use and Conservation and Open Space Elements are listed below.

Environmentally Responsible Development

Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.

Objective LU 7.5: Promote waste reduction through site and building design.

Policy LU 7.5.1: Ensure that all new development provides adequate space for recycling receptacles and bins on site.

Policy LU 7.5.2: Promote the use of recycled building materials.

Public Facilities

Goal LU 9: Adequate public facilities and services, provided in a timely manner and in appropriate locations to serve existing and future residents and businesses.

Objective LU 9.1: Coordinate land use planning with provision of adequate public services and facilities to support development.

Policy LU 9.1.6: Coordinate with appropriate agencies and organizations to ensure that landfill expansion needs are met while minimizing adverse impacts to Valley residents.

Policy LU 9.1.7: Provide for location of additional waste transfer stations and other facilities to promote recycling and reuse of materials within Industrial designations on the Land Use Map, subject to applicable zoning requirements.

Responsible Management of Environmental Systems

Goal CO.1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in present and in the future.

Objective CO 1.3: Conserve and make more efficient use of non-renewable resource systems, such as fossil fuels, minerals, and materials.

Policy CO 1.3.3: Provide informational material to the public about programs to conserve non-renewable resources and recover materials from the waste stream.

Objective CO 1.4 Minimize the long-term impacts posed by harmful chemical and biological materials on environmental systems.

Policy CO 2.1.3: Promote soil enhancement and waste reduction through composting, where appropriate.

Greenhouse Gas Reduction

Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases.

Objective CO 8.4: Reduce energy consumption for processing raw materials by promoting recycling and materials recovery by all residents and businesses throughout the community.

Policy CO 8.4.3: Allow and encourage composting of greenwaste, where appropriate.

Policy CO 8.4.4: Promote commercial and industrial recycling, including recycling of construction and demolition debris.

Policy CO 8.4.5: Develop and implement standards for refuse and recycling receptacles and enclosures to accommodate recycling in all development.

Program Environmental Impact Report for the City of Santa Clarita's One Valley One Vision General Plan (General Plan EIR)

The Final Program Environmental Impact Report (May 2011, certified June 14, 2011) provides analysis and mitigation measures for solid waste impacts associated with buildout of the General Plan. The mitigation measures are restated below and would be required as applicable, per a determination by the City of Santa Clarita.

MM 3.17-1 The City of Santa Clarita shall follow state regulations in implementing the goals, policies, and programs identified in the Los Angeles County Integrated Waste Management Plan in order to achieve and maintain a minimum of 50% reduction in solid waste disposal through source reduction, reuse, recycling, and composting.

- MM 3.17-2 The City shall require all future commercial, industrial and multifamily residential development to provide adequate areas for the collection and loading of recyclable materials (i.e., paper products, glass, and other recyclables) in compliance with the State Model Ordinance, implemented on September 1, 1994, in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991.
- MM 3.17-3 The City shall require all development projects to coordinate with appropriate City/County departments and/or agencies to ensure that there is adequate waste disposal capacity to meet the waste disposal requirements of the City's Planning Area, and the City shall recommend that all development projects incorporate measures to promote waste reduction, reuse, recycling, and composting.
- MM 3.17-4 All new development in the City's Planning Area will be required to implement existing and future waste reduction programs in conformance with the City's Planning Area SRRE program.
- MM 3.17-5 Any hazardous waste that is generated on site, or is found on site during demolition, rehabilitation, or new construction activities shall be remediated, stored, handled, and transported in compliance per appropriate local, state, and federal laws, as well as with the City's SRRE.
- MM3.17-6 On a project by project basis and prior to approval of individual projects, each applicant for a permit for any covered project shall complete and submit to the Building & Safety Division a Construction and Demolition Materials Management Plan (C&DMMP), approved by the City's Director of Public Works, or the Director's Designee, on a C&DMMP form approved by the City. The completed C&DMMP, at a minimum, shall indicate all of the following:
1. the estimated weight of project C&D materials, by materials type, to be generated;
 2. the maximum weight of C&D materials that it is feasible to divert, considering cost, energy consumption and delays, via reuse or recycling;
 3. the vendor or facility that the applicant proposes to use to collect, divert, market, reuse or receive the C&D materials;
 4. the estimated weight of residual C&D materials that would be transported for disposal in a landfill or transformation facility; and
 5. the estimated weight of inert waste to be removed from the waste stream and not disposed of in a solid waste landfill.

4.20-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to solid waste are contained in the Environmental Checklist Form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to solid waste if any of the following could occur.

Util-1	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
Util-2	Would the project comply with federal, state, and local statutes and regulations related to solid waste?

4.20-6 Impacts Analysis

Util-1 Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Construction Impacts

Site preparation (vegetation removal and grading activities), demolition of on-site structures and infrastructure, and construction activities would generate typical construction debris, including wood, paper, glass, plastic, metals, cardboard, and green wastes. Construction activities could also generate hazardous waste products. The wastes generated would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities within Los Angeles County. Implementation of Mitigation Measure **MM Util-1**, and compliance with the Municipal Code and General Plan goals and policies, construction-related impacts would be considered less than significant.

Operational Impacts

As shown in **Table 4.20-2** below, the Project would generate approximately 1,265 tons (7,736.96 cubic yards) per year of solid waste. Solid waste generated by the Project would be collected by a hauler franchised by the City.

Table 4.20-2 Project-Generated Solid Waste

Use	Amount	Generation Factor (pounds/day)*	Generated by Project (pounds/day)	Generated by Project (tons/day)	Generated by Project (tons/year)
Commercial/Retail/Restaurant	55,600 SF	0.046 per SF	2,557.6	1.28	466.8
Assisted Living	120 rooms/beds	5 per bed	600.0	0.30	109.5
Single-Family Residential	148 DU	10 per DU	1,480.0	1.15	418.6
Multi-Family Residential	432 DU	5.31 per DU	2,293.9	0.74	270.1
Total			6,931.5	3.47	1,265.0

Source: *Estimated Solid Waste Generation and Disposal Rates, CalRecycle, <http://www.calrecycle.ca.gov/wastechar/wastegenrates>, accessed February 17, 2016

SF = square feet; DU = dwelling unit

This quantity represents the Project's solid waste generation under a worst-case scenario without any recycling activities in place, and taking no reduction for the existing 123 mobile home units on-site to show a net increase. Thus, this represents a conservative assumption.

However, under the City Model Ordinance, the Project would be required to provide adequate areas for collecting and loading recyclable materials in concert with countywide efforts and programs to reduce the volume of solid waste entering landfills. While the Project would generate approximately 1,265 tons per year, it can also be assumed that the Project would meet the current recycling goals of the community and in actuality, only generate approximately 632.5 tons per year due to state mandate to divert at least 50% of potential waste disposal.

Three potential landfills that would serve the site (Chiquita Canyon Sanitary Landfill, Antelope Valley Public Landfill, and Lancaster) have approximately 22,400,000, 29,358,535, and 14,514,648 cubic yards of capacity remaining, respectively. The Project represents 0.0019% of the total remaining capacity and 0.005% of the daily capacity of the three potential landfills that would serve the Project.

Therefore, with the implementation of Mitigation Measures **MM Util-2** through **MM Util-4** and compliance with the Municipal Code and General Plan goals and policies, long-term operational impacts on a Project-specific basis would be less than significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

MM Util-1 The project application shall complete and submit to the Building & Safety Division a Construction and Demolition Materials Management Plan (C&DMMP), approved by the City's Director of Public Works, or the Director's Designee, on a C&DMMP form approved by the City. The completed C&DMMP, at a minimum, shall indicate all of the following:

1. the estimated weight of project C&D materials, by materials type, to be generated;
2. the maximum weight of C&D materials that it is feasible to divert, considering cost, energy consumption and delays, via reuse or recycling;
3. the vendor or facility that the applicant proposes to use to collect, divert, market, reuse or receive the C&D materials;
4. the estimated weight of residual C&D materials that would be transported for disposal in a landfill or transformation facility; and
5. the estimated weight of inert waste to be removed from the waste stream and not disposed of in a solid waste landfill. (General Plan EIR Mitigation Measure 3.17-6)

MM Util-2 The Project Applicant shall provide adequate areas for the collection and loading of

	recyclable materials (i.e., paper products, glass, and other recyclables) in compliance with the State Model Ordinance, implemented on September 1, 1994, in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991. (General Plan EIR Mitigation Measure 3.17-2)
MM Util-3	The Project Applicant shall be required to implement waste reduction programs in conformance with the City's Source Reduction and Recycling Element program. (General Plan EIR Mitigation Measure 3.17-4)
MM Util-4	Any hazardous waste that is generated on site, or is found on site during demolition, rehabilitation, or new construction activities shall be remediated, stored, handled, and transported in compliance per appropriate local, state, and federal laws, as well as with the City's Source Reduction and Recycling Element. (General Plan EIR Mitigation Measure 3.17-5)

Level of Significance After Mitigation

With implementation of Mitigation Measures **MM Util-1** through **MM Util-4**, impacts would be less than significant.

Util-2 Would the project comply with federal, state, and local statutes and regulations related to solid waste?

During construction and operation, the Project would be required to comply with all federal, state, and local solid waste regulations, including the 2013 Green Building Standards Code, and AB 939 waste diversion requirements. The 2013 Green Building Standards Code aims to improve the health, safety, and general welfare of the public by incorporating design and construction measures which result in waste reduction by promoting material conservation and the efficient use of resources. As discussed above, the most recent data published by CalRecycle shows that the City met the diversion rate required by AB 939 and AB 1016 in 2014. Thus, impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.20-7 Cumulative Impacts

As shown in **Table 4.20-1** above (page [4.20-2](#)), several regional landfills have sufficient capacity to serve the City's anticipated waste disposal needs. The General Plan EIR estimated that the amount of waste disposed and generated at buildout of the General Plan would be 233,267.9 tons per year. The Project was accounted for in the General Plan represents 0.54% of the total solid waste generated in the City at buildout.

Similar to the Project, related projects would be required to evaluate their solid waste impacts (including hazardous waste) prior to the start of any construction activities and mitigate significant impacts when possible. During operation, related projects would be required to comply with state diversion rates and all federal, state, and local solid waste legislation to support the City's and County's efforts and programs to reduce the volume of solid waste entering landfills.

While solid waste impacts would be evaluated on a project-by-project basis, the County of Los Angeles has identified strategies for maintaining adequate disposal capacity through 2027. In addition, the County continues to ensure that current diversion rates are met (while continuing to increase the County-wide diversion rate), to guarantee that adequate disposal capacity is available in future years. Implementation of each jurisdiction's SRRE measures would be required on a project-by-project basis. Implementation of recycling measures and the development of additional Materials Recovery Facilities (MRF) would increase the amount of diverted solid waste through recovery and consolidation.

All cumulative development within the project vicinity and Los Angeles County would be required to comply with all applicable federal, state, and local statutes and regulations related to solid waste. This includes compliance with the Solid Waste Management and Resource Recovery Act and AB 939, which requires a 50% diversion of all solid waste from disposal in local landfills. In conclusion, with implementation of project-specific mitigation measures, determined by City staff as part of the plan review, and General Plan EIR mitigation measures, as applicable, and compliance with the Municipal Code and General Plan goals and policies, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.20-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. Information sourced to determine consistency with General Plan goals and policies.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

Estimated Solid Waste Generation and Disposal Rates, CalRecycle, <http://www.calrecycle.ca.gov/wastechar/wastegenrates>, accessed February 17, 2016. Sourced for determining recycled and trash estimates.

Jurisdiction Disposal and ADC by Facility, CalRecycle <http://www.calrecycle.ca.gov/>, accessed February 17, 2016. Sourced for determining recycled and trash estimates.

Solid Waste Information System (SWIS), CalRecycle <http://www.calrecycle.ca.gov/>, accessed February 17, 2016. Sourced for determining recycled and trash estimates.

4.21 Wastewater

4.21-1 Summary

Construction related impacts to wastewater disposal would not be significant, because portable, on-site sanitation facilities would be utilized during construction. The Project, at buildout, would generate a worst-case average total of 138,942 gallons per day of wastewater that would be treated by the Santa Clarita Valley Sanitation District (the Saugus and Valencia Water Reclamation Plants). These facilities have adequate capacity to accommodate the Project's wastewater generation. For this reason and based on supporting analysis provided below, wastewater disposal impacts would not be significant.

4.21-2 Introduction

This section describes the existing wastewater facilities within the City, identifies the regulatory framework with respect to regulations that address wastewater, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Canyon Mixed-Use Project.

4.21-3 Existing Conditions

Wastewater Service

Most wastewater generated within the Santa Clarita Valley is treated at two existing water reclamation plants, which are operated by the County Sanitation Districts of Los Angeles County (CSDLAC). These two treatment facilities, the Saugus Water Reclamation Plant (SWRP) located at 26200 Springbrook Avenue in Saugus, and the Valencia Water Reclamation Plant (VWRP) located at 28185 The Old Road in Valencia, have been interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). The relationship between the two water reclamation plants was established through a joint powers agreement that created the regional treatment system and permits the VWRP to accept flows that exceed the capacity of the SWRP.

These two facilities provide primary, secondary, and tertiary treatment. The SCVJSS has a combined permitted treatment capacity of 28.1 million gallons per day (mgd) and currently processes an average flow of 18.9 mgd.¹¹⁸

The mechanism used to fund expansion projects is the CSDLAC's Connection Fee Program. Prior to the connection of the local sewer network to the CSDLAC system, all new users are required to pay their fair share of the CSDLAC sewerage system expansion through a connection fee. The fees

118 Written correspondence from Adriana Raza, Customer Service Specialist, County Sanitation District of Los Angeles County, January 15, 2016.

fund treatment capacity expansion and trunk lines, while on-site sewer mains are the responsibility of the developer. The rate at which connections are made off-site and revenues accumulate drives the rate at which periodic expansions of the system are designed and built. However, connection permits are not issued unless it is demonstrated that sufficient capacity exists to serve proposed development. Therefore, the expansion of CSDLAC facilities may be immediate if adequate capacity does not exist to serve new users, or the expansion may occur in the future if it is determined that there is adequate capacity to serve new users, but inadequate capacity to serve future development within the tributary area(s) of the affected collection/treatment facilities, thereby necessitating future system expansions. In the latter case, the connection fees paid by new users are deposited into a restricted Capital Improvement Fund (CIF) used solely to capitalize the future expansion of affected system facilities. The cyclical process of building phased expansions and collecting connection fees can continue indefinitely. The only restriction would be when the CSDLAC run out of land.

Wastewater Ordinance¹¹⁹

Santa Clarita Municipal Code Chapter 15.20, Sanitary Sewers and Industrial Waste, indicates that the City of Santa Clarita has adopted, except as otherwise provided, by reference as a sanitary sewer and industrial waste ordinance, Los Angeles County Code, Title 20, Utilities, Division 2. Ordinance No. 90-18 was adopted on July 24, 1990 and Ordinance No. 09-8 Section 1 was adopted on June 9, 2009.

The provisions of this ordinance shall apply to all direct or indirect discharges, including the discharge of all wastewater to any part of the sewerage systems of the Districts, or to other sewerage systems tributary to the District's sewerage system. The provisions of this ordinance shall also apply to wastewater originating outside the territorial boundaries of the Districts or outside the boundaries of Los Angeles County if such wastewater eventually enters the District's sewerage system. This ordinance among other things regulates sewer construction and provides for the approvals of plans for sewer construction and implements federal and state pollution control regulations. The ordinance also provides for the issuance of permits, including permits for industrial wastewater discharge, prohibits the discharge of certain wastes and regulates the quantity of other waste discharges. The ordinance imposes wastewater pretreatment requirements upon waste discharges and provides for the regulation of the degree of such pretreatment. Lastly, this ordinance provides for the distribution of revenue. Violations of the ordinance are subject to criminal fines and penalties, civil liabilities and other penalties in accordance with the law.

119 Draft Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., September 2010.

Chloride¹²⁰

On November 4, 2008, the Santa Clarita Valley Sanitation District Board approved the Santa Clara River Chloride Reduction Ordinance of 2008. The ordinance took effect January 1, 2009. The ordinance prohibits residential automatic water softeners in the Santa Clarita Valley and prescribes measures the Sanitation Districts must undertake to reduce chloride. The standard method of disinfection using chlorine gas would be replaced with an ultraviolet (UV) system in an effort to further reduce all possible sources of chloride in the wastewater.

SWRP and VWRP Upgrade¹²¹

The nitrification and denitrification modification was constructed at the VWRP and the SWRP in 2004. The implementation of the Santa Clara River Chloride Reduction Ordinance prohibits residents from owning salt-based water softeners within the Santa Clarita Valley. While removal of these softeners would reduce the chloride discharge to the Santa Clara River, it does not eliminate the need to install some advanced treatment to meet discharge regulations.

Santa Clarita Valley Sanitation District Supplemental Environmental Impact Report for Brine Concentration and Limited Trucking¹²²

The Santa Clarita Valley Sanitation District (SCVSD) prepared a Draft Supplemental Environmental Impact Report for Brine Concentration and Limited Trucking (Draft SEIR). This effort is part of a project to comply with a state-mandated limit on the level of chloride (salt) that can be discharged from the SCVSD's wastewater (sewage) treatment plants. On October 28, 2013, the SCVSD Board of Directors approved a chloride compliance project and certified the associated Environmental Impact Report (Certified EIR). Under the approved chloride compliance project, advanced treatment facilities will be added at the Valencia Water Reclamation Plant (VWRP) to reduce chloride levels in the Santa Clarita Valley's treated wastewater (sewage) and comply with the state-mandated chloride limit for the Santa Clara River. Brine, a salty water byproduct from advanced treatment, was originally to be managed by deep well injection. The SCVSD now proposes to modify one component of the approved compliance project—the approach to brine management.

The modification to the approved chloride compliance project is to replace brine management by deep well injection with the addition of brine concentration equipment at the VWRP and limited trucking of concentrated brine (an average of 6 truckloads per day, 10 maximum, during off-peak hours) to an existing industrial facility. The SCVSD would truck during off-peak hours to avoid

120 Draft Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., September 2010.

121 Draft Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Volume I, One Valley One Vision 2010, Impact Sciences, Inc., September 2010.

122 Source: Public Notice of Availability, Santa Clarita Valley Sanitation District Supplemental Environmental Impact Report for Brine Concentration and Limited Trucking (Draft), County Sanitation Districts of Los Angeles County website, <http://lacsdc.org/civicax/filebank/blobdload.aspx?blobid=11034>, accessed February 15, 2016.

morning and evening rush hours. The technology proposed would reduce the volume of brine requiring disposal and the resulting number of truckloads per day by 90% (i.e., 6 instead of 60 truckloads per day) compared to the trucking alternative evaluated in the Certified EIR. The brine concentration facilities would be installed within the existing footprint in an area of disturbed but undeveloped land. Trucks would be loaded with concentrated brine at a new truck loading station located adjacent to the brine concentration equipment. Concentrated brine would be trucked to an existing industrial facility. The currently proposed location is the Joint Water Pollution Control Plant (JWPCP) in Carson, which treats wastewater from much of the Los Angeles Basin (over 270 mgd) and discharges to the ocean. This site is proposed for several reasons. First, the JWPCP contains authorized disposal stations for trucked wastewater such that no construction would be required to accept SCVSD's brine. Second, the haul route from the freeway to the JWPCP is less than 1 mile and does not pass any residences.

As of February 2017, the Draft Supplemental EIR was being revised and continuing through the CEQA process.

CSDLAC Facilities Plan

The CSDLAC prepared a 2015 Facilities Plan for the SCVJSS and an Environmental Impact Report dated January 1998. The 2015 Facilities Plan estimates future wastewater generation for the probable future service area of Santa Clarita Valley Sanitation Districts (SCVSD) in order to anticipate future treatment capacity and wastewater conveyance needs. According to CSDLAC estimates, total flows projected from the Santa Clarita Valley, exclusive of Newhall Ranch, would be 34.1 mgd. This projection is based upon SCAG 1996 population projections exclusive of Newhall Ranch. As a result of this finding, CSDLAC proposed to incrementally expand the treatment facilities to meet future needs in two expansions to a total of 34.1 mgd. This two-phase expansion plan, which increases treatment capacity by approximately 15 mgd, has been completed and has expanded treatment capacity by approximately 9 mgd (approximately a 47% increase) from 19.1 mgd. The second phase would increase treatment capacity by an additional 6 mgd and would be constructed as dictated by actual flow increases.

Wastewater Collection System

The CSDLAC wastewater collection system is composed of service connections that tie into the local collection network. This local network, comprising secondary and primary collectors, flows into the CSDLAC's trunk wastewater mains and the water reclamation plants. The CSDLAC maintains the wastewater trunk mains that lead to the two reclamation plants, and the local collection network is maintained by the Los Angeles County Department of Public Works Sewer Maintenance for the City of Santa Clarita. The SCVSD of Los Angeles County operates the Saugus Water Reclamation Plant (SWRP) and the Valencia Water Reclamation Plant (VWRP).

The project site is currently developed, and as such, includes a wastewater collection and conveyance system on the property. Sewer lines exist on-site and in the immediate vicinity. The CSDLAC has indicated that a portion of the Project site is outside the jurisdictional boundaries of the CSDLAC and will require annexation into the SCVD before sewerage service can be provided into to the Project.

The City Department of Public Works requires that new subdivision wastewater systems connect to the CSDLAC's existing sanitary wastewater system. The Public Works Department is the department responsible for local wastewater in the City of Santa Clarita, and any developer constructing a new wastewater line would have to coordinate the construction and dedication of any such wastewater line with the Department. As previously noted, the City contracts with the Los Angeles County Department of Public Works for future operation and maintenance of local wastewater lines. It would then be the responsibility of the CSDLAC to upgrade the wastewater collection and treatment systems by providing relief for existing trunk lines nearing capacity and expanding treatment plants to provide sanitation service to outlying areas.

4.21-4 Regulatory Setting

1. Federal

Clean Water Act/National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) (*33 United States Code* §1251 et seq.) is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutants discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. The CWA makes it illegal to discharge pollutants from a point source to the waters of the United States. CWA Section 402 creates the National Pollutant Discharge Elimination System (NPDES) regulatory program. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Though not regulated under NPDES, "indirect" discharges are covered by

another CWA program, called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering a surface water.

National Pretreatment Program

The National Pretreatment Program is an extension of NPDES regulatory program. The National Pretreatment Program is a cooperative effort of federal, state, and local regulatory environmental agencies established to protect water quality. The program is designed to reduce the level of pollutants discharged by industry and other non-domestic wastewater sources into municipal sewer systems, and thereby, reduce the amount of pollutants released into the environment through wastewater. The objectives of the program are to protect Publicly Owned Treatment Works (POTW) from pollutants that may interfere with plant operation, to prevent pollutants that may pass through untreated from being introduced into the POTW, and to improve opportunities for the POTW to reuse wastewater and sludges that are generated.

The term *pretreatment* refers to the requirement that non-domestic sources discharging wastewater to POTWs control their discharges, and meet limits established by EPA, the state or local authority on the amount of pollutants allowed to be discharged. The control of the pollutants may necessitate treatment prior to discharge to the POTW (therefore the term *pretreatment*). Limits may be met by the non-domestic source through pollution prevention techniques (product substitution recycle and reuse of materials) or treatment of the wastewater.

2. State of California

State Water Resources Control Board

In California, the State Water Resources Control Board (SWRCB) is responsible for ensuring the highest reasonable quality of waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The SWRCB's current challenge is exacerbated by California's rapid population growth, and the continuing struggle over valuable water flows. The agency faces tough new demands which include fixing ailing sewer systems; building new wastewater treatment plants; and tackling the cleanup of underground water sources impacted by the very technology and industry that has provided California with a robust economy and made it a desirable place to live.

3. City of Santa Clarita

General Plan

Applicable goals, objectives, and policies from the General Plan Land Use Element are listed below.

Public Facilities

Goal LU 9: Adequate public facilities and services, provided in a timely manner and in appropriate locations to serve existing and future residents and businesses.

Objective LU 9.1: Coordinate land use planning with provision of adequate public service and facilities to support development.

Policy LU 9.1.1: Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.

4.21-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to wastewater are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to wastewater if any of the following could occur.

Util-3	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
Util-4	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Util-5	Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

4.21-6 Impacts Analysis

- Util-3** Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Util-4** Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Util-5** Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Wastewater flow originating from the project site would discharge to a local sewer line, which is not maintained by the CSDLAC, for conveyance to the CSDLAC's Soledad Canyon Trunk Sewer, Section 5, located in the Sand Canyon Road at Lost Canyon Road.¹²³ This pipeline is 18 inches in diameter and has the capacity of 5.7 mgd and conveyed a peak flow of 2.3 mgd when last measured in 2012.¹²³ As previously discussed, the SCVJSS provide regional wastewater treatment. Thus, the SCVJSS would accept flows from the project site.

The CSDLAC anticipates the Project would generate an average wastewater flow of 138,942 gallons per day.¹²³ The wastewater generated by the Project would be approximately 0.497% of the SCVJSS' treatment capacity of 28.1 mgd for average day flows. The Soledad Canyon Trunk Sewer, Section 5, had an available capacity of 3.4 mgd in 2011.¹²³ The Project represents 4.09% of the available capacity in Section 5.

As previously discussed, the CSDLAC requires new users to pay a fee to connect to the CSDLAC's Sewerage System. Therefore, the CSDLAC would require payment of a connection fee to construct any incremental expansion of the SCVJSS to accommodate the Project. Furthermore, the City of Santa Clarita would not issue connection permits to the sewer system if it cannot be demonstrated that sufficient capacity exists to serve the proposed development. The Project Applicant has prepared a sewer area study that been reviewed and approved by the City. The sewer area study shows that there is adequate capacity for the Project. Thus, the Project could not cause an exceedance of capacity of the wastewater conveyance system or SCVJSS treatment plants, since adequate capacity must be demonstrated in order to contribute flows to the system. Implementation of Mitigation Measure **MM Util-5** would ensure impacts to the wastewater conveyance and treatment facilities would be less than significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

¹²³ Written correspondence from Adriana Raza, Customer Service Specialist, County Sanitation District of Los Angeles County, January 15, 2016.

Mitigation Measures

MM Util-5 Payment of a connection fee to the County Sanitation Districts of Los Angeles County shall be made prior to issuance of a permit to connect (directly or indirectly) to the County Sanitation Districts of Los Angeles County's Sewerage System.

Level of Significance after Mitigation

With implementation of Mitigation Measure **MM Util-5**, impacts would be less than significant.

4.21-7 Cumulative Impacts

At the time of project design, each project applicant would be required to prove to the CSDLAC and the City of Santa Clarita or County of Los Angeles that the additional flow would not impact the sewer system or provide adequate funds for necessary improvements to the sewer system. Due to this requirement, the Project and related projects would not result in significant impacts to wastewater service and facilities. The legally permitted levels of sewer service are contingent upon the available capacity of the CSDLAC's treatment facilities, which is in turn limited to levels associated with approved growth identified by SCAG.

The wastewater flow associated with the Project and related projects are not anticipated to exceed levels associated with approved growth, as identified by SCAG's regional growth forecasts. Nonetheless, the City of Santa Clarita would not issue connection permits to the sewer system if it cannot be demonstrated that sufficient capacity exists to serve a proposed development project. As such, wastewater flows from the Project and other related projects could not cause an exceedance of capacity of the wastewater conveyance system or SCVJSS treatment plants, since adequate capacity must be demonstrated in order to contribute flows to the system. With implementation of applicable mitigation, which requires approval of points of connection and quantification of the available capacity in the affected portions of the sewer system serving the City, impacts would be less than significant. The Project and related projects would be required to pay a connection fee to mitigate impacts of the development on the sewerage system.

The City and CSDLAC would review site-specific development plans to determine the impact on existing sewer mains. Individual projects would be required to pay the cost to relocate existing sewer mains impacted by new development. Development of the Project would not result in significant cumulative impacts in regards to wastewater services.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

Refer to Mitigation Measure **MM Util-5**. No additional mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.21-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. Sources for determination of consistency with goals and policies.

Final Program Environmental Impact Report for the City of Santa Clarita's Proposed One Valley One Vision General Plan, Impact Sciences, Inc., dated May 2011, certified June 14, 2011.

Vista Canyon Draft Environmental Impact Report, Impact Sciences, Inc., October 2010.

Written correspondence from Adriana Raza, Customer Service Specialist, County Sanitation District of Los Angeles County, January 15, 2016. Sourced for latest waste water statistics.

Public Notice of Availability, Santa Clarita Valley Sanitation District Supplemental Environmental Impact Report for Brine Concentration and Limited Trucking (Draft), County Sanitation Districts of Los Angeles County website, <http://lacsdc.org/civicax/filebank/blobdload.aspx?blobid=11034>, accessed February 15, 2016.

4.22 Water Supply

4.22-1 Summary

The Santa Clarita Water Division of Castaic Lake Water Agency has prepared the required SB 610 Water Supply Assessment (WSA). The WSA demonstrates that sufficient water supplies would be available to meet the projected water demands associated with the Project during normal, single-dry, and multiple-dry years over a 35-year horizon, in addition to existing and planned future uses (including agricultural, manufacturing, and industrial uses) throughout the entire Santa Clarita Valley. CLWA and the retail purveyors have adequate supplies to meet all service area existing and projected demands through 2050.

4.22-2 Introduction

This section describes the regulatory framework with respect to regulations that address water supply, and evaluates the significance of the potential changes in these factors that could result from implementation of the Sand Canyon Plaza Mixed-Use Project. A Water Supply Assessment was prepared for the Project, dated July 2016, which is included as **Appendix 12** to this EIR.

4.22-3 Existing Conditions

Water Service

Castaic Lake Water Agency

The Castaic Lake Water Agency (CLWA) was formed in 1962 for the purpose of contracting with the California Department of Water Resources (DWR) to acquire and distribute imported State Water Project (SWP) water to the water purveyors in the Valley. CLWA serves an area of 195 square miles in Los Angeles and Ventura Counties.

Adequate planning for, and the procurement of, a reliable water supply is a fundamental function of CLWA. CLWA obtains its water supply for wholesale purposes principally from the SWP and currently has a long-term SWP water supply contract (SWP Contract) with DWR for 95,200 acre-feet (AF) of SWP Table A Amount. However, the availability of SWP supply is variable. It fluctuates from year to year depending on precipitation, regulatory restrictions, legislative restrictions, and operational conditions and is subject to substantial curtailment during dry years.

Due to this variability, CLWA and the retail purveyors have developed additional water supplies, as well as storage in groundwater banks. The primary additional supply is a surface supply that CLWA imports from the Buena Vista Water Storage District (Buena Vista or BVWSD) and the Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo or RRBWSD) in Kern County. This supply, which is developed from Buena Vista's high flow Kern River entitlements, was first delivered to CLWA in 2007 and is available as a firm annual supply delivered to CLWA through

SWP facilities. In addition, CLWA is able to manage some of the variability in its SWP supplies under certain provisions of its SWP Contract, including the use of flexible storage at Castaic Lake, as well as through its participation in several groundwater banking/exchange programs in Kern County.

All imported water is delivered to Castaic Lake through SWP facilities. From Castaic Lake, which serves as the terminal reservoir of the SWP's West Branch, the water is treated at either CLWA's Earl Schmidt Filtration Plant or Rio Vista Water Treatment Plant and delivered to the retail water purveyors through transmission lines owned and operated by CLWA.

On average, CLWA is able to meet approximately one-half of the Santa Clarita Valley's urban demand with imported water. CLWA and the retail purveyors meet the balance of their demands primarily with local groundwater and a small amount of recycled water. As further set forth in the WSA and the 2015 UWMP, CLWA, and the retail purveyors have evaluated the long-term water needs (water demand) within their service areas based on applicable population projections and county and city land use plans, and have compared these needs against existing and potential water supplies. Results indicate that the total projected water supplies available to CLWA and the retail purveyors over the next 20-year projection and beyond during normal, single-dry, and multiple-dry year periods are sufficient to meet the total projected water demands throughout the Santa Clarita Valley, where CLWA and the retail purveyors plan to utilize increased proportions of SWP Table A Amounts, and will continue to incorporate conjunctive use, water conservation, water transfers, recycled water, and water banking as part of the total water.

Santa Clarita Water Division

The Santa Clarita Water Division (SCWD) is one of the four retail water agencies within the Santa Clarita Valley (Valley), serving the eastern part of the Valley. The Sand Canyon Plaza Mixed-Use Project site is located within SCWD's service area; thus, SCWD would be the retail water supplier for the Project.

SCWD's service area includes portions of the City of Santa Clarita and unincorporated portions of Los Angeles County in the communities of Saugus, Canyon Country, and Newhall. SCWD's current service area includes a mix of residential and commercial land uses, mostly comprising single-family homes, apartments, condominiums, and a number of local shopping centers and neighborhood commercial developments. SCWD has 14 wells and approximately 30,800 service connections. SCWD receives SWP water and other imported supplies from CLWA through 13 turnouts. SCWD generally produces water using a mix of groundwater and imported water with some variation in the mix depending on peak demands and weather conditions. Recycled water is being planned for delivery to customers for non-potable uses, such as landscape irrigation.

The groundwater basin in the Santa Clarita Valley is un-adjudicated, meaning that neither SCWD nor the other purveyors have specific adjudicated water rights or specific limitations that dictate

their water supply. However, in practice, SCWD accesses available groundwater supplies pursuant to appropriative groundwater rights in the basin and in accordance with a groundwater operating plan developed by SCWD, CLWA, and the other retail water purveyors in the Santa Clarita Valley, and complemented by analyses based on a numerical groundwater flow model of the basin.

Other Retail Water Suppliers

A description of the four retail water purveyors' service areas is provided below.

- The SCWD service area includes portions of the City of Santa Clarita and unincorporated portions of the County in the communities of Canyon Country, Newhall, and Saugus. SCWD has approximately 30,681 service connections as reported in 2015 Santa Clarita Water Report.
- The Los Angeles County Waterworks District (LACWD) #36 service area encompasses approximately 6,600 acres in the Hasley Canyon area and the unincorporated community of Val Verde. LACWD #36 has approximately 1,345 service connections as reported in 2015 Santa Clarita Water Report.
- The Newhall County Water District (NCWD) service area includes portions of the City of Santa Clarita and unincorporated portions of the County in the communities of Newhall, Canyon Country, Valencia, and Castaic. NCWD has approximately 9,736 service connections as reported in 2015 Santa Clarita Water Report.
- The Valencia Water Company (VWC) service area includes a portion of the City of Santa Clarita and unincorporated portions of the County in the communities of Castaic, Newhall, Saugus, Stevenson Ranch, and Valencia. VWC has approximately 31,353 service connections as reported in 2015 Santa Clarita Water Report.

As of 2015, the retail purveyors provided water to 73,115 service connections in the Santa Clarita Valley.

2015 Urban Water Management Plan

Pursuant to Senate Bill (SB) 610 requirements, if the projected water demand associated with the Project was accounted for in the most recently adopted urban water management plan (UWMP), then relevant information from that document may be incorporated into the SB 610 WSA. The 2015 UWMP was adopted by CLWA, NCWD, and VWC Boards of Directors in June 2016, and filed with the Department of Water Resources (DWR). Since SCWD is a Division of CLWA, the CLWA Board of Directors' approval of the 2015 UWMP was also on behalf of SCWD.

The 2015 UWMP is a regional planning document covering the CLWA service area, which includes the service areas of the four retail water purveyors in the Santa Clarita Valley. Together, CLWA and the retail purveyors are the Santa Clarita Valley's "urban water suppliers." The 2015 UWMP encouraged extensive public participation that included information dissemination; public

workshops, meetings, and hearings; plan adoption; and plan submittal to DWR. The 2015 UWMP included the adopted resolutions of CLWA, NCWD, and VWC.

Consistent with the UWMP Act, the 2015 UWMP accomplishes water supply planning over the required 20-year period in 5-year increments. While not required, CLWA and the retail purveyors exceeded the requirements of the UWMP Act by including a span of 35 years in the approved 2015 UWMP. The 2015 UWMP identifies and quantifies adequate water supplies for existing and future demands, in normal/average, single-dry, and multiple-dry years, and implements conservation and efficient use of urban water supplies. While not required, the 2015 UWMP and the WSA include an assessment of two multiple-dry year periods: a 4-year dry period, and a 3-year dry period.

SCWD Policies and Regulatory Approvals/Permits

- **SCWD Policies.** The Project will be subject to all SCWD policies that govern development and connection to the SCWD public water system. As with other projects within its service area, the Project Applicant is responsible for making appropriate financial and contractual arrangements with SCWD to assure that necessary improvements are made to the water supply infrastructure to serve the Project site.
- **Other Regulatory Approvals/Permits.** SCWD is regulated by the State Water Resources Control Board - Division of Drinking Water (DDW) and must meet rigorous water quality standards. In addition, the City will evaluate the Project, conduct extensive environmental oversight and review, and independently determine the sufficiency of the water supplies to serve the Project site. (Water Code §10911(b)-(c)) In doing so, the City will determine if the Project will be provided with an acceptable level of water supply based on the criteria set forth in the City's General Plan, because the Project is located within the Santa Clarita Valley, and because it includes a subdivision map application. In making this determination, the City may use water-related data set forth in documents such as the 2015 UWMP and other information provided by CLWA and the retail purveyors.

Documentation of Existing and Projected Water Supplies

In accordance with SB 610 (Water Code §10910(d)), Section 2 of the 2015 UWMP (June 2016) and Section 2 of the 2015 Santa Clarita Valley Water Report (June 2016) summarize the total quantity of water used by each of the water purveyors in the Santa Clarita Valley to meet water demand since importation of SWP water began in 1980.

The water supplies available to serve the Santa Clarita Valley as a whole are derived from five sources:

1. Groundwater from the Alluvial aquifer
2. Groundwater from the Saugus Formation

3. SWP water and other imported supplies
4. Dry-year groundwater banking programs
5. Recycled water

Within the CLWA service area, these water supply sources can be characterized as: a) local supplies, consisting of groundwater and recycled water; and b) imported supplies, transported via the SWP and consisting of SWP contract amounts and dry-year supplies delivered from groundwater banking programs. The 2015 UWMP, Section 2, and the 2015 Santa Clarita Valley Water Report, Section 2, summarize the quantities of water used by each of the water purveyors in the Santa Clarita Valley to meet water demands since importation of SWP water began in the Santa Clarita Valley in 1980.

Demand-side management programs (conservation) are considered an important component of the Valley's approach to water supply. The conservation efforts of CLWA, SCWD, and the other retail purveyors are important in reducing regional and local water demands on a long-term basis.

As further set forth in the WSA and in the 2015 UWMP, potential future water sources include acquisition of additional imported water supplies, recycled water, storm water runoff, increased short-term pumping from the Saugus Formation during dry years, and additional groundwater banking programs.

The WSA relies in part upon information from the 2015 UWMP, the 2015 SWP Delivery Capability Report prepared by DWR, the 2015 Santa Clarita Valley Annual Water Report, and numerous other water resource and planning documents listed in the WSA.

Imported Water Supplies

CLWA's service area covers approximately 195 square miles (124,800 acres), including the entire City of Santa Clarita and surrounding unincorporated communities. CLWA obtains SWP water from a SWP terminal reservoir, Castaic Lake. The water is treated, filtered, and disinfected at CLWA's Earl Schmidt Filtration Plant and Rio Vista Water Treatment Plant, which have a combined treatment capacity of 122 million gallons per day (mgd). Treated water is delivered from the treatment plants by gravity flow to each of the four retail purveyors (SCWD, Los Angeles County Waterworks District No. 36, NCWD, and VWC) through a distribution network of pipelines and turnouts. At present, CLWA delivers water to the four retail purveyors through 26 turnouts.

CLWA obtains water supplies from the SWP, which is owned and operated by DWR. CLWA is one of 29 SWP contractors holding long-term water supply contracts with DWR. The SWP contracts entered into in the 1960s included initial 75-year terms, which would begin to expire in 2035. While the SWP contracts provide for continued water service to the contractors beyond the initial term, efforts are currently underway to extend the contracts to improve financing for the SWP. Negotiations on extending the SWP contracts took place between DWR and the SWP Contractors

during 2013 and 2014, and were open to the public. The following terms were agreed to and are currently the subject of analysis under the requirements of the California Environmental Quality Act (CEQA) (Notice of Preparation dated September 12, 2014):

- Extend the term of the 29 SWP contracts to December 31, 2085.
- Provide for increased SWP financial operating reserves during the extended term of the SWP contracts.
- Provide additional funding mechanisms and accounts to address SWP needs and purposes.
- Develop a revised payment methodology with a corresponding billing system that better matches the timing of future SWP revenues to future expenditures.

It is anticipated that the term of the SWP contracts will be extended to December 31, 2085. The contracts and associated amendments are scheduled to be finalized by summer 2017.

SWP water originates as rainfall and snowmelt in northern and central California. Runoff is stored in Lake Oroville, which is the SWP's largest storage facility. The water is then released from Lake Oroville down the Feather River to the Sacramento River and the Sacramento-San Joaquin Delta. From the Delta, SWP supplies are conveyed via the California Aqueduct to the Bay area, the San Joaquin Valley, and regions of the Central Coast and Southern California. Water delivered for use by CLWA is conveyed through the West Branch of the Aqueduct to Quail and Pyramid Lakes and then to Castaic Lake, the terminus for the West Branch.

Hydrologic conditions and other factors can alter and reduce the availability of SWP water in a given year. The amount of water DWR determines is available and allocates for delivery in a given year is based on that year's hydrologic conditions, the amount of water in storage in the SWP system, current regulatory and operational constraints, and the SWP contractors' requests for SWP supplies. The long-term average availability of SWP Table A deliveries during normal, single-dry, and multiple-dry year scenarios over the 20-year projection has been analyzed by DWR and is further discussed below.

CLWA has an annual SWP Table A Amount of 95,200 AF per year of water from the SWP. This Table A Amount is a maximum and does not reflect the actual amount of water available to CLWA from the SWP, which varies from year to year.

Other Types of SWP Water

Each long-term water supply contract describes various types of SWP water that are available to SWP contractors to supplement their Table A water: a) Article 21 water; b) carryover water; and c) turnback pool water.

Article 21 water (so named because it is described in Article 21 of the water supply contracts) is water that SWP contractors may receive on a short-term basis in addition to their Table A water, if

they request it. DWR makes Article 21 water available to SWP contractors during periods when the supply of SWP water exceeds the cumulative delivery requests scheduled by the SWP contractors. Article 21 water may become available during drier year types, not just during wetter years.

Carryover water is SWP water that is allocated to a SWP contractor and approved for delivery to that contractor in a given year, but not used by the end of the year. This water is exported from the Delta, but instead of being delivered to the SWP contractor, it is stored in the SWP's share of the San Luis Reservoir, when space is available, for the contractor to use in the following year.

SWP contractors also may offer a portion of their Table A water that has been allocated in the current year and exceeds their needs to a "turnback pool," where another contractor may purchase it. Contractors that sell their extra Table A water in a turnback pool receive payments from contractors that buy this water through the turnback pool. The 2015 State Water Project Final Delivery Capability Report estimates that the likelihood of existing-condition SWP Article 21 deliveries being greater than 20 thousand AF per year is 18% (a reduction of 3% from the levels estimated in the 2013 Delivery Reliability Report).

The availability of Article 21 water and turnback pool water can fluctuate substantially. When available, these supplies provide additional water that CLWA may be able to use, either directly to meet demands or for later use after storage in its groundwater banking programs. To the extent CLWA is able to make use of these supplies when available, CLWA may be able to improve the reliability of its SWP supplies beyond the amounts reflected in the adopted UWMP for the Santa Clarita Valley.

While not specifically provided for in the SWP water supply contracts, in single-dry years, DWR has created dry-year water purchase programs for contractors needing additional supplies. Through these programs, water is purchased by DWR from willing sellers in areas that have available supplies and is then sold by DWR to contractors willing to purchase those supplies. The availability of these supplies is highly variable. However, CLWA's access to these supplies when they are available would enable it to improve the reliability of its dry-year supplies beyond the amounts reflected in the adopted UWMP.

Flexible Storage Account

As part of CLWA's water supply contract with DWR, CLWA has access to a portion of the storage capacity of Castaic Lake. This "flexible storage account" allows CLWA to utilize up to 4,684 AF of the storage in Castaic Lake. Any of this amount that CLWA borrows must be replaced by CLWA within 5 years of its withdrawal. CLWA manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or a portion of it) during dry periods. The account is refilled during the next year that adequate SWP supplies are available to CLWA to do so.

In 2005, CLWA negotiated with the Ventura County SWP contractor agency to obtain the use of its flexible storage account through 2015. This transaction allows CLWA access to another 1,376 AF of storage in Castaic Lake. In 2015, CLWA negotiated an extension to the original agreement that provides access to this additional storage on a year-to-year basis through 2025.

CLWA plans to use this supply only in dry years. For the single-dry year condition, it was assumed the entire amount would be used. For the two multiple-dry year conditions, it was assumed that the entire amount would be used sometime during the dry-year period, so the average annual supply during that period would be one fourth of the total for the 4-year period, and one third of the total for the 3-year period. Any water withdrawn was assumed to be replaced in intervening average and wet years and would be available again for use in the next dry year.

Factors Affecting SWP Table A Supplies

While Table A identifies the maximum amount of Table A water a SWP contractor may request, the amount of SWP water actually available and allocated to SWP contractors each year is dependent on a number of factors and can vary substantially from year to year. The primary factors affecting SWP water delivery reliability include the availability of water at the source of supply in northern California (i.e., hydrology) and regulatory restrictions on SWP operations. Other factors include potential climate change impacts and the potential for interruptions in conveying SWP supplies through the Delta due to earthquakes and Delta levee failure. DWR and other agencies are engaged in ongoing efforts to reduce risks to the Delta and enhance emergency response capabilities.

DWR specifically accounts for these various factors having the potential to affect the SWP delivery reliability in its computer modeling, which simulates the expected SWP deliveries under estimated existing and future conditions. DWR calculates the water delivery reliability of the SWP using the CalSim-II computer model, which simulates existing and future operations of the SWP. DWR's modeling is based on 82 years of historical data (water years 1922-2003), rainfall, and runoff, and the data have been adjusted to reflect 2013 current and future levels of development in the source areas. The resulting data is used to forecast the probable amount of water available to the SWP under current and future conditions (with the effects of climate change factored into the modeling for future conditions).

DWR's most current published estimate of SWP delivery reliability is found in the SWP Final Delivery Capability Report 2015. As used by DWR, the term "water delivery reliability" refers to the annual amount of SWP water that can be expected to be delivered with a certain frequency, or in other words, the probability that a certain amount of water will be delivered by the SWP in a given year.

SWP Table A Supply Assessment

DWR's Final 2015 Delivery Capability Report includes DWR's estimates of SWP water delivery reliability under both existing (2015) and future (2035) conditions. According to the Report, many of the same challenges to SWP operations that were identified in the 2013 reliability report remain. For example, like the 2013 report, the 2015 report shows potential reductions in SWP Delta exports and Table A deliveries due to the operational restrictions imposed on the SWP by Biological Opinions issued by U.S. Fish and Wildlife Service in December 2008 and National Marine Fisheries Service in June 2009, and Delta water quality and flow restrictions from the State Water Resources Control Board's water quality control plan for the Delta. Estimates of future reliability also reflect potential effects of climate change and sea level rise.

DWR Analysis Results

The 2015 UWMP for the Santa Clarita Valley relies on the DWR's most current Final 2015 Delivery Capability Report to estimate supplies. DWR's analysis of existing (2015) conditions is used to estimate near term SWP supplies and its analysis of future (2035) conditions is used to estimate 2035-2050 SWP supplies. As has been suggested by DWR, SWP supplies for the 5-year increments between 2015 and 2035 are interpolated between these values. SWP supplies for years beyond 2035 are assumed to be the same as for 2035.

DWR's current estimates show that the SWP can deliver on a long-term average basis 62% of the total maximum Table A amounts under existing conditions and 61% under future conditions. In the worst-case single-dry year, DWR estimates that SWP can deliver 11% of the total maximum Table A amounts under existing conditions, and 8% under future conditions. DWR estimates during a 4-year dry period that the SWP can deliver an average 33% of the total maximum Table A amounts under existing and future conditions, and during a 3-year dry period that the SWP can deliver an average 21% under existing conditions and 20% under future conditions.

The extremely dry sequence from the beginning of January 2013 through the end of 2015 was one of the driest 2-year periods in the historical record. Water year 2013 was a year with two hydrologic extremes. October through December 2012, was one of the wettest fall periods on record, but was followed by the driest consecutive 12 months on record. Accordingly, the 2013 SWP supply allocation was a low 35% of SWP Table A Amounts. The 2013 hydrology ended up being even drier than DWR's conservative hydrologic forecast, so the SWP began 2014 with reservoir storage lower than targeted levels and less stored water available for 2014 supplies. Compounding this low storage situation, 2014 also was an extremely dry year, with runoff for water year 2014 the fourth driest on record. Due to extraordinarily dry conditions in 2013 and 2014, the 2014 SWP water supply allocation was a historically low 5% of Table A Amounts. The dry hydrologic conditions that led to the low 2014 SWP water supply allocation were extremely unusual, and to date this hydrology has not been included in the SWP delivery estimates presented in DWR's Final 2015 SWP Delivery Capability Report (2015 DCR). It is anticipated that

the hydrologic record used in the DWR model will be extended to include the period through 2014 during the next update of the model, which is expected to be completed prior to issuance of the next update to the report. For the reasons stated above, the 2015 UWMP for the Santa Clarita Valley and the WSA uses a conservative assumption that a 5% allocation of SWP Table A Amounts represents the "worst case" scenario. CLWA and the local purveyors, including SCWD, were able to accommodate all demands during 2014, in spite of this low level of SWP deliveries, due to the reliability systems that have been put in place by CLWA and the purveyors for this very occurrence. Calls for conservation from customers were answered, and the Santa Clarita Valley was also able to benefit from the water banking programs that CLWA has implemented. WSA Table 2 shows SWP supplies projected to be available to CLWA in average/normal years (based on the average delivery over a repeat of the study's historic hydrologic period from 1922 through 2003). WSA Table 2 also summarizes estimated SWP supply availability in a single dry year (based on a repeat of the historic hydrologic conditions of 1977, as well as the worst-case actual allocation of 2014) and over two multiple dry year periods (based on a repeat of the historic 4-year drought of 1931 through 1934, and 3-year drought of 1990 through 1992).

Comparison of DWR Analysis Results for SWP Supplies from 2009 to 2015 (Under Current [2015] Conditions)

WSA Table 3, Average and Dry-Period SWP Table A Deliveries Under Current Conditions and Resulting Deliveries to CLWA, provides average and dry-period Table A deliveries for current conditions (2015) from the Final 2015 SWP Delivery Capability Report and compares those figures to those in the 2009, 2011, and 2013 Delivery Reliability Reports.

As shown on WSA Table 3, applying the Final 2015 SWP Delivery Capability Report Table A delivery percentages under current conditions to CLWA's Table A Amount of 95,200 AFY, results in approximately 59,024 AFY under average year conditions, 10,472 AFY under single-dry year conditions, and 29,274 AFY (on average) under multiple-dry year conditions.

Written Contracts or Other Proof of Supplies

The WSA includes a list of major reports, studies, agreements, contracts and other actions pertinent to the availability of SWP supplies in the Santa Clarita Valley.

Permits/Approvals or Other Necessary Regulatory Approvals

The WSA includes the primary SWP-related documents that have received state or local approvals.

Effect of Monterey Plus EIR Litigation on SWP/CLWA Water Supplies

In 1994, DWR and the SWP contractors (including CLWA) engaged in mediated negotiations in a broader attempt to update management of the SWP and settle water allocations disputes arising under the long-term SWP water supply contracts that were executed in the 1960s.

The negotiations grew into an omnibus revision to the contracts known as the "Monterey Amendment." The Monterey Amendment had several principle objectives: 1) resolve conflicts and disputes among SWP contractors regarding water allocations; 2) restructure and clarify SWP water allocation procedures and deliveries in times of shortage and surplus; 3) reduce financial pressures on agricultural contractors; 4) adjust the SWP's financial rate structure to more closely match revenues with needs; 5) facilitate water management practices and water transfers that improve reliability and flexibility of SWP water supplies in conjunction with contractors' other local supplies; 6) resolve legal and institutional issues related to groundwater storage of SWP water; and 7) transfer 20,000 acres in Kern County known as the "Kern Fan Element" to local water agencies to facilitate development of a locally operated groundwater bank.

After execution of the Monterey Amendment by DWR and a majority of the SWP contractors (including CLWA), the environmental group Planning and Conservation League filed suit in December of 1995 seeking to invalidate the Monterey Amendment and its environmental impact report prepared under the California Environmental Quality Act (CEQA). That lawsuit ultimately ended in a court-approved settlement agreement in 2003. The settlement provided, among other things, that DWR would prepare a new EIR for the Monterey Amendment, the previously approved and executed Monterey Amendments would remain in effect for 27 SWP contractors, and DWR would implement the Monterey Amendment in operating the SWP while it prepared the new EIR.

On February 1, 2010, DWR certified the new EIR. On May 4, 2010, DWR's Director certified the EIR and decided to continue implementing the Monterey Amendment. On June 3, 2010, two petitioner groups filed separate lawsuits seeking to invalidate the Monterey Amendment and the related transfer of the Kern Fan Element based on alleged violation of CEQA. The trial court bifurcated the issues for a series of trials. In January 2013, the Court issued a final statement of decision for phase one, finding that petitioners' reverse validation actions seeking to invalidate the Monterey Amendment and Kern Fan Element transfer were barred by the statute of limitations.

The trial court proceeded to hear briefing on the remaining CEQA claims and issued a ruling in March 2014, finding that DWR's new EIR for the Monterey Amendment complied with CEQA in all respects except for its analysis of the future impacts of the operations of the local Kern Water Bank that was developed by local water agencies on the Kern Fan Element land transferred as part of the Monterey Amendment. In October 2014, the trial court issued its final ruling addressing the remedy under CEQA. The court ordered decertification of the Monterey Plus Amendment EIR, noting however that DWR is not required to prepare an entirely new EIR and that only the new EIR sections will be subject to further challenge. Importantly, prior project approvals are to remain in place and the Kern Water Bank may continue to operate while DWR corrects the EIR. Notably, SWP operations and water deliveries to CLWA are not affected by the outcome of the case because SWP operations are independent from operations of the separate Kern Water Bank facilities. The trial court decision was appealed by several parties and the appeal process is pending.

Other Factors Affecting State Water Project Deliveries

Various legal, regulatory, climatic, and environmental factors have the potential to affect the availability and reliability of SWP supplies. As discussed above, the California Department of Water Resources (DWR) specifically accounts for these and other factors in evaluating the projected delivery capability of SWP supplies to the state contractors. Following is a summary of several other factors concerning the SWP.

FWS and NMFS Biological Opinions

In December 2008 and June 2009, respectively, the United States Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) issued biological opinions (BiOps) setting forth each agency's conclusions regarding the effects that the proposed long-term coordinated operations of the SWP and Central Valley Project (CVP) would have on threatened and endangered fish species in the Delta. Both BiOps conclude that the operation of the SWP and CVP as proposed by DWR and the Bureau of Reclamation would jeopardize the continued existence of the protected species. Because FWS and NMFS reached "jeopardy" conclusions, each was required by the federal Endangered Species Act (ESA) to develop a Reasonable and Prudent Alternative (RPA) to the proposed project, and to include that RPA in its respective BiOp. According to their terms, the RPAs developed and adopted by FWS and NMFS impose various new restrictions and requirements on SWP and CVP operations.

As applied to the SWP, the RPAs included in the BiOps have the potential to result in substantially reduced water exports from the Delta. Previous estimates prepared by DWR indicated that, in comparison to the level of SWP exports from the Delta that previously were authorized under State Board Decision 1641 (D-1641), the FWS BiOp could reduce SWP deliveries by 18% to 29% during average and dry conditions, respectively, and the NMFS BiOp could reduce SWP deliveries by an additional 10% (for an aggregate reduction of 28% to 39%). Those potential reductions, however, cannot be predicted with certainty because the RPA restrictions are dependent upon highly variable factors such as hydrologic conditions affecting Delta water supplies, flow conditions in the Delta, migratory and reproductive patterns of the protected species, and numerous other non-project factors that impact the health and abundance of fish species and their habitats. As further discussed above, the RPA restrictions contained in the BiOps have been expressly accounted for in DWR's Final 2015 SWP Delivery Capability Report and future projections of SWP deliveries.

FWS BiOp Litigation

In early 2009, the State Water Contractors, the San Luis Delta-Mendota Water Authority, and several individual water agencies holding contracts for SWP and CVP supplies filed legal challenges against the FWS BiOp regarding delta smelt.¹²⁴ In November 2009, the Federal District

¹²⁴ The Consolidated Delta Smelt Cases, E.D. Cal. 1:09-CV-00407-0WW-GSA

Court of the Eastern District of California granted summary judgment on the claim made by several plaintiffs that the federal defendants violated the National Environmental Policy Act (NEPA) by failing to perform NEPA analysis prior to provisionally adopting and implementing the FWS BiOp and RPA. Further, in May 2010, the court issued Findings of Fact and Conclusions of Law on a motion for preliminary injunction, which confirmed the court's prior NEPA ruling and also determined that plaintiffs were likely to prevail on their claims that FWS violated the federal ESA and the Administrative Procedure Act (APA) in adopting the RPA for delta smelt. Thereafter, the parties filed motions for summary judgment to obtain a final ruling in the cases, and those motions were argued in early July 2010. In March 2011, the court issued a final decision that invalidated the FWS BiOp and RPA in several respects and ordered FWS to prepare a new BiOp. FWS and others appealed that decision to the Ninth Circuit Court of Appeals. In March 2014, the Court of Appeals issued an opinion that reversed the District Court decision and determined that the FWS BiOp and RPA did not violate the ESA or the APA. The Court of Appeals ruled, however, that the Bureau of Reclamation (BOR) must prepare an Environmental Impact Statement under the National Environmental Policy Act (NEPA) to evaluate the effects of the BiOp. To date that NEPA analysis has not been completed, although an Environmental Impact Statement is expected in 2016. In the meantime, FWS, DWR and BOR continue to use the RPA measures as a guideline for restricting SWP and CVP operations to protect delta smelt.

NMFS BiOp Litigation

After issuance of the NMFS BiOp in June 2009, the State Water Contractors and other water agencies filed legal challenges against the BiOp. (The Consolidated Salmon Cases, E.D. Cal. 1:09-CV-1053-0WW-DLB.) In May 2010, the Federal District Court for the Eastern District of California ruled that the federal defendants violated NEPA by failing to analyze the impact of the BiOp and RPA on humans and the human environment. The court also ruled that plaintiffs were likely to prevail on their claims that NMFS violated the federal ESA and the APA in adopting the RPA. As with the delta smelt litigation, the parties also filed motions for summary judgment to obtain a final ruling in the cases. In September 2011, the court issued a final decision that invalidated the NMFS BiOp and RPA and ordered NMFS to prepare a new BiOp. NMFS and others appealed that decision to the Ninth Circuit Court of Appeals. In December 2014, the Court of Appeals issued an opinion that reversed the District Court decision and held that NMFS's BiOp was sufficient and that NMFS's adoption of the BiOp was not arbitrary and capricious. Similar to the delta smelt case (above), the Court of Appeals ruled that the Bureau of Reclamation (BOR) must prepare an Environmental Impact Statement under NEPA to evaluate the effects of the NMFS BiOp. To date that NEPA analysis has not been completed. Meanwhile, NMFS, DWR and BOR continue to use the RPA measures as a guideline for restricting SWP and CVP operations to protect listed anadromous species.

Consistency Determination Litigation

Because the delta smelt and salmon species that are the subject of the FWS and NMFS BiOps are also protected under the California Endangered Species Act (CESA), the SWP and CVP are required to obtain take authorization for project operations from the California Department of Fish and Wildlife (DFW, formerly Department of Fish and Game). In July 2009 and September 2009, respectively, DFW issued "consistency determinations" which found that SWP and CVP operations do not violate CESA to the extent that such operations are in compliance with the RPAs set forth in the FWS and NMFS BiOps. Because the consistency determinations are issued under state law, and thus could have remained in effect even if the federal BiOps were overturned, the State Water Contractors and the Kern County Water Agency filed legal challenges against the consistency determinations. Those cases were stayed for years pending the final outcome of The Consolidated Delta Smelt Cases and The Consolidated Salmon Cases. In late 2015, the legal challenges against the consistency determinations were dismissed, thus generally the RPAs in the federal BiOps serve as the regulatory framework for take authorization under CESA.

Longfin Smelt Protections

Regulatory actions related to longfin smelt also have the potential to affect the availability and reliability of SWP supplies. In February 2008, longfin smelt were listed as a "candidate" species under CESA, and DFW imposed certain interim restrictions on SWP operations for the protection of longfin smelt and its critical habitat. In February 2009, shortly before longfin smelt were officially listed as a "threatened" species under CESA, DFW issued Incidental Take Permit No. 2081-2009-001-03 (the Permit) to DWR, which imposes various terms and conditions on the ongoing and long-term operations of SWP facilities in the Delta. The operating restrictions under the Permit are based in large part on the restrictions imposed on the SWP by the 2008 FWS BiOp for delta smelt. The resulting water supply reductions under the Permit depend on several variable factors, such as Delta hydrology, migratory and reproductive patterns of longfin smelt, and other factors affecting species abundance in the Delta. Notably, DWR has not indicated whether any particular reductions in SWP exports are likely to result from the Permit. In March 2009, a legal challenge was filed against the Permit. In February 2014, a settlement was reached and the suit was dismissed. Among other terms, the settlement calls for implementation of a 3-year longfin smelt study program.

Development of Delta Plan and Delta Flow Criteria

In November 2009, the California Legislature enacted SBx7-1 as part of a comprehensive package related to water supply reliability, ecosystem health, and the Delta. Among other things, SBX7-1 creates the Delta Stewardship Council (Council) and directs the Council to develop a management plan for the Delta by January 1, 2012 (the Delta Plan). In May 2013, the Council approved and certified a Final Programmatic Environmental Impact Report (PEIR) for the proposed Delta Plan. Various agencies and organizations have filed legal challenges against the PEIR. (See, State Water

Contractors et al. v. Delta Stewardship Council, Sacramento County Superior Court, Judicial Council Coordinated Proceeding No. 4758.) The coordinated challenges allege that the Council exceeded its authority under the Sacramento-San Joaquin Delta Reform Act of 2009 and failed to analyze the Plan's impacts under the California Environmental Quality Act. In May 2016, the Court issued a Statement of Decision addressing the parties' arguments on statutory issues, and dismissing the CEQA claims as moot unless and until the Council adopts a revised Plan and related CEQA document. Specifically, the Court found that the Delta Plan violated the Delta Reform Act, and directed the Council to rescind its Plan-related approvals and revise the Plan and any applicable regulations to: (1) include quantified or otherwise measurable targets associated with achieving reduced Delta reliance, reduced environmental harm from invasive species, restoring more natural flows, and increased water supply reliability, in accordance with the Delta Reform Act; (2) provide a flow policy that includes quantified or otherwise measure targets; and (3) promote options for water conveyance and storage systems. At this time, it is not known whether, when, or to what extent the Council may amend the Delta Plan or undertake related actions or further CEQA review. Parties to the case may appeal the trial court decision, and thus the litigation is still considered active.

SBx7-1 also directed the State Board to develop flow criteria for the Delta to protect public trust resources, including fish, wildlife, recreation and scenic enjoyment, and required DFW to identify quantifiable biological objectives and flow criteria for species of concern in the Delta. In August 2010, the State Board adopted Resolution No. 2010-0039 approving its report entitled "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem" (Flow Criteria). The State Board report concludes that substantially higher flows are needed through the Delta than have occurred in previous decades in order to benefit zooplankton and various fish species. Separately, in September 2010, DFW issued a draft report entitled "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta" (DFW Report). The DFW Report is based on similar biological objectives and recommends Delta flows similar to those set forth in the State Board's Flow Criteria. Notably, both the State Board and DFW recognize that their recommended flow criteria for the Delta do not balance the public interest or the need to provide an adequate and reliable water supply, and thus the recommendations may not be consistent with the public trust doctrine. The State Board and DFW also acknowledge that their recommended flow criteria do not have any regulatory or adjudicatory effect, although they may be used to inform various ongoing processes.

Public Trust Challenge to Delta Exports

In 2010, environmental and fisheries advocates filed suit in Sacramento County Superior Court alleging that water exports from the Delta violate the public trust doctrine and are unconstitutional.¹²⁵ The plaintiffs in that case seek to compel the State Board to adopt and enforce

¹²⁵ *California Water Impact Network v. SWRCB* (Sacramento County Sup. Ct. Case No. 34-2010-80000653)

flow, salinity, and temperature standards in the Delta. DWR is also a respondent in the case, and State Water Contractors (SWC) have intervened as parties. DWR and the SWC contend that plaintiffs' claims already have been determined by litigation related to the State Board Water Right Decision 1641 that is now final. In 2011, the United States Bureau of Reclamation, which was named as a real party in interest, filed a statement that it will not waive sovereign immunity. The matter is still pending before the trial court.

Dry-Year Supplies

As stated in the 2015 UWMP, water supply reliability for CLWA, and in turn SCWD and the other retail purveyors within the Santa Clarita Valley, has improved significantly with the development of conjunctive use and groundwater banking. Conjunctive use is the coordinated operation of multiple water supplies to achieve improved supply reliability.

Groundwater banking programs involve storing available SWP surface water supplies during wet years in groundwater basins such as the San Joaquin Valley. Water is stored either directly by surface spreading or injection, or indirectly by supplying surface water to farmers for their use in lieu of their intended groundwater pumping. During water shortages, the stored water is pumped out and conveyed through the California Aqueduct to CLWA as the banking partner, or used by the farmers in exchange for their surface water allocations, which are delivered to CLWA as the banking partner through the California Aqueduct.

CLWA has entered into groundwater banking and water exchange programs as described below and has, in aggregate, more than 140,000 AF of recoverable water outside the local groundwater basin.

CLWA is a partner in two existing groundwater banking programs, the Semitropic Banking Program and Rosedale-Rio Bravo Water Storage District (RRBWSD) Banking Program as described below. Current operational planning includes use of water stored in these groundwater banking programs for dry-year supply. Accordingly, these supplies are reflected as contributing only to dry-year supply reliability.

In 2002, CLWA entered into a temporary storage agreement with Semitropic, and stored an available portion of its Table A supply (24,000 AF) in an account in Semitropic's program. In 2004, 32,522 AF of CLWA's available 2003 Table A supply was stored in a second temporary Semitropic account. In accordance with the terms of CLWA's storage agreements with Semitropic, 90% of the banked amount, or a total of 50,870 AF, was recoverable through 2013 to meet CLWA water demands when needed. CLWA executed an amendment for a 10-year extension of each banking agreement with Semitropic in April 2010. After storage withdrawals in 2009, 2010, and 2014, and transfers of 5,000 AF in 2014 for increased recovery capacity, the storage balance available to CLWA was 35,970 AF. As a result, CLWA can withdraw up to 35,970 AF of SWP Table A water that is stored in Semitropic to meet Valley demands when needed in dry years.

Semitropic has recently expanded its groundwater banking program to incorporate its Stored Water Recovery Unit (SWRU). In 2015 CLWA entered into an agreement with Semitropic to participate in the SWRU. Under this agreement, the two short-term accounts containing 35,970 AF were transferred into this new program. Under the SWRU agreement, CLWA can store and recover additional water within a 15,000 AF storage account. The term of the Semitropic Banking Program extends through 2035 with the option of a 10-year renewal. CLWA may withdraw up to 5,000 AFY from its account.

CLWA has also entered into a long-term banking agreement with RRBWSD with a total storage capacity of 100,000 AF. Between 2005 and 2012 CLWA delivered sufficient water from the SWP and other supplies to fill its 100,000 AF account. CLWA began storing water in this program in 2005 and has stored water in 2005, 2006, 2007, 2010, 2011, and 2012. In 2012, the maximum storage capacity of 100,000 AF was reached. Withdrawals from the water bank occurred in 2014 and 2015 for a total recovery of 5,822 AF leaving 94,178 AF currently available for withdrawal.

CLWA's existing firm withdrawal capacity in the RRBWSD program is 3,000 AFY. To enhance dry-year recovery capacity, in 2015 CLWA in cooperation with RRBWSD and Irvine Ranch Water District initiated construction of additional facilities that are anticipated to be available at the end of 2016 or the beginning of 2017. Some of the wells constructed for this program have tested above the MCL for arsenic. The project proponents are currently investigating means to modify these well by sealing off higher arsenic zones and implementing blending strategies. With these facilities the firm extraction capacity is estimated to increase to 10,000 AFY even in exceptionally dry conditions such as those experienced in 2014 and 2015. In addition, CLWA has the right under the contract to develop four additional wells, which would bring the firm recovery capacity to 20,000 AFY. This additional capacity is anticipated to be available by 2030. In addition to this firm recovery capacity, in moderately dry years Rosedale is required to use up to 20,000 AFY of other available recovery capacity to meet its recovery obligations under the banking agreement.

Short-term water exchanges may also serve as a means to enhance water reliability. In 2011 CLWA entered into two 10-year exchange agreements to enhance the management of its water supplies. CLWA executed a 10-year Two-for-One Water Exchange Program with RRBWSD whereby CLWA can recover one acre-foot of water for each two acre-feet CLWA delivered to RRBWSD (less losses). CLWA delivered 15,602 AF to the program in 2011, delivered another 3,969 AF in 2012 and, after program losses, has about 9,500 AF of recoverable water. Up to this entire amount may be recovered in a single year when requested by CLWA and when SWP exchange water is available from RRBWSD. For a single-dry year, it was assumed that this supply would not be available to CLWA. For the multiple-dry year periods, it was assumed that the entire amount would be accessible and used sometime during the dry-year period, so the average annual supply during that period would be one-fourth of the total available for the 4-year period, and one-third for the 3-year period, through 2021.

CLWA also entered into a 10-year Two-for-One Water Exchange Program with the West Kern Water District (WKWD) in Kern County and CLWA -delivered 5,000 AF in 2011, resulting in a recoverable total of 2,500 AF. In 2014, 2,000 AF of water was withdrawn from this exchange program leaving a balance of 500 AF. Up to this entire amount may be recovered in a single year when requested by CLWA and when SWP exchange water is available from WKWD. For a single dry year, it was assumed that this supply would not be available to CLWA. For the multiple-dry year periods, it was assumed that the entire amount would be accessible and used sometime during the dry-year period, so the average annual supply during that period would be one-fourth of the total available for the 4-year period, and one third for the 3-year period, through 2021.

As another source of imported water supply, CLWA executed a long-term transfer agreement for 11,000 AFY with BVWSD and RRBWSD. These two districts joined together to develop a program that provides both a firm water supply and a water banking component. Both districts are member agencies of the Kern County Water Agency (KCWA), a SWP contractor and both districts have contracts with KCWA for SWP Table A Amounts. The supply is based on existing long-standing Kern River water rights held by BVWSD, and is delivered by exchange of the two districts' SWP Table A supplies or directly to the California Aqueduct via the Cross Valley Canal. This water supply is firm; that is, the total amount of 11,000 AFY is available in all water year types based on the Kern River water right. CLWA began taking delivery of this supply in 2007 as shown in Table 3-3 of the 2015 UWMP.

As another source of imported supply, in 2008, CLWA entered into the Yuba Accord Agreement, which allows for the purchase of water from the Yuba County Water Agency through DWR to 21 SWP contractors (including CLWA) and the San Luis and Delta-Mendota Water Authority. Yuba Accord water comes from north of the Delta, and the water purchased under this agreement is subject to losses associated with transporting it through the Delta. These losses can vary from year to year, depending on Delta conditions at the time the water is transported. Under the agreement, an estimated average of up to 1,000 AFY of non-SWP supply (after losses) is available to CLWA in dry years, through 2025. Under certain hydrologic conditions, additional water may be available to CLWA from this program. CLWA received 445 AF from this source in 2014.

These groundwater banking, exchange, and imported supply programs allow CLWA to firm up the imported water component in the Santa Clarita Valley by storing surplus SWP and other water in wet years in groundwater basins outside the Santa Clarita Valley. This allows recovery and importation of that water as needed in dry years to maintain a greater overall amount of imported water to be used conjunctively with local groundwater, further supporting the sustainable use of local groundwater at the rates in the groundwater operating plan.

As noted above, conjunctive use is the purposeful integrated use of surface water and groundwater supplies to maximize water supply from the two sources. CLWA and the local retail water agencies, including SCWD, have been conjunctively utilizing local groundwater and

imported surface water since the initial importation of SWP water in 1980. The groundwater banking, exchange, and other water supply programs described above allow CLWA to firm up the imported water component of conjunctive use in the Valley by storing surplus SWP and other water, in wet years, in groundwater basins outside the Valley. This allows recovery and importation of that water as needed in dry years to maintain a greater overall amount of imported surface water to be used conjunctively with local groundwater, further supporting the sustainable use of local groundwater at the rates in the groundwater operating plan.

Recycled Water

CLWA and the purveyors recognize that recycled water is an important and reliable source of additional water that should be pursued as an integral part of the Valley's water supply portfolio. Recycled water enhances reliability in that it provides an additional source of supply and allows for more efficient utilization of groundwater and imported water supplies. Draft Recycled Water Master Plans for the CLWA service area were completed in 1993 and 2002. These master plans considered various factors affecting recycled water sources, supplies, users and demands so that CLWA could develop a cost-effective recycled water system within its service area. In 2007, CLWA completed CEQA analysis of the 2002 Recycled Water Master Plan (RWMP). This analysis consisted of a Programmatic EIR covering the various phases for a recycled water system as outlined in the RWMP. The Programmatic EIR was certified by the CLWA Board in March 2007. CLWA is in the process of updating the RWMP based on recent developments affecting recycled water sources, supplies, uses and demands. Portions of the draft updated RWMP were made public in connection with the 2015 UWMP process. The updated RWMP and the new Programmatic EIR were completed in October 2016 for public review.

CLWA has constructed Phase 1 of the 2002 RWMP, which is designed to deliver up to 1,700 AFY of water to the VWC service area (Phase 1 as constructed currently delivers about 450-500 AFY). Deliveries of recycled water began in 2003 for irrigation water supply at a golf course and in roadway median strips. In 2015, recycled water deliveries were 450 AF. Phase 2 is planned to expand recycled water use within Santa Clarita Valley.

Recycled water is available from two existing water reclamation plants operated by the Santa Clarita Valley Sanitation District of Los Angeles County (SCVSD). The primary sources of wastewater to the Saugus and Valencia WRPs are domestic. Both plants are tertiary treatment facilities and produce high quality effluent. A third Valley water reclamation plant, the Newhall Ranch WRP, is approved as part of the Newhall Ranch project. A fourth Valley water reclamation plant, the Vista Canyon Water Factory, is approved as a part of the Vista Canyon Project. Waste Discharge Requirements and Water Recycling Requirements for the Vista Canyon Water Factory were issued by the Los Angeles Regional Water Quality Control Board issued on June 9, 2016. Construction of this facility is expected to begin in late 2016.

Overall, the current projections estimate that after discharging an instream flow requirement of recycled water to the Santa Clara River to protect aquatic species and habitat, up to 17,400 AF of recycled water would be available for beneficial reuse on golf courses, landscaping and other non-potable uses, as set forth in the 2015 UWMP. The majority of recycled water uses are projected to be landscape and golf course irrigation, both of which have high demands in the summer and low demands in the winter. In optimizing the customers served to eliminate the need to provide a backup supply of potable water in the summer, an anticipated 10,054 AFY is planned to be served in 2050. Refer to Section 4.4 and Table 4.3 of the 2015 UWMP for additional detail.

No recycled water is proposed to be used on the Project site; and, therefore, SCWD is not relying on recycled water as a water source for the Project. If recycled water were to become available in the future for use on the Project site, it would be used for non-potable purposes such as landscape irrigation and in accordance with all applicable and relevant regulatory requirements. Although not part of the Project water supplies, recycled water rights add to the overall water supply availability and reliability in the Santa Clarita Valley as further discussed below.

Effluent from the Valencia and Saugus WRPs has historically been discharged to the Santa Clara River (SCR) and must comply with the Upper Santa Clara River Chloride Total Maximum Daily Limit (TMDL) for chloride established by the Los Angeles Regional Water Quality Control Board (LARWQCB). The SCVSD prepared a Chloride Compliance Facilities Plan (Facilities Plan) and Final Environmental Impact Report (FEIR) to meet dual objectives of reducing chloride and increasing the use of recycled water to help offset demands of potable water in the Santa Clarita Valley.

The production, discharge, distribution, and use of recycled water are subject to federal, state and local regulations and can be affected by court decisions. A specific example of how recycled water supplies can be affected by legal and regulatory factors is the recent litigation filed against the SCVSD in *Affordable Clean Water Alliance v. Santa Clarita Valley Sanitation District of Los Angeles*¹²⁶ and *Affordable Clean Water Alliance v. Santa Clarita Valley Sanitation District of Los Angeles*.¹²⁷ In those cases, the plaintiff alleged that the SCVSD did not adequately analyze whether the amount of recycled water discharged from the Valencia WRP to the SCR would avoid significant environmental impacts to aquatic species and habitat in the SCR. In related decisions issued March 9, 2016 and June 2, 2016, the Los Angeles Superior Court determined that the FEIR requires additional detail and ruled that the SCVSD cannot take further action on its modified chloride compliance project until it completes the additional environmental review.

Section 4.4 of the 2015 UWMP discusses the importance of recycled water and the critical role it has the potential to play in the Santa Clarita Valley. While the trial court decisions above affect the ability of CLWA and the retail water providers to specify at this time exactly how much recycled

¹²⁶ Los Angeles County Superior Court Case No. BS 145869

¹²⁷ Los Angeles County Superior Court Case No. BS161742

water will be available from the Valencia WRP, it appears reasonably likely that supplies will be available from that facility once a recycled water discharge amount to the SCR is established according to further environmental and public review. Furthermore, Table 4-3 of the 2015 UWMP shows that planned recycled water supplies from the Newhall Ranch WRP and the Vista Canyon Water Factory, which will not require discharge to the SCR, will be available to meet a considerable portion of the total projected long-term recycled water demands. As explained in Section 4.4 of the 2015 UWMP, even if recycled water supplies from the Valencia WRP and/or other local WRPs are not available in the amounts identified in Table 4-3 of the 2015 UWMP to meet potential uses because of regulatory or other constraints, other sources of supply available to CLWA and the water purveyors as provided in the 2015 UWMP would be utilized to meet non-potable demands until recycled water supplies become available.

Groundwater

Overview and Applicable Plans and Studies

As previously noted, SCWD provides water service with a mix of groundwater and imported water to residential and commercial land uses in portions of the Santa Clarita Valley in northern Los Angeles County. CLWA performs a wholesale function, contracting for water supplies from the SWP and other imported sources, treating those supplies in its Rio Vista and Earl Schmidt Treatment Plants, and delivering the supplies to the four retail purveyors for service to end-use customers. SCWD's own water system includes 14 wells in the alluvial aquifer, about 340 miles of mainline, and 13 imported water connections to CLWA's system by which SCWD receives SWP water purchased from CLWA.

Historically, the primary source of water supplies for the Santa Clarita Valley was groundwater pumped from a two-aquifer system -the alluvium (also referred to as the alluvial aquifer) and Saugus Formation. The alluvium generally underlies the Santa Clara River and its tributary drainages, and the Saugus Formation underlies practically the entire upper Santa Clara River area. This groundwater basin, generally beneath the Santa Clarita Valley, is identified in DWR's Bulletin 118 as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin No. 4- 4.07). As discussed herein, since 1980, the Santa Clarita Valley groundwater supplies have been supplemented by importing SWP supplies to serve demand in the Santa Clarita Valley.

Groundwater Basin

The basin area encompasses about 654 square miles. The Santa Clara River and its tributary drainages flow intermittently within the basin area. The principal tributaries in the Santa Clarita Valley are Castaic Creek, San Francisquito Creek, Bouquet Creek, and the South Fork of the Santa Clara River. In addition to tributary inflow, the Santa Clara River receives treated wastewater discharge from the Saugus and Valencia WRPs, which are operated by the SCVSD.

The alluvium generally underlies the Santa Clara River and its tributary drainages to maximum depths of about 200 feet. The alluvium and its tributary drainages have a total area of approximately 16,410 acres (or about 25.6 square miles).

Groundwater within the alluvium occurs under unconfined (water table) conditions. Therefore, the amount of groundwater in storage is constantly changing and is strongly influenced by local rainfall and recharge (highly variable factors in southern California). The amount of groundwater in storage within the alluvium has varied considerably over the past approximate 60 to 70 years as the local climate has experienced periods of higher than average rainfall (wet years) and lower than average rainfall (dry years).

The Saugus Formation underlies a large portion of the Santa Clara River Valley area of Los Angeles County, to depths from approximately 1,500 feet to about 5,000 feet. The Saugus Formation's total surface area is approximately 37,390 acres (or about 58.42 square miles). Groundwater in both the alluvium and Saugus Formation is recharged from several sources. The alluvium is recharged chiefly by infiltration of runoff waters in the Santa Clara River and its tributaries, with additional natural recharge from percolation of rainfall to the Valley floor and subsurface inflow. Additional recharge is from percolation of irrigation water applied to urban landscaping and reclaimed water discharged into the Santa Clara River from upstream WRPs.

Recharge to the Saugus Formation is primarily from infiltration of rainfall on the exposed formation and percolation of water from the overlying alluvium. Discharge from the aquifer system is through pumping for municipal supply and agricultural irrigation purposes and outflow to the Santa Clara River in the western portion of the basin.

Basin Yield

The groundwater basin's yield is based on the concept that pumping can vary from year to year within operational ranges that are based on long-term historic pumping records and groundwater modeling data. This operational yield allows for increased groundwater use in dry periods and increased recharge during locally wet periods, thereby collectively assuring that the basin is adequately replenished through various wet/dry cycles.

Initial analyses and reports supporting the basin yield were completed by Richard C. Slade, a consulting engineer with expertise in groundwater hydrology. In 2002, Slade completed the 2001 Update report, which updated the analysis of the hydrogeologic conditions of the alluvial and Saugus Formation aquifer systems from his earlier reports. The 2001 Update report included the following findings relative to groundwater supply:

- a. Analysis of historical groundwater levels and production indicates that there have been no conditions that would be illustrative of groundwater overdraft;
- b. The utilization of operational yield (as opposed to perennial yield) as a basis for managing groundwater production would be more applicable in this basin to reflect the

- fluctuating utilization of groundwater in conjunction with SWP and other imported water supplies;
- c. The operational yield of the alluvium would typically be 30,000 to 40,000 AFY for wet and normal rainfall years, with an expected reduction into the range of 30,000 to 35,000 AFY in dry years; and
 - d. The operational yield of the Saugus Formation would typically be in the range of 7,500 to 15,000 AFY on a long-term basis, with possible short-term increases during dry periods into a range of 15,000 to 25,000 AFY, and up to 35,000 AFY if dry conditions continue for multiple years.

Operating experience over the past 50 years has shown that pumping from the alluvium in the range of 30,000 to 40,000 AFY can be sustained without any long-term adverse effects on groundwater levels or storage. Modeled projections of alluvial groundwater response to the same range of pumping over a 78-year period of representative local hydrologic conditions (e.g., precipitation, streamflow) also show that such pumping can be sustained without any long-term adverse effects. Modeled projections of Saugus Formation response to pumping in the range of 7,500 to 15,000 AFY in most years, infrequently increased to 15,000 AF or 35,000 AF in multiple dry years, the latter to partially offset anticipated decreases in deliveries of imported water in such dry years, show that such pumping will cause short-term localized drawdown of groundwater levels during higher dry-year pumping, but that the basin will rapidly recover (recharge) during periods of normal (7,500 to 15,000 AFY) pumping.

Groundwater Operating Plan

As previously noted, neither SCWD nor the other purveyors have specific adjudicated groundwater rights or specific limitations on the amount of groundwater they respectively can produce from the basin. In practice, as discussed below, SCWD accesses the available groundwater supplies pursuant to appropriate rights and in accordance with a groundwater operating plan developed by SCWD, CLWA, and other retail water purveyors in the Santa Clarita Valley, which is supported by a numerical groundwater flow model of the basin.

The groundwater operating plan was developed by CLWA and the retail purveyors over the past 15 years to meet water demands (municipal, agricultural, and small domestic), while maintaining the basin in a sustainable condition (e.g., no long-term depletion of groundwater or interrelated surface water). As stated, the groundwater operating plan is based on the concept that pumping can vary from year to year to allow increased groundwater use in dry periods and increased recharge during wet periods. This assures that the groundwater basin is adequately replenished through various wet/dry cycles. The operating yield parameters have been quantified as ranges of annual pumping volumes to capture year-to-year pumping fluctuations in response to both hydrologic conditions and customer demand.

The ongoing work of the groundwater operating plan has produced three important reports. The first report, dated April 2004, documents the construction and calibration of the groundwater flow model for the Santa Clarita Valley. The second report, dated August 2005, presents the modeling analysis of the CLWA/retail water purveyor groundwater operating plan for the Valley, and concludes that the plan will not cause detrimental short or long-term effects to the groundwater and surface water resources in the Valley and, therefore, the plan is a reliable, sustainable component of water supply for the Valley. The most recent report, an updated analysis of the basin presents the modeling analysis of the current groundwater operating plan, including restoration of contaminated wells for municipal supply after treatment and also presents a range of potential impacts deriving from climate change considerations. All those results and an analysis of groundwater sustainability are reflected in the recent 2015 UWMP for the Santa Clarita Valley. The primary conclusion of the modeling analysis is that the groundwater operating plan will not cause detrimental short or long term effects to the groundwater and surface water resources in the Valley and is therefore sustainable. The Santa Clarita Valley's groundwater operating plan is summarized in WSA Table 4, Groundwater Operating Plan for the Santa Clarita Valley. The plan addresses both the alluvium and Saugus Formation.

The operating plan for the alluvial aquifer involve pumping in a given year, based on local hydrologic conditions in the eastern Santa Clara River watershed. Pumping ranges between 30,000 and 40,000 AFY during normal/average and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the basin, pumping is reduced to between 30,000 and 35,000 AFY after the first dry year and the multiple locally-dry years thereafter.

The total (municipal and agricultural) groundwater pumping amounts for the alluvial aquifer presented in WSA Table 5, Historical Groundwater Production, slightly exceed the Operating Plan ranges for pumping in normal and dry years from 2010 through 2014. However, closer examination of the data indicates that the municipal component of alluvial pumping has been consistent with the Operating Plan for normal years (2010, 2011, and 2012) with an average of about 25,600 AF compared to 25,850 AF that was simulated for the normal year Operating Plan in the 2009 Basin Yield Report) and dry years (2013 and 2014 with an average of about 23,060 AF compared to 23,025 AF that was simulated for the dry year Operating Plan in the 2009 Basin Yield Report). The inclusion of alluvial pumping by agriculture and private pumpers, however, has resulted in alluvial pumping that slightly exceeded the upper end of the Operating Plan range by about 2,000 to 3,000 AF from 2010 through 2013. The slight exceedance in the Operating Plan range, however, has not impacted the sustainable use of alluvial groundwater in the basin because the exceedance in alluvial pumping by agriculture is in the western portion of the basin where the alluvial aquifer is able to sustain higher levels of groundwater pumping without exhibiting any long term adverse impacts on groundwater levels. It is anticipated that pumping from the alluvial aquifer for agricultural purposes will decline over time and be more consistent with Operating Plan estimates. The operating plan for the Saugus Formation involves pumping in a given year

and is tied directly to the availability of other water supplies, particularly from the SWP. During normal/average year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 AFY. Planned dry-year pumping ranges between 15,000 and 25,000 AFY during a drought year and can increase to between 21,000 and 25,000 AFY if SWP deliveries are reduced for two consecutive years and between 21,000 and 35,000 AFY if SWP deliveries are reduced for 3 or 4 consecutive years. Such pumping is followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 AFY, to further enhance the effectiveness of natural recharge processes that cause groundwater levels and storage volumes to recover after the higher pumping during dry years. The 2015 UWMP provides historical and projected groundwater pumping broken down by retail water purveyor. The 2015 UWMP is the applicable and most current water management plan for the Santa Clarita Valley, and constitutes the best available water management planning data for the Santa Clarita Valley. Refer to WSA Table 5, Historical Groundwater Production, and WSA Table 6, Projected Groundwater Production (Normal Year), for pertinent groundwater usage data based on the 2015 UWMP.

Groundwater Management Plan

As part of legislation authorizing CLWA to provide retail water service to individual municipal customers, Assembly Bill (AB) 134 (2001) included a requirement that CLWA prepare a Groundwater Management Plan (GWMP) in accordance with the provisions of Water Code Section 10753, which was originally enacted by AB 3030. This legislation has since been superseded by the passage of the Sustainable Groundwater Management Act (SGMA) in 2014, however, the existing GWMP will be in effect until a Groundwater Sustainability Plan (GSP) or alternative plan is submitted to DWR by 2022. The implementation and compliance with the SGMA is currently being discussed among CLWA, the retail purveyors and other entities in the basin. The general contents of the GWMP were outlined in 2002, and a detailed plan was adopted in 2003 to satisfy the requirements of AB 134. The plan both complements and formalizes a number of existing water supply and water resource planning and management activities in CLWA's service area, which effectively encompasses the East Subbasin of the Santa Clara River Valley Groundwater Basin. Notably, the GWMP also includes a basin-wide monitoring program, the results of which provide input to annual reporting on water supplies and water resources in the Basin, as well as input to assessment of Basin yield for water supply as described herein. Groundwater level data from the existing groundwater monitoring program is reported to DWR as part of SBX7-6 implementation (California Statewide Groundwater Elevation Monitoring [CASGEM]). CLWA and the purveyors have executed an MOU to jointly perform as the monitoring entity for CASGEM for the basin. Available groundwater level data for the CASGEM program is submitted twice a year. CLWA and the water purveyors will continue to provide groundwater level data consistent with the CASGEM program.

The GWMP contains four management objectives, or goals, for the Basin including 1) development of an integrated surface water, groundwater and recycled water supply to meet existing and

projected demands for municipal, agricultural and other water uses; (2) assessment of groundwater basin conditions to determine a range of operational yield values that use local groundwater conjunctively with supplemental SWP supplies and recycled water to avoid groundwater overdraft; (3) preservation of groundwater quality, including active characterization and resolution of any groundwater contamination problems and (4) preservation of interrelated surface water resources, which includes managing groundwater to not adversely impact surface and groundwater discharges or quality to downstream basin(s).

Prior to preparation and adoption of the GWMP, a local Memorandum of Understanding (MOU) process among CLWA, the retail water purveyors and United Water Conservation District (UWCD) in neighboring Ventura County, downstream of the East Subbasin of the Santa Clara River Valley, had produced the beginning of local groundwater management, now embodied in the GWMP. Prepared and implemented in 2001, the MOU was a collaborative and integrated approach to several of the aspects of water resource management included in the GWMP. As a result of the MOU, the cooperating agencies integrated their respective database management efforts and continued to monitor and report on the status of Basin conditions, as well as on geologic and hydrologic aspects of their respective parts of the overall stream-aquifer system.

Following adoption of the GWMP, the water suppliers developed and utilized a numerical groundwater flow model for analysis of groundwater basin yield and for analysis of extraction and containment of groundwater contamination. The results of those basin yield and contamination analyses, most recently updated in 2009 by Luhdorff and Scalmanini Consulting Engineers and GSI Water Solutions, Inc., are bases for the amounts and allocations of groundwater supplies in the 2015 UWMP and the WSA.

The adopted Groundwater Management Plan includes 14 elements intended to accomplish the basin management objectives listed above. In summary, the plan elements are:

- Monitoring of groundwater levels, quality, production and subsidence;
- Monitoring and management of surface water flows and quality;
- Determination of basin yield and avoidance of overdraft;
- Development of regular and dry-year emergency water supply;
- Continuation of conjunctive use operations;
- Long-term salinity management;
- Integration of recycled water;
- Identification and mitigation of soil and groundwater contamination, including involvement with other local agencies in investigation, cleanup, and closure;
- Development and continuation of local, state and federal agency relationships;
- Groundwater management reports;
- Continuation of public education and water conservation programs;
- Identification and management of recharge areas and wellhead protection areas;

- Identification of well construction, abandonment, and destruction policies; and
- Provisions to update the groundwater management plan.

Work on a number of the GWMP elements had been ongoing for some time prior to the formal adoption of the GWMP, and expanded work on implementation of the GWMP will continue on an ongoing basis and are anticipated to be included in the SGMA GSP or SGMA alternative plan. Subsequent analyses of the groundwater basin are reflected in the current 2015 UWMP. Another important aspect of the GWMP was completion of the 2005 Basin Yield Report. The primary determinations made in that report were that: 1) both the alluvial aquifer and the Saugus Formation are sustainable sources at production levels outlined in the operational plan; 2) the yields are not overstated and will not deplete or "dry up" the groundwater basin; and 3) there is no need to reduce the yields shown in the prior UWMP. Additionally, the 2005 Basin Yield Report concluded that neither the alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

Basin Yield Update

In April 2009, the purveyors in Santa Clarita Valley determined that an updated analysis was needed to further assess groundwater development potential and possible augmentation of the CLWA/purveyor groundwater operating plan.

One objective of the 2009 Basin Yield Update was to evaluate the planned utilization of groundwater by the Santa Clarita Valley purveyors, while considering potential impacts on traditional supplemental water supplies from the SWP, and recognizing ongoing pumping by others for agricultural and other private water supply. This objective also included the sustainability of the groundwater resources and the physical ability to extract groundwater at desired rates. Another objective of the 2009 Basin Yield Update was to investigate and describe potential impacts of expected climate change on the groundwater basin and its yield.

The 2009 Basin Yield Update analyzed, with the numerical groundwater flow model, two groundwater operating plans: a) 2008 Operating Plan to reflect currently envisioned pumping rates and distribution throughout the Valley, including fluctuations through wet/normal and dry years, to achieve a desired amount of water supply that, in combination with anticipated supplemental water supplies, can meet existing and projected water demands in the Valley; and b) potential Operating Plan that envisions potentially increased utilization of groundwater during both wet/normal and dry years.

The 2009 Basin Yield Update determined that the 2008 Operating Plan would not cause detrimental short- or long-term effects to the groundwater and surface water resources in the Valley and, therefore, is sustainable. Consistent with actual operating experience and empirical observations of historical basin response to groundwater pumping, the modeling analysis indicated that the 2008 Operating Plan would be expected to have local difficulty in achieving the

amount of alluvial pumping called for in the eastern end of the basin during locally dry periods. This condition is particularly evident if several decades of predominantly below-normal rainfall years were to occur in the future such as occurred during much of the five decades from the mid-1920s through the mid-1970s. In other words, while the basin as a whole can sustain the pumping encompassed in the 2008 Operating Plan, local conditions in the alluvium in the eastern end of the basin can be expected to repeat historical groundwater level declines during dry periods, necessitating a reduction in desired alluvial aquifer pumping due to decreased well yield and associated actual pumping capacity. The modeling analysis also indicated that reductions in pumping from the alluvial aquifer can be made up by redistributing pumping in an equivalent amount in other parts of the basin without disrupting basin-wide sustainability or local pumping capacity. For the Saugus Formation, the modeling analysis indicated that the aquifer can sustain the pumping encompassed in the 2008 Operating Plan.

Model simulations were conducted to validate alluvial aquifer pumping redistribution assumptions. Model simulations of the 2008 Operating Plan, with pumping redistribution, indicate that westerly redistribution of 1,600 AFY of alluvial pumping from the eastern end of the basin would help during dry conditions. The model simulation also showed that affected pumping in the east end of the basin, about 4,500 AFY, could be redistributed to other areas of the basin with minimal impact on groundwater levels. In this case, total alluvial pumping in the basin could remain near the upper end of the 2008 Operating Plan range of 30,000 to 35,000 AFY. Conversely, absent any additional efforts to redistribute pumping, the total alluvial pumping capacity during extended dry periods would likely fall toward the lower end of the 2008 Operating Plan range (toward 30,000 AFY).

In summary, based on the combination of historical experience and modeled basin conditions, the groundwater operating plan for the local groundwater supply is to operate alluvial pumping in the 30,000 to 40,000 AFY range through average/normal water year conditions. In recognition of local conditions that reduce well yields in the eastern end of the alluvium during dry conditions, the groundwater operating plan for the alluvium includes reducing pumping into the range of 30,000 to 35,000 AFY in dry periods. The operating plan for the Saugus Formation is primarily to retain its significant storage for intermittent dry year supply; thus, the long-term operating plan is to retain pumping in the 7,500 AFY to 15,000 AFY range for most years, with increased pumping to 15,000 AF in a single-dry year, further increased to 25,000 AFY or 35,000 AFY when dry conditions continue through multiple dry years.

Factors Affecting Availability of Groundwater Supplies. Three primary factors affect the availability of groundwater supplies under the groundwater operating plan. They are: 1) sufficient source capacity (wells and pumps); 2) sustainability of the groundwater resource to meet pumping demand on a renewable basis; and 3) addressing impacted well capacity from known contamination, or provisions for treatment in the event of contamination. All three factors are

discussed below, and are addressed in further detail in the 2015 UWMP, Section 5, Water Quality, and the 2015 UWMP, Appendix C.

Alluvial Aquifer

Based on a combination of historical operating experience and updated groundwater modeling analyses, the alluvial aquifer can supply groundwater on a long-term sustainable basis in the overall range of 30,000 to 40,000 AFY, with a probable reduction in dry years to a range of 30,000 to 35,000 AFY. Both of those ranges include about 15,000 AFY of alluvial pumping for current agricultural and other non-municipal water uses. The dry year reduction is a result of practical constraints in the eastern part of the basin, where lowered groundwater levels in dry periods have the effect of reducing pumping capacities in that shallower portion of the aquifer. Over time, directly related to the rate of urban development and corresponding decrease in agricultural land use, the amount of alluvial pumping for agricultural water supply is expected to decrease, with an equivalent increase in the amount of alluvial pumping for municipal water supply. On an overall basis, alluvial pumping is intended to remain within the sustainable ranges in the groundwater operating plan.

Adequacy of Well Capacity and Supply

For municipal water supply, the three retail water purveyors with alluvial wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells of nearly 42,000 gallons per minute (gpm), which translates into a current full-time alluvial source capacity of approximately 67,000 AFY. Alluvial pumping capacity from all the active municipal supply wells is summarized in WSA Table 8, Active Municipal Groundwater Source Capacity-Alluvial Aquifer Wells. In terms of adequacy and availability, the combined active alluvial groundwater source capacity of municipal wells, approximately 67,000 AFY is more than sufficient to meet the current and potential future municipal, or urban, component of groundwater supply from the alluvium, which in the near term is about 26,000 AFY of the total planned alluvial pumping of 38,600 AFY which is within the 30,000 to 40,000 AFY operating yield. The higher individual and cumulative pumping capacities are primarily for operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands). The balance of alluvial pumping in the operating plan is for agricultural and other non-municipal uses including small, private pumping. In terms of adequacy and availability, the combined active Saugus groundwater source capacity of municipal wells of 30,000 AFY is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY. This existing active capacity is also more than sufficient to meet near term dry-year water demands, in combination with other sources. In order to supplement long term dry-year supplies, additional Saugus Formation wells are planned to be operational within the next 3 years. With the restored capacity of VWC Well 201 and the additional planned replacement and new Saugus wells, the total dry year combined

capacity will increase from about 30,700 AFY to about 48,570 AFY. This combined capacity is more than sufficient to meet the multiple dry-year municipal production target of 34,000 AFY.

Sustainability

Until 2003, the long-term renewability of alluvial groundwater was empirically determined based on approximately 60 years of pumping and groundwater level records. Generally, those long-term observations show stability in groundwater levels and storage, with some dry-period fluctuations in the eastern part of the basin. As discussed above, those empirical observations have been complemented by the development and application of a numerical groundwater flow model, which was used to simulate aquifer response to the planned operating ranges of pumping.

To examine the yield of the alluvium, or the sustainability of the alluvium on a renewable basis, the original groundwater flow model was used to examine the long-term projected response of the aquifer to pumping for municipal and agricultural uses in the 30,000 to 40,000 AFY range under average/normal conditions and in the 30,000 to 35,000 AFY range under locally dry conditions as documented in the 2005 Basin Yield Report.

To examine the response of the entire aquifer system, the original model also incorporated pumping from the Saugus Formation in accordance with the normal (7,500 to 15,000 AFY) and dry year (15,000 to 35,000 AFY) groundwater operating plan for that aquifer. The model was run over a 78-year hydrologic period, which was selected from actual historical precipitation to examine a number of hydrologic conditions expected to affect both groundwater pumping and groundwater recharge.

Simulated alluvial aquifer response to the range of hydrologic conditions and pumping stresses was essentially a long-term repeat of the historical conditions that have resulted from similar pumping over the last several decades. The resultant response included: (a) generally constant groundwater levels in the middle to western portion of the alluvium, and fluctuating groundwater levels in the eastern portion as a function of wet and dry hydrologic conditions; (b) variations in recharge that directly correlate with wet and dry hydrologic conditions; and (c) no long-term decline in groundwater levels or storage.

In 2008, an updated analysis was undertaken (2009 Basin Yield Update) to assess groundwater development potential and possible augmentation of the groundwater operating plan. In addition to extending the model's calibration, the updated analysis simulated the historical record of climate and incorporated SWP deliveries for those climatic conditions for an 86-year period from 1922 through 2007, in place of the original model's 78-year hydrologic period that had been developed prior to the availability of combined climate and SWP deliveries since 1922.

While the overall groundwater operating plan ranges in the updated basin yield analysis did not change from the original operating plan, prevailing land-use conditions and the specific distributions of pumping were found to produce the same kinds of resultant alluvial groundwater

conditions as concluded to be sustainable in 2005: a) no long-term declines in alluvial groundwater levels and storage; b) multi-year periods of locally declining, or locally increasing, groundwater levels in response to cycles of below-normal and above-normal precipitation; and short-term impacts on pumping capacities in eastern parts of the basin due to declining groundwater levels during dry periods, addressed by some redistribution of pumping (reflected in pumping volumes included in the 2015 UWMP) and by conformance with the dry-period reduction in alluvial pumping in the groundwater operating plan.

Based on the results of the updated basin yield analysis (2009 Basin Yield Update), the groundwater operating plan is considered to reflect ongoing sustainable groundwater supply rates. In the alluvium, sustainability was found via explicit simulation of pumping in wet/normal years near the upper end of the groundwater operating plan range. In dry years, sustainability was found via explicit simulation of pumping throughout the dry-year groundwater operating plan range, with the additional consideration that some pumping redistribution (reflected in the 2015 UWMP) be implemented to achieve pumping rates near the upper end of the dry-period range.

Saugus Formation

Based on historical operating experience and updated groundwater modeling analyses, the Saugus Formation can supply water on a long-term sustainable basis in a normal range of 7,500 to 15,000 AFY. Intermittent increases to 25,000 to 35,000 AFY in dry years has not been historically experienced operationally, however, investigations of the Saugus Formation, historical groundwater level monitoring data, and numerical modeling indicate that the Saugus Formation can be pumped sustainably at these higher rates, followed by reductions in pumping in wet to normal years. The dry-year increases, based on limited historical observation and modeled projections, demonstrate that the 25,000 to 35,000 AFY is a small amount of the large groundwater storage in the Saugus Formation and these amounts can be pumped over a relatively short (dry) period. This would be followed by recharge (replenishment) of that storage during a subsequent normal-to-wet period when the Saugus Formation pumping would be reduced to 7,500 to 15,000 AFY.

Adequacy of Well Capacity and Supply. For municipal water supply, the three retail water purveyors with Saugus wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells of nearly 17,000 gpm, which translates into a full-time Saugus source capacity of about 27,000 AFY. Additionally, LACWWD 36 completed a Saugus Well with a pumping capacity estimated at 2,000 gpm and an annual capacity of 3,220 AFY. Saugus pumping capacity from all the existing active municipal supply wells, as well as the restored, replacement, and planned new supply wells is summarized in WSA Table 8, Municipal Groundwater Source Capacity - Existing, Restored, and Planned Saugus Formation Wells. The active wells include two Saugus wells contaminated by perchlorate (Saugus 1 and 2), which have been returned to service in 2010 with treatment facilities for use of the treated water for municipal supply under permit from the California Department of Public Health (DPH), now the DDW. The active wells also include the

most recent replacement well, VWC's Well 207, in a non-impacted part of the basin. Also included in WSA Table 7 is VWC Well 201 which was impacted by the detection of perchlorate and removed from service in 2010. VWC Well 201 is expected to be restored to service by 2017 with treatment facilities for use of the treated water for municipal supply under a permit from DDW (formerly DPH), similar to the Saugus 1 and Saugus 2 wells. VWC Well 201 provides a total of 2,400 gpm of pumping capacity (for a dry-year production capacity of 3,775 AFY, and is shown in WSA Table 7 under Restored Wells. Following the shutdown of VWC Well 201, VWC also reduced pumping from a nearby well (VWC 205) to minimize potential influences on perchlorate migration. VWC Well 205 was voluntarily removed from service in 2012 when perchlorate was detected at concentrations below reporting levels. VWC Well 205 will be returned to service with VWC Well 201. Because VWC Well 205 was voluntarily removed from service, it is considered an active existing well in WSA Table 7.

WSA Table 7 includes an adjusted operating scenario to account for anticipated pumping from the Saugus Aquifer Extraction Pilot Program. This system is currently being installed and is expected to be operational in 2017 with an annual extraction of 800 AFY from the Saugus Formation. The extracted groundwater will be treated for perchlorate removal and returned to the Santa Clara River pursuant to system-related permits. It is anticipated that a portion of the treated water may recharge the alluvium, especially in dry periods when there may be available vacated aquifer storage. Plans between CLWA, the retail purveyors, and Whittaker-Bermite to utilize the treated water for municipal purposes have not been fully explored at this time due to an absence of conveyance facilities to transport the treated water to the municipal distribution system.

In terms of adequacy and availability, the combined active Saugus groundwater source capacity of municipal wells of 27,000 AFY is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY. This currently active capacity is more than sufficient to meet water demands, in combination with other sources.

To supplement near term dry-year supplies, VWC Well 201 could be brought back into service utilizing treatment technologies currently being used in the Santa Clarita Valley. In October 2005, VWC Well Q2 was restored to service, six months after perchlorate was detected in the well in April 2005. In addition, in 2005, initially there was no third-party funding available to pay for the cost of putting the well back into service; VWC negotiated a separate agreement with the Whittaker-Bermite property owners to pay for the cost. Also in May 2007, the perchlorate litigation settlement agreement was executed, which established a "Rapid Response Fund" to immediately treat any additional wells impacted by perchlorate.

With the restored capacity of VWC Well 201, the Saugus Formation groundwater source capacity of municipal wells would be increased to about 31,000 AFY. To accommodate longer-term dry-year needs, additional Saugus wells are planned by 2020 and are expected to have a combined

capacity of 10,000 AFY, increasing the Saugus Formation dry-year production capacity to approximately 41,000 AFY.

Sustainability

Historically (and continuing to the present), pumping from the Saugus Formation has been fairly low in most years, with one 4-year period of increased pumping up to about 15,000 AFY that had short-term water level impacts but produced no long-term depletion of the substantial groundwater storage in the Saugus. As discussed above, those empirical observations have been complemented by the development and application of the numerical groundwater flow model, which has been used to examine aquifer response to the groundwater operating plan for pumping from both the alluvium and the Saugus, and to examine the effectiveness of pumping for both contaminant extraction and control of contaminant migration within the Saugus Formation. Some of the production capacity that was previously impaired by contamination has been restored and that pumping is reflected in the 2015 UWMP as part of the Saugus groundwater operating plan and pumping distribution.

To examine the yield of the Saugus Formation, or its sustainability on a renewable basis, the original groundwater flow model was used to examine long-term projected response to pumping from both the alluvium and the Saugus over the 78-year period of hydrologic conditions that incorporated alternating wet and dry periods as have historically occurred (see 2005 Basin Yield Report). For the Saugus Formation, simulated pumping included the then-planned restoration of historic pumping from the perchlorate-impacted wells.

The originally simulated Saugus Formation response to the ranges of operating plan pumping under assumed recurrent historical hydrologic conditions was consistent with actual experience under smaller pumping rates: a) short-term declines in groundwater levels and storage near pumped wells during dry-period pumping; b) recovery of groundwater levels and storage after reduction of dry-period pumping; and c) no long-term decreases or depletion of groundwater levels or storage. The combination of actual experience with Saugus recharge and pumping up to about 15,000 AFY, complemented by modeled projections of aquifer response that showed long-term utility of the Saugus at 7,500 to 15,000 AFY in normal years and rapid recovery from higher pumping rates during intermittent dry periods, was the basis for concluding that the Saugus Formation could be considered a sustainable water supply source to meet the Saugus portion of the groundwater operating plan.

As stated above, in 2008, an updated basin yield analysis was undertaken to assess groundwater development potential and possible augmentation of the groundwater operating plan (see 2009 Basin Yield Update). After extended and updated model calibration and incorporation of extended historical records, the overall groundwater operating plan and specific distribution of Saugus pumping were found to produce the same kinds of resultant Saugus groundwater conditions as concluded to be sustainable in 2005: a) long-term stability of groundwater levels, with no sustained

declines; b) groundwater levels slightly below historic Saugus levels, in response to greater long-term utilization of the Saugus; and c) maintenance of sufficiently high Saugus groundwater levels to ensure achievement of planned individual pumping capacities. Thus, the groundwater operating plan for the Saugus, with fairly low pumping in wet/normal years and increased pumping through dry periods, is concluded to reflect sustainable groundwater supply rates.

Existing and Planned Groundwater Pumping

Impacted Well Capacity

Groundwater produced by SCWD consistently meets groundwater standards set by USEPA and the DDW. However, the 2015 UWMP explains that perchlorate has been a constituent of concern with respect to the groundwater quality since it was detected in four wells in the eastern part of the Saugus Formation in 1997.

The 2015 UWMP also discusses organic compounds, specifically Volatile Organic Compounds (VOCs) [Trichloroethylene (TCE) and Tetrachloroethylene (PCE)] that have been found in low levels below the Maximum Contaminant Level (MCL) in groundwater in the Santa Clarita Valley. As discussed in Section 5.2.7 of the 2015 UWMP, low levels (below MCL) of TCE and PCE have been found in groundwater in the Santa Clarita Valley including Wells Saugus 1 and 2.

The retail purveyors operate their groundwater supply wells under operating permits from the DDW. These operating permits include operational goals for water quality constituents in drinking water. In the case of TCE and PCE, the operational goal is at or below the Detection Limit for Purposes of Reporting (DLR), which is less than the State drinking water MCL for these constituents. These constituents have been occasionally detected at concentrations above the DLR, but there have never been any detections above the regulatory standard MCL. Therefore, the retail water purveyors are in compliance with the Safe Drinking Water Act and the DDW-issued operating permits. In addition, groundwater pumped from supply wells is put into the Valley-wide drinking water pipeline system which blends groundwater with imported water supplies. Mixing of the groundwater with imported water supplies further reduces the concentration of any TCE and PCE in the water provided to users. Based on the low levels of detection and blending practices, VOCs are not anticipated to impact groundwater supply availability or reliability.

As discussed in Section 5.2.1 of the 2015 UWMP, certain municipal wells were impacted by perchlorate and thus represented a temporary loss of well capacity within the CLWA service area. Six wells were ultimately taken out of service upon the detection of perchlorate including four Saugus wells and two alluvial wells. All wells have been either: a) abandoned and replaced; b) returned or returning to service with the addition of treatment facilities that allow the wells to be used for municipal water supply as part of the overall water supply systems permitted by the DDW; or c) will be replaced under an existing perchlorate litigation settlement agreement. The restored wells (two Saugus wells and one alluvial well), one Saugus well which is currently being restored, and the replacement wells (one Saugus and one alluvial well), which collectively restore

much of the temporarily lost well capacity, are now included as parts of the active municipal groundwater source capacities delineated in WSA Tables 7 and 8. Also discussed in the 2015 UWMP, additional wells will be drilled to fully restore the impacted well capacity, thus restoring the operational flexibility that existed prior to the perchlorate being discovered.

In August 2010, VWC's Well 201, located downgradient from the former Whittaker-Bermite site and downgradient from the initially impacted Saugus 1, Saugus 2, and V157 wells, had detectable concentrations of perchlorate and the well was taken out of service.

VWC already has completed significant updated groundwater modeling analysis of the Saugus Formation, and is currently working with expert consultants to restore Well 201 as a drinking water source through installation of wellhead treatment. In addition, a process with DDW already is underway to add wellhead treatment to Well 201 so it can be returned to service. VWC currently plans to complete installation of wellhead treatment so that Well 201 is operable by 2017, and DDW is working with VWC to accomplish this goal.

In addition, VWC's updated groundwater modeling analysis has shown that returning Well 201 to service is an important component of the strategy to contain perchlorate in the Saugus Formation. In particular, pumping Well 201 on a sustained, continuous basis at close to its full capacity (up to 2,400 gallons per minute), with an allowance for routine maintenance down-time each year, can provide hydraulic containment of perchlorate present in the Saugus Formation groundwater west of the Whittaker-Bermite site, and provide protection of downgradient production wells that currently are not impacted by perchlorate.

Alluvial Aquifer

In terms of adequacy and availability, the combined active alluvial groundwater source capacity of municipal wells, approximately 67,000 AFY, are more than sufficient to meet the current and potential future municipal, or urban, component of the groundwater supply from the alluvium, which in the near-term is about 26,000 AFY of the total planned alluvial pumping of 38,600 AFY which is within the 30,000 to 40,000 AFY basin yield. The higher individual and cumulative pumping capacities are primarily for operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands).

Saugus Formation

In terms of adequacy and availability, the combined active Saugus groundwater source municipal well capacity of 30,000 AFY is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY. This existing active capacity is also more than sufficient to meet near term dry-year water demands, in combination with other sources. In order to supplement long term dry-year supplies, additional Saugus Formation wells are planned to be operational within the next 3 years.

With the restored capacity of VWC Well 201 and the additional planned replacement and new Saugus wells, the total dry year combined capacity will increase from about 30,700 AFY to about 48,570 AFY. This combined capacity is more than sufficient to meet the multiple dry-year municipal production target of 34,000 AFY.

Private and Agricultural Groundwater Pumping

The 2015 UWMP and the groundwater operating plan recognize ongoing alluvial pumping for both municipal and agricultural water supply, as well as other small private domestic and related pumping.

In addition to private agricultural production, the 2015 Santa Clarita Valley Water Report indicates that total small private pumping is likely well within the 500 AFY estimates in recent annual Santa Clarita Valley Water Reports, or about 1% of typical alluvial aquifer pumping by the purveyors and other known private well owners (e.g., agricultural pumpers) combined. Thus, small private wells create a pumping demand that is essentially negligible at the scale of the regional model.

The 2015 UWMP provides estimates of the projected groundwater use by each of the retail purveyors during normal year scenarios. (See 2015 UWMP, Table 3-7.) As discussed above and in the 2015 UWMP, CLWA and the purveyors recognize that these estimates of projected groundwater use are subject to adjustment based on various factors and conditions occurring from time-to-time, and do not constitute an allocation of groundwater from the local basin.

SB 610 Groundwater Requirements

California Water Code §10910(f) requires a WSA to include specific information describing groundwater resources if the water supply for a proposed project includes groundwater. As discussed above, the Santa Clarita Valley water suppliers have committed to a groundwater operating plan that includes municipal, agricultural, and other smaller uses while maintaining the local groundwater basin in a sustainable condition (e.g., no long-term depletion of groundwater or interrelated surface water). In addition to other information and analyses provided in the WSA, the following discussion addresses specific provisions of Water Code §10910(f).

- **Water Code §10910(1)(1). Review of relevant information contained in the Urban Water Management Plan.** The discussion above, along with Section 3 of the 2015 UWMP, Water Resources, and the CLWA Groundwater Management Plan, provide a comprehensive description and analysis of the local alluvial and Saugus Formation aquifer systems, their respective yields, and historical and projected production consistent with the groundwater operating plan. As authorized by SB 610, these descriptions, analyses, and conclusions are incorporated herein by reference.
- **Water Code §10910(1)(2). Description of any groundwater basin or basins from which the proposed project will be supplied, including information concerning adjudication and overdraft.** As explained above, the Santa Clarita Valley Basin (containing the alluvial

aquifer and Saugus Formation) is about 22 miles long east to west and 13 miles wide. The alluvial aquifer has an estimated storage capacity of about 161,000 AF of water and approximately 1.65 million AF of potentially usable groundwater is present from depths of 300 to 2,500 feet in the Saugus Formation (Slade 2002).

The groundwater basin is un-adjudicated, meaning that neither SCWD nor the other purveyors have specific adjudicated water rights or specific limitations that dictate their water supply. However, in practice, and as further discussed in the WSA, SCWD accesses the available groundwater supplies pursuant to its appropriate rights and in accordance with a groundwater operating plan developed by CLWA, SCWD, and other retail water purveyors in the Santa Clarita Valley, and complemented by 2005 and 2009 basin yield analyses based on a numerical groundwater flow model of the basin. These studies have concluded that neither aquifer system is in overdraft and that the purveyor's groundwater operating plan as described in the Groundwater Management Plan is sustainable.

The groundwater operating plan was developed by CLWA and the retail purveyors over the past 15 years to meet water demands (municipal, agricultural, and small domestic), while maintaining the basin in a sustainable condition (e.g., no long-term depletion of groundwater or interrelated surface water). As stated, the groundwater operating plan is based on the concept that pumping can vary from year to year to allow increased groundwater use in dry periods and increased recharge during wet periods. This assures that the groundwater basin is adequately replenished through various wet/dry cycles. The operating yield concept has been quantified as ranges of annual pumping volumes to capture year-to-year pumping fluctuations in response to both hydrologic conditions and customer demand.

The 2015 UWMP also contains an extensive description and analysis of the groundwater basin in the Santa Clarita Valley. Refer to Section 3 of the 2015 UWMP and the CLWA Groundwater Management Plan, and Appendix I, which are incorporated herein by reference.

- **Water Code §10910(1)(3). Description and analysis of the amount and location of groundwater pumped by the public water system for the past five years from any groundwater basin from which the proposed project will be supplied.** The 2015 UWMP provides historical groundwater pumping for the past 5 years, broken down by retail water purveyor and by aquifer. Refer to WSA Table 5, Recent Historical Groundwater Production for a summary of the recent historical production for the past 5 years for SCWD and all municipal purveyors. SCWD's pumping ranged from 4,220 AF (2014) to 10,195 AF (2011) from the alluvial aquifer, and 2,503 AF (2014) to 3,108 AF (2013) from the Saugus Formation during the past 5 years.

During the past 5 years, total pumping from the alluvial aquifer from municipal, agricultural and other pumping ranged from 30,692 AF (2015) to 40,748 AF (2011) with an average of 37,185 AFY, which is within the 30,000 to 40,000 AFY basin yield. During the past 5 years, total pumping from the Saugus Formation from municipal, agricultural and other pumping ranged from 8,426 AF (2011) to 11,280 AF (2015) with an average of 9,680 AFY, which is within the long-term sustainable pumping range of 7,500 to 15,000 AFY.

- **Water Code §10910(f)(4). Description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system from any basin from which the proposed project will be supplied.** Refer to Table 3-7 in the 2015 UWMP for a summary of the range of the projected groundwater production by SCWD and the other Santa Clarita Valley retail water purveyors. (Also refer to WSA Table 6 for the same information.) The tables depict groundwater pumping from the Alluvium and Saugus Formation from 2020 through 2050. Also refer to Figure 3-2 and Figure 3-3 of the 2015 UWMP for the alluvial and Saugus well locations within the basin. All such referenced information from the 2015 UWMP is incorporated herein by reference.

As described in detail throughout the WSA, to ensure sustainability of the basin and groundwater resources, the purveyors have committed that the annual use of groundwater pumped collectively in any given year will not exceed the CLWA/purveyors' groundwater operating plan as described in the updated Basin Yield Study (August 2009), the 2015 UWMP, and as reported annually in the Santa Clarita Valley water reports. A portion of the Project's potable water demand of 382 AFY to be met by groundwater produced from the alluvial and Saugus aquifers will be mixed for operations purposes by SCWD.

- **Water Code §10910(f)(5). Analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.** SCWD has determined that the sufficiency of groundwater as part of the combined water supply portfolio necessary to meet the initial and projected water demand associated with the Project was addressed in the 2015 UWMP; therefore, as provided in Water Code section 10910(±)(5), SCWD incorporates by reference the 2015 UWMP's information, analyses, and conclusions concerning the sufficiency of supply in the alluvium in WSA Section 2.5.2; and the sufficiency of supply in the Saugus Formation in WSA Section 2.5.3.

In addition, WSA Section 2.5, Groundwater, provides information and analyses confirming the sufficiency of the groundwater supply from both the alluvial aquifer and the Saugus Formation. Subsection 2.5.4, Existing and Planned Groundwater Pumping, of the WSA also evaluates existing and planned groundwater pumping,

including impacted well capacity as a result of the detection of perchlorate within the CLWA service area. Based on that analysis, SCWD has determined that non-impacted groundwater supply as part of its combined water supply portfolio will be sufficient to meet the projected demands associated with the Project in addition to existing and projected demands for groundwater within the CLWA service area during normal, single-dry, and multiple-dry year periods throughout the long-term planning horizon reflected in the 2015 UWMP.

Sustainability of Existing Groundwater Supplies and Projected Supplies

Groundwater supplies were evaluated in the Basin Yield Study (August 2009) and reviewed in the 2015 UWMP to determine whether supply projections were realistic and sustainable over varying hydrologic conditions over the long-term projection. The review made the following findings:

1. The alluvial aquifer and the Saugus Formation are reasonable and sustainable sources at the yields represented in the 2015 UWMP over the next 35 years;
2. The yields are not overstated and will not deplete or "dry up" the groundwater basin; and
3. Under the 2015 UWMP, there is no need to reduce the yields for planning purposes.

Additionally, the 2015 UWMP and Basin Yield Study (August 2009) concluded that both aquifers are in good operating condition (not in a condition of overdraft) and are not projected to become overdrafted.

Water Conservation

The 2015 UWMP summarizes SCWD's and the other retail purveyors' projected water demands through 2050. The summary includes water demands without conservation, based on the retail purveyors' projected water demands shown in Table 2-2 of the 2015 UWMP, and with conservation, using the requirements described in Senate Bill 7 of Special Extended Session 7 (SBX7-7). SBX7-7 applies to retail water suppliers, and is intended to increase water use efficiency, and meet a 20% per capita reduction in urban water use statewide by 2020.

Table 2-28 of the 2015 UWMP summarizes the retail purveyors' normal year SBX7-7 water demand calculations with and without conservation within the CLWA service area from 2015 through 2050. The demand reductions reflected in Table 2-28 may be achieved through a combination of water conservation measures and the use of recycled water. Note the potable water demand reductions shown in Table 2-22 exceed the requirements of SBX7-7.50

In addition, Section 7 of the 2015 UWMP describes the water demand management (conservation) measures implemented by CLWA, SCWD, and the other retail purveyors as part of the effort to reduce water demand in the Santa Clarita Valley. As part of Section 7, SCWD provides a detailed description of its conservation programs, water conservation best management practices, and water demand management measures. Further, the 2015 Santa Clarita Valley Water Report

summarizes the water conservation efforts of CLWA and the four retail purveyors in the Santa Clarita Valley. This summary is found in Section 5 of the 2015 Santa Clarita Valley Water Report at pages 45 through 50. All such information is incorporated herein by reference.

Water Shortage Contingency Planning Analysis

Water supplies may be interrupted or reduced due to a number of factors, such as a drought which limits supplies, an earthquake which damages water delivery or storage facilities, a regional power outage, or a toxic spill that affects water quality. The 2015 UWMP, Section 8, describes how CLWA and the retail water purveyors plan to respond to such water supply outages, reductions, and other emergencies so that customer needs are met adequately, promptly and equitably. To date, CLWA and the retail purveyors have completed Water Shortage Contingency Plans. In addition, prohibitions, penalties, and financial impacts of shortages have been developed by CLWA, SCWD, and the other retail purveyors in the Santa Clarita Valley, and are summarized in Section 8 of the 2015 UWMP.

In preparing the WSA, SCWD has considered the urban water shortage contingency planning analysis set forth in the 2015 UWMP, Section 8, in determining the sufficiency of water supplies for the Project, in addition to all existing and planned future uses in SCWD's service area within the Santa Clarita Valley.

On April 1, 2015, in response to persistent drought conditions and record low snowpack in the Sierra Nevada Mountains, Governor Jerry Brown issued Executive Order B-29-15. The Order directed the State Water Resources Control Board (State Board) to impose restrictions on urban water suppliers to achieve a statewide 25% reduction in potable urban water usage through February 2016.

On May 5, 2015, in response to Executive Order B-29-15, the State Board adopted an emergency water conservation regulation requiring urban retail water suppliers to reduce their water production by certain percentages through February 2016 in comparison to 2013 levels.

The State Board established eight tiers for required water use reduction ranging from 8% for agencies with low per capita water use to 36% for agencies with high per capita water usage. SCWD's required reduction was 32%. CLWA and the retail purveyors increased conservation outreach and programs to meet the requirements of emergency regulation.

On February 2, 2016, due to continued drought conditions, the State Board adopted extended and revised emergency regulations to ensure that urban water conservation continues in 2016. The revised regulation also provided credits for certain factors that affect water use such as hotter-than-average climates, population growth, and significant investments in new local drought resilient water sources such as recycled water reuse.

On May 9, 2016, the Governor issued an Executive Order that directed the State Board to adjust and extend its emergency water conservation regulations through the end of January 2017 in recognition of the differing water supply conditions for many communities. On May 31, 2016, the State Board adopted a new Emergency Regulation which is proposed to remain in effect until the end of January 2017. Among other things, the regulation requires urban each urban retail water supplier to either 1) develop and report an individualized water conservation and reduction standard according to prescribed methodologies, or 2) reduce its total potable water production by the percentage identified as its conservation standard under the previous emergency regulation, subject to potential adjustments. The alternative conservation standard is calculated by comparing the average annual customer demand from 2013 and 2014 to the available supplies in 2017, 2018, and 2019 assuming the 3-year hydrology of 2013, 2014, and 2015. Urban retailers must self-certify and file their alternative conservation standards with the State Board. SCWD completed this self-certification and filed it with the State Board on June 22, 2016. The self-certification identified sufficient supply to meet demands, assuming three additional drought years as required by the State Board's regulations. Accordingly, SCWD's Board has rescinded Ordinance No. 43 and adopted a new conservation Ordinance No. 44.51

The adopted 2015 UWMP, Section 8, describes how CLWA and the retail purveyors can respond to continuing drought conditions. The reliability planning provisions of the adopted 2015 UWMP, Section 6, also assist CLWA and the retail purveyors in responding to drought conditions, including the severe drought conditions that currently exist.

Reliability Planning

CLWA, SCWD, and the other retail purveyors in the Santa Clarita Valley have implemented a number of projects that are part of an overall program to provide the facilities needed to ensure reliable imported and local water supplies during dry years. The program involves water conservation, surface and groundwater storage, water transfers and exchanges, water recycling, additional short-term pumping from the Saugus Formation, and increasing CLWA's imported supply. This overall strategy is designed to meet increasing water demands while assuring a reasonable degree of supply reliability. Part of the overall water supply strategy is to provide a blend of groundwater and imported water to area residents to ensure consistent quality and reliability of service. The actual blend of imported water and groundwater in any given year and location in the Santa Clarita Valley is an operational decision and varies over time due to source availability and operational capacity of purveyor and CLWA facilities. The goal is to conjunctively use available water resources so that the overall reliability of water supply is maximized while utilizing local groundwater at a sustainable rate.

The available water supplies and demands for CLWA's service area were analyzed in the 2015 UWMP to assess the region's ability to satisfy demands during the following variable periods: 1) an average water year; 2) single-dry year; and 3) multiple-dry years, which included an

assessment of two different multiple-dry year periods: a 4-year dry period, and a 3-year dry period. The 2015 UWMP summary tables (shown in WSA Section 6.0) demonstrate that existing and planned supplies are available to meet existing and projected demand under all such conditions for the projected planning period through 2050.

While many of the Santa Clarita Valley's available supply sources have some variability, the variability in SWP supplies has the largest effect on overall supply reliability. In any given year, SWP supplies may be reduced due to dry weather conditions, regulatory restrictions, or other factors. As discussed above, during such an occurrence, the remaining water demands in the CLWA service area are planned to be met by a combination of alternate supplies such as return water from CLWA's accounts in the Semitropic Groundwater Storage Program and the Rosedale-Rio Bravo Water Banking and Exchange Program, deliveries from CLWA's flexible storage account in Castaic Lake Reservoir, local groundwater pumping, short-term water exchanges, and participation in DWR's dry-year water purchase programs.

As stated in the 2015 UWMP, water supply reliability for CLWA, and in turn SCWD and the other retail purveyors within the Santa Clarita Valley, has improved significantly with the development of conjunctive use and groundwater banking. Conjunctive use is the coordinated operation of multiple water supplies to achieve improved supply reliability. During dry periods, or when imported water supply availability is reduced, banked water can be recovered from groundwater storage to replace, or firm up, the imported water supply deliveries. CLWA and the purveyors have been conjunctively utilizing local groundwater and imported water since SWP water was imported to the Santa Clarita Valley beginning in 1980. SWP and other imported water supplies have supplemented the overall supply of the Santa Clarita Valley, which previously depended solely on local groundwater supplies.

Drought periods may affect available water supplies in any single year and even for a duration that spans multiple consecutive years. Hydrologic conditions vary from region to region throughout the state. Dry conditions in northern California affecting SWP supply may not affect local groundwater and other supplies in southern California, and the reverse situation can also occur (as it did in 2002 and 2003). For this reason, CLWA and the purveyors have emphasized developing a water supply portfolio that is diverse, especially in dry years. Diversity of supply is considered a key element of reliability planning, giving CLWA and the purveyors the ability to draw on multiple sources of supply to ensure reliable service during dry years, as well as during average wet years.

As described above, CLWA has entered into groundwater banking and water exchange programs and has, in aggregate, approximately 140,000 AF of recoverable water outside the local groundwater basin, which is available during drought conditions. The CLWA and purveyor reliability planning associated with each water source is discussed in further detail in Chapter 6 of the 2015 UWMP. As discussed above, CLWA and the purveyors have assessed the impact of

DWR's 2015 SWP Delivery Capability Report on the CLWA/purveyor water supply, and have determined that current and projected supplies are sufficient to meet the projected demands of the Project in addition to existing and planned future uses through the year 2050 consistent with the 2015 UWMP.

4.22-4 Regulatory Setting

1. Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) ensures the quality of drinking water. The law requires actions to protect drinking water and its sources (rivers, lakes, reservoirs, springs, and groundwater wells) and applies to public water systems serving 25 or more people. It authorizes the United States (U.S. EPA) to set national health-based standards for drinking water to protect against both naturally occurring and manmade contaminants. In addition, it oversees the states, municipalities, and water suppliers that implement the standards.

U.S. EPA standards are developed as a Maximum Contaminant Level (MCL) for each chemical or microbe. The MCL is the concentration that is not anticipated to produce adverse health effects after a lifetime of exposure, based upon toxicity data and risk assessment principles. U.S. EPA's goal in setting MCLs is to assure that even small violations for a period of time do not pose significant risk to the public's health over the long run. National Primary Drinking Water Regulations ("NPDWRs" or "primary standards") are legally enforceable standards that limit the levels of contaminants in drinking water supplied by public water systems.

Secondary standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. U.S. EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

Environmental Protection Agency

The U.S. EPA is the federal agency responsible for water quality management and administration of the Clean Water Act (CWA). In California, the U.S. EPA has delegated most of the administration of the CWA to the State Water Resources Control Board (SWRCB). Much of the responsibility for implementation of the SWRCB's policies is delegated to the Regional Water Quality Control Board (RWQCB).

2. State of California

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (“Porter-Cologne” or “the Act”) established the SWRCB and divided the state into nine regional basins, each with an RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state’s surface and groundwater supplies. The Act authorizes the SWRCB 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 Water Discharge Requirement (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 3 years in accordance with Article 3 of Porter-Cologne and CWA Section 303(c).

Groundwater Management Act

The Groundwater Management Act of 1992 (Water Code §10750 et seq.), also known as AB 3030 (Stats. 1992, Ch. 947), provides guidelines for local agencies to acquire authority over the management of groundwater resources in basins recognized by DWR. Its intent is to promote the voluntary development of groundwater management plans and provide criteria for the plans in order to ensure sustainable groundwater supplies for the future. It stipulates the technical components of a groundwater management plan as well as procedures for such a plan’s adoption, including passage of a formal resolution of intent to adopt a groundwater management plan, and holding a public hearing on the proposed plan. AB 3030 also allows agencies to adopt rules and regulations to implement an adopted plan, and empowers agencies to raise funds to pay for the facilities needed to manage the basin, such as extraction wells, conveyance infrastructure, recharge facilities, and testing and treatment facilities. Senate Bill (SB) 1938 (Stats. 2002, Ch. 603) also requires basin management objectives and other additions to be included in local groundwater management plans to comply with the *California Water Code* (Water Code §10750–10756).

Sustainable Groundwater Management Act

In September 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA), which is comprised of Assembly Bill (AB) 1739, Senate Bill (SB) 1168, and SB 1319. A primary component of the SGMA requires local agencies to adopt groundwater management plans

that are tailored to the resources and needs of their communities. Under the SGMA, the DWR will be responsible for implementing new and expanded responsibilities including: 1) developing regulations to revise groundwater basin boundaries; 2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements; 3) identifying basins subject to critical conditions of overdraft; 4) identifying water available for groundwater replenishment; and 5) publishing best management practices for the sustainable management of groundwater. To ensure that the DWR is meeting the requirements of the SGMA, the DWR released a Draft Groundwater Sustainability Program Strategic Plan (Strategic Plan) in March 2015. This Strategic Plan aims to document the DWR strategy in helping to implement groundwater sustainability; share information with those who have interests in or management responsibilities for groundwater; and describe the structure through which DWR implements specific actions in coordination with stakeholders and partners.

Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221 were signed into law in 2001. The bills require lead agencies to obtain an assessment from the local water supplier to determine the sufficiency of the water supply for a proposed development. SB 610 applies at the time an EIR is prepared; SB 221 applies at the time a Tentative Tract Map or other related project actions are approved. Additionally, water agencies must coordinate with land use planning agencies in the development of their Urban Water Management Plans (UWMPs), which include projections of future water demand and water supply availability during normal and dry periods. Water agencies and land use planning agencies within the Region are working together to ensure adequate management and planning for water supplies to meet the needs of growing communities.

Senate Bill X7-7

Senate Bill 7 of Special Extended Session 7 (SB X7-7) was signed into law in November 2009; it calls for progress towards a 20% reduction in per capita water use statewide by 2020. As a result, the legislation now mandates each urban water retail supplier to develop and report a water use target in the retailer's 2010 UWMP. The legislation further requires that retailers report an interim 2015 water use target, their baseline daily per capita use and 2020 compliance daily per capita use, along with the basis for determining those estimates. SB X7-7 provides four possible methods for an urban retail water supplier to use to calculate its water use target. DWR has also developed methodologies for calculating base daily per capita water use, baseline commercial, industrial and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use and landscape area water use. Agencies not in compliance with SB X7-7 will be ineligible for state loan and grant funding. SB X7-7 also contains requirements for agricultural water suppliers. All agricultural water suppliers, either publicly or privately owned which irrigate 10,000 or more acres are required by SB X7-7 to implement critical Efficient Water Management Practices (EWMPs) and additional EWMPs if locally cost effective and

technically feasible. Affected agricultural water suppliers must implement EWMPs by July 1, 2012. Critical EWMPs include:

- Each agricultural water supplier is to measure the volume of water delivered to customers with sufficient accuracy to comply with standards set by DWR.
- Each agricultural water supplier is to develop a pricing structure for water customers, based at least in part on the volume of water delivered.

SB X7-7 also created the Agricultural Water Management Planning Act, which requires affected agricultural water suppliers to adopt Agricultural Water Management Plans (AWMPs). These plans facilitate management and conservation of water suppliers, and also guide and document the implementation of EWMPs. The plans are mandatory for many suppliers and are required to be completed and adopted for affected agricultural water suppliers by December 31, 2012.

Assembly Bill 1881

Assembly Bill (AB) 1881 built upon many past legislative acts related to landscape water use efficiency. AB 1881, the Water Conservation in Landscaping Act of 2006, enacted many landscape efficiency recommendations of the California Urban Water Conservation Council (CUWCC) for improving the efficiency of water use in new and existing urban irrigated landscapes in California. AB 1881 required DWR, no later than January 1, 2009 to update the existing Model Local Water Efficient Landscape Ordinance and local agencies to adopt the updated model ordinance or an equivalent no later than January 1, 2010. DWR has completed the update of the Model Local Water Efficient Landscape Ordinance. The law also requires the Energy Commission to adopt performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water. The Model Local Water Efficient Landscape limits the water budget for new landscapes (or rehabilitated landscapes), greater than 2,500 square feet, to 70% of the local reference evapotranspiration (ET). The model ordinance lays out the procedures for evaluating potential landscape water use during the land development process. In addition, the ordinance contains requirements for planting as well as the design and maintenance of irrigation systems, all with the intent of limiting outdoor water use and avoiding irrigation runoff.

Assembly Bill 2882

This bill was passed in 2008 and encourages public water agencies throughout California to adopt conservation rate structures that reward consumers who conserve water. Prior to AB 2882, state law authorized water agencies to promote conservation using rate structures; however, some agencies were concerned that such rate structures may be inconsistent with other parts of state law. AB 2882 clarifies the allocation-based rate structures and establishes standards that protect consumers by ensuring a lower base rate for those who conserve water.

California Department of Water Resources

The California Department of Water Resources (DWR) is responsible for the planning, construction, and operation of SWP facilities, including the California Aqueduct, and sets conditions on use of SWP facilities. In addition, DWR is responsible for statewide water planning, evaluating urban water management plans, overseeing dam safety and flood control, and transfer of certain water rights permits (e.g., pre-1914).

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the State, while the Regional Water Quality Control Boards (RWQCBs) conduct planning, permitting, and enforcement activities.

California Department of Public Health

The California Department of Public Health (DPH) implements the SDWA. In addition, it oversees the operational permitting and regulatory oversight of public water systems. DPH requires public water systems to perform routine monitoring for regulated contaminants that may be present in their drinking water supply. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding an MCL must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring. In addition, DPH conducts water source assessments, oversees water recycling projects, permits water treatment devices, certifies water system employees, promotes water system security, and administers grants under the state Revolving Fund and state bonds for water system improvements

California Water Plan

The California Water Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The plan, updated every 5 years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs.

State Water Project

The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. Its main purpose is to store water and distribute it to 29 urban and agricultural

water suppliers including Southern California. The organization permits MWD 1,911,500 AFY, Table A until December 31, 2035. The Table A Amount is the maximum amount of water to which a SWP Contractor has a contract right to request delivery each year of the highest priority available under the SWP Contractor's water supply contract, is specified in Table A of the contract. The Table A Amount is not equivalent to actual deliveries of water in any given year, and the water actually available for delivery in any given year may be an amount less than the SWP Contractor's Table A Amount. Depending upon hydrologic conditions, the amount of water in storage, the operational constraints, requirements imposed by regulatory agencies to meet environmental water needs, the amount of water requested by other SWP Contractors, climatic conditions, and other factors, the Table A amount may vary.

Urban Water Management Plan

Urban Water Management Plans (UWMPs) are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves more than 3,000 or more connections is required to assess the reliability of its water sources over a 20-year planning horizon considering normal, dry, and multiple dry years. This assessment is to be included in its UWMP, which are to be prepared every 5 years and submitted to DWR. DWR then reviews the submitted plans to make sure they have completed the requirements identified in the UWMP Act (Division 6 Part 2.6 of the Water Code §10610–10656).

California Public Resources Code

As defined in *California Public Resources Code* §10910, a city or county determines whether the projected water demand associated with a project was included as a part of the most recently adopted urban water management plan. If the water demand associated with the project was not accounted for in the most recently adopted urban water management plan, the water supply assessment for the project must include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry and multiple dry water years during a 20-year projection would meet the projected water demand associated with the project, in addition to the water systems' existing and planned future uses.

3. City of Santa Clarita

General Plan

Applicable goals, objectives, and policies from the General Plan Land Use, Conservation and Open Space, and Safety Elements are listed below.

Environmentally Responsible Development

Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.

Objective LU 7.2: Ensure an adequate water supply to meet the demands of growth.

Policy LU 7.2.2: If water supplies are reduced from projected levels due to drought, emergency, or other unanticipated events, take appropriate steps to limit, reduce, or otherwise modify growth permitted by the General Plan in consultation with water districts to ensure adequate long-term supply for existing businesses and residents.

Policy LU 7.2.3: Require that all new development proposals demonstrate a sufficient and sustainable water supply prior to approval.

Objective LU 7.4: Promote water conservation through building and site design.

Policy LU 7.4.1: Require the use of drought tolerant landscaping, native California plant materials, and evapotranspiration (smart irrigation systems).

Policy LU 7.4.2: Require the use of low-flow fixtures in all non-residential development and residential development with five or more dwelling units, which may include but are not limited to water conserving shower heads, toilets, waterless urinals and motion-sensor faucets, and encourage use of such fixtures in building retrofits as appropriate.

Responsible Management of Environmental Systems

Goal CO.1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.

Objective CO. 1.1: Protect the capacity of the natural “green” infrastructure to absorb and break down pollutants, cleanse air and water, and prevent flood and storm damage.

Policy CO 1.1.1: In making land use decisions, consider the complex, dynamic and interrelated ways that natural and human systems interact, such as the interactions between energy demand, water demand, air and water quality, and waste management.

Objective CO 1.5: Manage urban development and human-built systems to minimize harm to ecosystems, watersheds, and other natural systems, such as urban runoff treatment trains that infiltrate, treat and remove direct connections to impervious areas.

Objective CO 2.3: Conserve areas with significant mineral resources, and provide for extraction and processing of such resources in accordance with applicable laws and land use policies.

Policy CO 2.3.5: Promote remediation and restoration of mined land to a condition that supports beneficial uses, which may include but are not limited to recreational open space, habitat enhancement, groundwater recharge, or urban development.

Water Resources

Goal CO 4: An adequate supply of clean water to meet the needs of present and future residents and businesses, balanced with the needs of natural ecosystems.

Objective CO 4.1: Promote water conservation as a critical component of ensuring adequate water supply for Santa Clarita Valley residents and businesses.

Policy CO 4.1.1: In coordination with applicable water suppliers, adopt and implement a water conservation strategy for public and private development.

Policy CO 4.1.2: Provide examples of water conservation in landscaping through use of low water use landscaping in public spaces such as parks, landscaped medians and parkways, plazas, and around public buildings.

Policy CO 4.1.3: Require low water use landscaping in new residential subdivisions and other private development projects, including a reduction in the amount of turf-grass.

Policy CO 4.1.4: Provide informational materials to applicants and contractors on the Castaic Lake Water Agency's Landscape Education Program, and/or other information on xeriscape, native California plants, and water-conserving irrigation techniques as materials become available.

Policy CO 4.1.5: Promote the use of low-flow and/or waterless plumbing fixtures and appliances in all new non-residential development and residential development of five or more dwelling units.

Policy CO 4.1.6: Support amendments to the building code that would promote upgrades to water and energy efficiency when issuing permits for renovations or additions to existing buildings.

Policy CO 4.1.7: Apply water conservation policies to all pending development projects, including approved tentative subdivision maps to the extent permitted by law. Where precluded from adding requirements by vested entitlements, encourage water conservation in construction and landscape design.

Policy CO 4.1.8: Upon the availability of non-potable water services, discourage and consider restrictions on the use of potable water for washing outdoor surfaces.

- Objective CO 4.2: Work with water providers and other agencies to identify and implement programs to increase water supplies to meet the needs of future growth.
- Policy CO 4.2.2: Require new development to provide the infrastructure needed for delivery of recycled water to the property for use in irrigation, even if the recycled water main delivery lines have not yet reached the site, where deemed appropriate by the reviewing authority.
- Policy CO 4.2.3: Promote the installation of rainwater capture and gray water systems in new development for irrigation, where feasible and practicable.
- Policy CO 4.2.6: Require that all new development proposals demonstrate a sufficient and sustainable water supply prior to approval.
- Goal CO 4: An adequate supply of clean water to meet the needs of present and future residents and businesses, balanced with the needs of natural ecosystems.
- Objective CO 4.4: Promote measures to enhance water quality by addressing sources of water pollution.
- Policy CO 4.4.2: Support the cooperative efforts of property owners and appropriate agencies to eliminate perchlorate contamination on the Whittaker-Bermite property and eliminate the use of any industrial chemicals or wastes in a manner that threatens groundwater quality.

Greenhouse Gas Reduction

- Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases.
- Objective CO 8.3: Encourage the following green building and sustainable development practices on private development projects, to the extent reasonable and feasible.
- Policy CO 8.3.1: Evaluate site plans proposed for new development based on energy efficiency pursuant to LEED (Leadership in Energy and Environmental Design) standards for New Construction and Neighborhood Development, including the following:
- a) allocation efficiency;
 - b) environmental preservation;
 - c) compact, complete, and connected neighborhoods; and
 - d) resource efficiency, including use of recycled materials and water.
- Policy CO 8.3.3: Promote energy efficiency and water conservation upgrades to existing non-residential buildings at the time of major remodel or additions.

4.22-5 Thresholds of Significance

The following thresholds for determining the significance of impacts related to water supply are contained in the environmental checklist form contained in Appendix G of the most recent update of the CEQA Statutes and Guidelines. Adoption and/or implementation of the Sand Canyon Plaza Mixed-Use Project could result in significant adverse impacts to water supply if any of the following could occur.

Util-6	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements?
Util-7	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

4.22-6 Impact Analysis

Util-6	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements
Util-7	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects

A Water Supply Assessment (WSA) was prepared for the Project. The Project includes development of the site with up to 580 residential units, a 55,600-square-foot retail center, and a 75,000-square-foot assisted living facility on approximately 87 acres. Using SCWD's water demand factors from the SCWD 2013 Water Master Plan, the total estimated water demand for the Project at buildout is approximately 389 acre-feet per year (AFY) in an average/normal year. The water demand for the Project at buildout may increase by approximately 10% in a dry year to a total of 428 AFY. **Table 4.22-1** below summarizes the total estimated water demand for the Project. It should be noted that a portion of the Project site is currently developed as a mobile home park. The existing facility uses approximately 31 AFY. The existing facility would be removed with the development of the Project. Accordingly, the net increase in water use for the Project is estimated to be 358 AF in an average/normal year. However, for purposes of the WSA, the total estimated Project demand of 389 AFY is being used.

Table 4.22-1 Estimated Water Demand

Land Use	Number of Units	Unit of Measure	Duty Factor (AFY/Unit)	Demand (AFY)*
Assisted Living (Multi-Family Residential) (PA-1)	120	Dwelling Unit	0.344	41
Multi-Family Residential (Apartments) (PA-2)	312	Dwelling Unit	0.326	102
Multi-Family Motor Court (Townhomes) (PA-3)	122	Dwelling Unit	0.344	42
Single Family Residential (PA-4)	71	Dwelling Unit	0.571	41
Single Family Residential (PA-5)	75	Dwelling Unit	0.573	43
Commercial/Retail (PA-1)	55.6	1,000 Square Feet	0.192	10
Lake (PA-1)	1.4	Acres	2.184	3
Pools	3	Each	2.184	7
Landscaped Areas	23	Acres	4.334	100
Total				389

Source: SCWD, Water Supply Assessment for Sand Canyon Project, July 2016.

AFY = acre-feet per year

*Demands are estimated for an average/normal year. Project water demand increases by approximately 10% in a dry year to a total of 428 AFY.

Short-Term Construction Demand

A short-term demand for water would occur during Project construction, primarily in association with dust control, concrete mixing, cleaning of equipment, and other related construction activities. These activities would occur incrementally through Project buildout and be temporary in nature. The SCWD would provide water through a construction-metered connection from existing potable lines adjacent to the Project site, and water tankers would deliver water for dust control to the development areas throughout Project construction as needed. In accordance with the information and analyses contained in the WSA, SCWD has determined that a sufficient supply of water would be available during Project construction.

Project Water Demand

Table 4.22-2 below summarizes the retail purveyors' projected water demands through 2050. The demands reflected in **Table 4.22-2** are from the most recently adopted 2015 UWMP. These demands reflect existing and planned water demands of the four retail purveyors in the Santa Clarita Valley. The demands also account for the water needed to serve the Project because, as stated above, SCWD included the Project demand in SCWD's projected water deliveries data provided as part of the adopted 2015 UWMP.

Table 4.22-2 Summary of Projected Water Demands

	Projected Water Demands ^{1,2,3,4,5} (Acre-Feet)							
	2020	2025	2030	2035	2040	2045	2050	Annual Increase
Water Demands								
LACWWD 36 ⁶	2,300	2,700	3,100	3,500	3,900	4,300	4,700	2.5%
NCWD	10,100	10,700	11,200	11,800	12,600	13,400	14,200	1.2%
SCWD	28,400	29,100	29,900	30,800	32,400	33,900	36,000	0.8%
VWC ⁷	28,100	31,200	36,600	40,000	39,600	39,300	39,000	1.1%
Total Demand	68,900	74,600	80,800	86,100	88,500	90,800	93,900	1.1%

Sources: 2015 UWMP Table 2-2; Santa Clarita Water Division, Water Supply Assessment (July 2016)

1. Values rounded to the nearest hundred.
2. From MWM 2016.
3. Reflects existing and projected demands in CLWA service area only. CLWA's Annexation Policy requires annexing parties to provide additional fully reliable supplies.
4. Demands exclude non-purveyor demands. Similarly, supplies evaluated in this UWMP exclude non-purveyor supplies.
5. Demands include savings from plumbing code and standards and active conservation as assumed in the 2015 WUESP.
6. LACWWD 36 future demand was based on a growth projection factor and not on land use as was done for the three other purveyors. LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.
7. Refer to GSI 2016 for detail on specific future developments included in the analysis.

Table 4.22-3 below presents the past, current, and projected water deliveries by customer type for SCWD through 2050.

Table 4.22-3 SCWD Past, Current, and Projected Metered Water Deliveries

Year	Water Use Sectors	Projected Metered Water Deliveries ^{1,2}								
		Single-Family Residential	Multi-Family Residential	Commercial	Industrial	Institutional	Irrigation ³	Other	Non-Revenue Water ⁴	Total
2015	No. of accounts	23,132	4,713	708	19	111	994	387	---	30,064
	Deliveries (AF)	11,978	2,579	974	87	579	3,328	413	1,845	21,783
2020	No. of accounts	22,900	5,400	1,500	0	100	1,100	300	---	31,300
	Deliveries (AF)	12,500	3,600	1,600	400	400	7,800	0	2,100	28,400
2025	No. of accounts	24,000	5,900	1,700	0	100	1,200	400	---	33,300
	Deliveries (AF)	12,300	3,700	1,700	400	400	8,400	0	2,200	29,100
2030	No. of accounts	25,100	6,500	1,900	0	100	1,300	400	---	35,300
	Deliveries (AF)	12,100	3,900	1,900	500	400	8,800	0	2,300	29,900
2035	No. of accounts	26,200	7,000	2,200	0	200	1,500	400	---	37,500
	Deliveries (AF)	12,000	4,100	2,100	500	400	9,300	0	2,400	30,800
2040	No. of accounts	27,300	7,600	2,400	0	200	1,600	400	---	39,500
	Deliveries (AF)	12,100	4,300	2,300	500	500	10,000	0	2,700	32,400
2045	No. of accounts	28,400	8,200	2,600	100	200	1,700	400	---	41,600
	Deliveries (AF)	12,200	4,600	2,500	600	500	10,800	0	2,700	33,900
2050	No. of accounts	29,600	8,700	2,800	100	200	1,800	500	---	43,700
	Deliveries (AF)	12,900	4,900	2,700	600	500	11,500	0	2,900	36,000

Sources: 2015 UWMP Table 2-5; Santa Clarita Water Division, Water Supply Assessment (July 2016)

1. Values rounded to the nearest hundred.
2. 2015 values based on actual use. Projections for 2020 to 2050 from MWM 2016.
3. A portion of future irrigation demands are projected to be met with recycled water to the extent recycled water supplies are available. (See the discussion in the 2015 UWMP Section 4 and Table 4-3).
4. NRW may include unbilled authorized consumption as well as water that is "lost" before it reaches the customer. Losses can be real losses (through leaks, sometimes also referred to as physical losses) or apparent losses (for example through theft or metering inaccuracies).

Water Supplies - Historic and Existing Sources

The SCWD, in conjunction with CLWA, has existing water entitlements, rights, and contracts to meet demand as needed over a 20-year horizon and beyond, and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers. As discussed herein, SCWD also has identified an operational strategy combined with a prudent and flexible management approach to ensure water supply reliability.

In 2015, SCWD's service area-wide demands were 21,783 AF, and the total municipal demand for water in the CLWA service area was 54,491 AF. Based on SCWD's water demand factors, SCWD has estimated that the water demand for the Project is 389 AFY at buildout in an average/normal year. Projected water demand is estimated to increase by approximately 10% in a dry year to a total of approximately 428 AFY.

In addition to the most recently adopted Regional 2015 UWMP, the 2015 Santa Clarita Valley Water Report (June 2016) provides a detailed summary of the local and imported water supplies that have been used to meet water demands in the Santa Clarita Valley over the previous 35-year horizon (1980-2015). The 2015 SCV Water Report also analyzes the historical availability and use of water by each retail purveyor (SCWD, VWC, District #36, and NCWD), and for all agricultural, industrial and other users in the Valley, for the same 35-year horizon.

As shown in WSA Table 11, since inception of the importation of SWP supplies to the Santa Clarita Valley in 1980, the total annual water demand from municipal, agricultural, and other uses has increased from about 37,000 AF in 1980 to the mid-80,000 AFY range through 2005, with a short-term peak of about 92,000 AF in 2007, followed by a steady decline in water demand to 66,570 AFY in 2015.

Water Supply and Demand

Provided below is a summary of water supply and demand projections presented in the 2015 UWMP that also address certain information required under SB 610 for the Project. The analyses presented in the following tables verify the availability of water supply for the Project, in addition to all existing and planned future uses in the SCWD service area over a 35-year horizon (even though SB 610 only requires a 20-year evaluation) in average/normal years, a dry-year, and in multiple-dry years.

Furthermore, while not required by SB 610, as a conservative measure the WSA demonstrates that sufficient water supplies would be available to meet the projected water demands associated with the Project during normal, single-dry, and multiple-dry years over a 35-year horizon, in addition to existing and planned future uses (including agricultural, manufacturing, and industrial uses) throughout the entire Santa Clarita Valley. In addition, while not required by SB 610, as a

conservative measure, the WSA includes an assessment of two different multiple-dry year periods: a 4-year dry period and a 3-year dry period.

Water Supplies – Current and Planned

WSA Table 12 summarizes the current and planned water supplies available to the retail purveyors in the Santa Clarita Valley. This table is not intended to be an operational plan for how supplies would be used in a particular year, but rather identifies the complete range of water supplies available under a range of hydrologic conditions. Diversity of supply allows SCWD and the other retail purveyors the option of drawing on multiple sources of supply in response to changing conditions such as varying climatic conditions (average/normal years, single dry years, multiple dry years), natural disasters, and contamination with substances such as perchlorate.

It is the stated goal of SCWD, CLWA, and the other retail water purveyors to deliver a reliable and high quality water supply for their customers, even during dry periods. Based on conservative water supply and demand assumptions over the next 35 years in combination with conservation of non-essential demand during certain dry years, the water supply plan described in the 2015 UWMP successfully achieves this goal.

The subject of perchlorate contamination and its impact on groundwater supplies is discussed in detail above and extensively addressed in the 2015 UWMP. The source of the contamination is the former Whittaker-Bermite property located in the center of the Santa Clarita Valley and used as a munitions manufacturing facility for over 50 years. Significant progress has been made toward characterizing the extent of perchlorate contamination, along with implementing necessary measures for on-site and off-site containment and treatment. This WSA takes into account the impact of perchlorate on water supply operations in the Santa Clarita Valley, while the planning, design, and construction of perchlorate treatment, containment, and other restoration activities are implemented. For additional information on this topic, refer to the 2015 Santa Clarita Valley Water Report, dated June 2016, Section 3.5, and the 2015 UWMP, Chapters 3 and 5, all of which discuss the relationship between available water supplies and groundwater quality issues.

Average/Normal Year Supplies and Demand

WSA Table 13, Projected Average/Normal Year Supplies and Demands, summarizes the water supplies available to meet demands over the 35-year planning period studied in the 2015 UWMP during an average/normal water year. As presented, water supplies are broken down into existing and planned water supply sources, including wholesale SWP water, local supplies, transfers, banking, and other imported water supply programs, and development of additional recycled water supplies. The demands shown in WSA Table 13 include reductions from projected passive conservation savings, both with and without active conservation savings. As shown in WSA Table 13, CLWA and the retail purveyors have adequate supplies to meet all service area existing and projected demands during an average/normal year through 2050.

Also, Appendix C of the 2015 UWMP provided additional "retail purveyor" tables reflecting available supply and water demand broken down by each retail purveyor during the same weather conditions (average, single-dry, and 3-year and 4-year dry periods) and same planning horizon as used in the adopted 2015 UWMP. Specifically, Appendix C of the 2015 UWMP, Tables C-1 and C-2 respectively reflect the average/normal year existing and planned total water supplies broken down by retail purveyor, and Table C-3 compares average/normal year demands to total supplies by retail purveyor, and shows that in an average year, SCWD's total existing and planned supplies exceed demand from 2020 through 2050. These tables are reproduced in WSA Appendix 1 with the SCWD demand and supplies shown in yellow.

Single Dry-Year Supplies and Demand

The water supplies and demand over the 2015 UWMP 35-year planning horizon were analyzed in the event of a single dry year, similar to the drought that occurred in California in 1977. WSA Table 14, Projected Single-Dry Year Supplies and Demands, summarizes the existing and planned supplies available to meet demand during a single dry year. The demand during dry years was assumed to increase by 10%. The demands include reductions from projected passive conservation savings, and both with and without active conservation savings. As shown in WSA Table 14, CLWA and the retail purveyors have adequate supplies to meet all service area existing and projected demands during a single-dry year through 2050.

In addition, see Appendix C to the 2015 UWMP for the breakdown by retail purveyor of supplies available to meet demand over the 2015 UWMP 35-year planning horizon during a single-dry year. This information responds to the County DMS criteria for determining an acceptable level of water supply by retail purveyors in a single-dry year. Specifically, Appendix C of the 2015 UWMP, Tables C-4 and C-5 respectively reflect the single-dry year existing and planned total water supplies broken down by retail purveyor, and Table C-6 compares single-dry year demands to total supplies by retail purveyor, and shows that in a single-dry year, SCWD's total existing and planned supplies exceed demand from 2020 through 2050. These tables are reproduced in WSA Appendix 2 with the SCWD demand and supplies yellow highlighted.

Multiple Dry-Year Supplies and Demand

The water supplies and demands for the Santa Clarita water suppliers were analyzed over the 35-year planning period in the event that a 4-year dry period occurs, similar to the drought that occurred during the years 1931 through 1934, as well as a 3-year dry period, similar to the drought that occurred during the years 1990 through 1992. WSA Tables 15 and 16 summarize the existing and planned water supplies available to CLWA, SCWD, and the other retail water purveyors to meet demands during a 4-year dry period and a 3-year dry period, respectively. The demands during dry years was assumed to increase by 10%. During prolonged dry periods, experience indicates that a reduction in demand of 10% is achievable through implementation of conservation best management practices. The demands shown include reductions from projected passive

conservation savings, and both with and without active conservation savings. As shown in WSA Tables 15 and 16, CLWA and the retail purveyors have adequate supplies to meet all service area existing and projected demands during multiple-dry years through 2050.

In addition, refer to Appendix C to the 2015 UWMP for the breakdown by retail purveyor of supplies available to meet demand over the 2015 UWMP 35-year planning horizon during multiple-dry years. This information responds to the County DMS criteria for determining an acceptable level of water supply by retail purveyors in multiple-dry years. Specifically, Appendix C of the 2015 UWMP, Tables C-7A and C-7B reflect the existing water supplies for 4-year and 3-year dry periods, respectively, broken down by retail purveyor. Tables C-8A and C-8B reflect the planned and total water supplies for 4-year and 3-year dry periods, respectively, broken down by retail purveyor. Tables C-9A and C-9B compares the 4-year and 3-year dry periods demands to total supplies by retail purveyor, respectively. Tables C-9A and C-9B show that in multiple-dry years, SCWD's total existing and planned supplies exceed demand from 2020 through 2050. These tables are reproduced in WSA Appendix 3 with the SCWD demand and supplies shown in yellow.

Impacts Conclusion

The Project's total projected water demand is estimated to be 389 AFY for an average/normal year and 428 AFY for a dry year. The timing of the Project places it within the time frame for calculating "planned future uses" within the 2015 UWMP. This information is incorporated by reference in the WSA. SCWD accounted for the Project's total water demand when it provided its projected single-family and multi-family residential account information through 2050 for inclusion in the 2015 UWMP (refer to 2015 UWMP Table 2-5).

In accordance with the information and analyses provided throughout the WSA, the water source to be used by SCWD to meet the Project demand would be a mix of local groundwater and imported supplies from CLWA.

As discussed in greater detail above, the alluvial aquifer, and the underlying Saugus Formation, are not in overdraft (historically or currently). Based on the 2015 UWMP and the 2015 Santa Clarita Valley Water Report (June 2016), perchlorate in local groundwater supplies does not substantially affect the reliability of the alluvial aquifer or the Saugus Formation. Thus, groundwater remains an available and reliable component of SCWD's water supplies, which will be blended with imported supplies to meet the water demand associated with existing and other planned future land uses within SCWD's service area. As stated previously, SCWD has already accounted for the Project's potable water demand as part of its planned future uses in the 2015 UWMP.

Based on the preceding information and analysis, the WSA concluded that the total water supplies projected to be available to SCWD during average/normal, single-dry, and multiple-dry years within a 20-year projection are sufficient to meet the projected demand associated with the Project,

in addition to existing and planned future uses, including agricultural, manufacturing, and industrial uses within the SCWD service area.

Water facilities or distribution lines currently exist on-site. According to the SCWD, to support proposed development, the Project would be required to construct the necessary infrastructure improvements to accommodate the Project's water demand, in accordance with the City's conditions, County Fire Department and SCWD design requirements. The water system infrastructure would include fire hydrants of the type and location (both on-site and off-site) as determined by the County Fire Department. In addition, the water mains would be sized to accommodate the total domestic and fire flows. The construction of new potable water lines and service connections would be scheduled to minimize water service interruptions to other properties. In addition, the Project would be required to pay all applicable fees to finance the expansion costs necessary to provide water service distribution lines to the site.

The development potential of the Project is consistent with the *General Plan*, and has been accounted for in the associated Environmental Impact Report.

In summary, there would be sufficient water supply to meet the project's water demand under an average/normal water year, single dry year, or multiple dry years. In addition, the Project would include development of a distribution system that would provide sufficient capacity for domestic and fire flow requirements.

Project Design Features

Additionally, the following Project Design Features have been incorporated into the Project.

- PDF-1 Landscape irrigation plans shall include drought-tolerant and native plants (consistent with General Plan EIR Mitigation Measures 3.13-6 and 3.13-11).
- PDF-2 Landscape irrigation plans shall incorporate low-water-use devices (such as ET controllers and drip irrigation), to the extent feasible (consistent with General Plan EIR Mitigation Measures 3.13-6 and 3.13-11).
- PDF-3 Water conservation measures as required by the State of California shall be incorporated into all irrigation systems.
- PDF-4 The Project Applicant, or responsible party, shall require the installation of low-flow fixtures in all residential units, which may include but are not limited to water conserving shower heads, toilets, waterless urinals and motion-sensor faucets, and encourage use of such fixtures in building retrofits as appropriate (consistent with General Plan EIR Mitigation Measures 3.13-7 and 3.13-13).
- PDF-5 Prior to commencement of use, all uses of recycled water shall be reviewed and approved by the State of California Health and Welfare Agency, Department of Health Services.

- PDF-6 Prior to the issuance of building permits, the Project Applicant, or responsible party, shall finance the expansion costs of water service extension to the subdivision through the payment of connection fees to the appropriate water agency(ies).

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.22-7 Cumulative Impacts

The SCWD's 2015 UWMP takes into account the future water demands of proposed development projects based on housing, population and employment growth forecasts for the City. Adequate water supply would be available in normal and dry years to serve the proposed project. Water availability for related cumulative projects would be determined on a case-by-case basis. In accordance with SB 610, a water supply assessment would be required for projects exceeding established development thresholds. The SCWD, or applicable water district, would review site-specific development plans to determine the impact on existing water mains. Individual projects would be required to pay the cost to relocate existing water mains impacted by new development.

The development potential of the Project and related cumulative projects is consistent with the General Plan, and has been accounted for in the associated Environmental Impact Report. Thus, the proposed project and related cumulative projects would not generate new or additional impacts beyond those already identified in the General Plan EIR. In conclusion, with implementation of project-specific mitigation measures, determined by City Staff as part of the plan review, and General Plan EIR mitigation measures, as applicable, and compliance with the Municipal Code and General Plan goals, objectives, and policies, cumulative impacts would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Analysis

Impacts would be less than significant.

4.22-8 Sources Cited

Santa Clarita General Plan, adopted June 14, 2011. Information sourced to determine consistency with General Plan goals and policies.

Santa Clarita Water District, Water Supply Assessment for Sand Canyon, July 2016

5. Project Alternatives

5.1 Purpose

California Environmental Quality Act (CEQA) Guidelines §15126.6 provides that the purpose of the Alternatives section of an EIR is to assess a range of reasonable alternatives to the proposed Project, or to the location of the Project, that would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project. The EIR must also include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. The discussion of alternatives should be governed by the “rule of reason.” Generally, significant effects of an alternative shall be discussed, but in less detail than the Project.

5.2 Introduction

The principal purpose of the Alternatives analysis is to assess a range of Project alternatives that would reduce the magnitude of, or eliminate, potential Project-related impacts. However, the CEQA Guidelines place some restrictions on the range of alternatives an EIR must address. An EIR need only examine those alternatives that meet most basic objectives of the project. Also, the CEQA Guidelines stipulate that alternatives addressed in an EIR should be feasible and should not be considered remote or speculative. When addressing feasibility, the CEQA Guidelines state that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, jurisdictional boundaries, and whether the applicant can reasonably acquire, control or otherwise have access to the alternative site.” As stated:

Key provisions of the CEQA Guidelines¹²⁸ pertaining to this alternatives analysis are summarized below.

- The discussion of alternatives is to focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The No Project Alternative is required to be evaluated along with its impact. The No Project analysis is required to discuss the existing conditions at the time the Notice of Preparation is published. Additionally, the analysis shall discuss what would be

¹²⁸ *California Code of Regulations*, Title 14, Division 6, Chapter 3, California Environmental Quality Act Guidelines, §15126.6.

reasonably expected to occur in the near future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

- The range of alternatives required in an EIR is governed by a “rule of reason.” Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives should be limited to those that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in an EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably determined and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision-making. Among the factors that may be taken into account when considering the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, and jurisdictional boundaries.¹²⁹

Two environmental topical areas were determined to result in significant impacts in the Draft EIR:

Air Quality

Regional Operational Emissions and Cumulative Operational Emissions:

Operational emissions would be generated by stationary and mobile sources as a result of normal day-to-day activity on the Project site. Stationary emissions would be generated by the consumption of natural gas for space-heating and water-heating devices, the operation of landscape maintenance equipment, and from the use of consumer products. Mobile emissions would be generated by motor vehicles (e.g., passenger vehicles, trucks, buses, motorcycles) traveling to and from the Project site. On-site operation emissions would be generated from the periodic operation of standby generators and natural gas combustion for building and water heating.

Significant and avoidable impacts would occur for regional operational emissions and cumulative operational emissions.

Noise

Construction Noise: Construction impacts also include vibration impacts. Since ground-borne vibration could be generated during construction in excess of the Federal Transit Administration vibration standards (human annoyance), impacts to sensitive uses off-site (residential) would remain significant and unavoidable.

¹²⁹ *California Code of Regulations*, Title 14, Division 6, Chapter 3, California Environmental Quality Act Guidelines, §15126.6(f)(1).

Construction Vibration Levels (Human Annoyance): Exterior noise levels from traffic noise for the Project's residential uses, the assisted living facility, rear yard areas, open space areas, and recreational areas would be inconsistent with the City's exterior noise standard of 65 dBA CNEL. Regulatory compliance and Project-specific mitigation (i.e., Mitigation Measures **MM N-9**, **MM N-10**, **MM N-12**, and **MM N-13**) would reduce this impact to the maximum extent feasible. However, as exterior noise levels of 65 dBA CNEL cannot be guaranteed for all areas of the Project site, this impact would be significant and unavoidable.

Cumulative Traffic Noise: Cumulative impacts would be considered significant for the following roadway segments along Sand Canyon because cumulative increases exceed 3 dBA between:

- N. Silver Saddle Circle & Sand Canyon "C" Project Driveway
- Sand Canyon "C" Project Driveway & S. Silver Saddle Circle
- S. Silver Saddle Circle & Sand Canyon "A" Project Driveway
- Sand Canyon "A" Project Driveway & Soledad Canyon Road

5.3 Project Objectives

CEQA requires that an EIR include a statement of the objectives sought by the Project (CEQA Guidelines, §15124(b)):

A statement of objectives sought by the proposed Project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project.

The Project objectives are as follows:

Land Use Planning Objectives

1. Create a new mixed-use community with connected neighborhoods that provides for residential, commercial, and recreational uses in close proximity to each other.
2. Provide a sensitive and compatible Project through the use of appropriate grading, landscape, and water quality methods.
3. Provide development and transitional land use patterns that do not conflict with surrounding communities and land uses.
4. Arrange land uses to reduce vehicle miles traveled and energy consumption, and to encourage pedestrian mobility.
5. Design neighborhoods to create a unique identity and sense of place.
6. Design neighborhoods to locate a variety of residential and non-residential land uses in close proximity to each other and major road corridors, transit, and trails.
7. Provide a rich set of public spaces.

8. Implement sustainable development principles, including greater energy efficiency, waste reduction, drought-tolerant landscaping, use of water efficiency measures, and use of recycled materials and renewable energy sources.
9. Create and enhance opportunities for non-vehicular travel and encourage pedestrian mobility by providing an internal pedestrian circulation system that links residential neighborhoods to on-site recreation areas, regional trail systems, and neighborhood retail/commercial areas.
10. Foster the design and integration of a mutually beneficial relationship between the natural and built environments, and implement sensitive land use transition treatments, attractive streetscapes, and high quality design themes.
11. Integrate a new community into the City's existing and planned circulation network.
12. Provide a landscape design emphasizing a pleasant neighborhood character and inviting streetscapes.
13. Provide on-site recreational facilities to meet the demands of future residents.

Economic Objectives

1. Enhance and augment the housing market by providing a variety of housing types and densities to meet the varying needs of future residents.
2. Adopt development regulations that provide flexibility to respond and adjust to changing economic and market conditions.
3. Provide a tax base to support public services and infrastructure.
4. Create permanent jobs on-site through the incorporation of commercial land uses to assist the City in meeting its jobs/housing balance.
5. Adopt development regulations and guidelines that allow site, parking and facility sharing, and other innovations that reduce the costs of providing public services.

Resource Conservation Objectives

1. Restore and minimize impacts to important biotic resources.
2. Minimize impacts to oak trees and incorporate, where possible, oak trees into public spaces.

5.4 Alternatives to be Analyzed

This section addresses four alternatives to the Project.

Alternative 1: No Project Alternative

This alternative is required by the CEQA Guidelines and compares the impacts that might occur if the site is left in its current condition with those impacts that would be generated by the proposed Project. Under this alternative, no development or redevelopment would occur beyond what exists today, and the Project area would retain the existing zoning designations. In addition, the existing circulation system would remain the same.

Alternative 2: Increased Commercial and Office

Alternative 2 would increase the commercial building area by 29,400 commercial square feet and the office building area by 30,000 square feet. Alternative 2 would also remove 60 dwelling units from Planning Area 2. None of the assisted living units would be constructed in Planning Area 1. All other uses on the Project site would remain as proposed.

Alternative 3: Ridgeline Preservation

Approximately 1,200 lineal feet of the City identified as significant ridgeline would be preserved under this Alternative due to the elimination of the northerly portion of Planning Area 5. To a lesser extent, the Ridgeline Preservation Alternative would remove 29 dwelling units from Planning Area 5. The alternative would also increase open space/landscape areas within the Project. None of the other Project site plan specifics would be changed.

Alternative 4: ACOE-CDFW Avoidance

Alternative 4 would avoid jurisdictional areas associated with Sand Canyon wash. Specifically, 7,800 square feet of commercial building area would be eliminated in Planning Area 1, 44 units would be eliminated in Planning Area 2. Planning Area 3, consisting of 10.1 acres, would be converted from residential use to open space (removing 122 units), Planning Area 4 would be reduced by 42 units, Planning Area 5 would be reduced by 42 dwelling units. The above modifications would result in an increase of 22.4 acres of open space. In total, Alternative 4 would remove 250 units when compared to the proposed Project.

5.5 Alternative 1: No Project

CEQA requires that a “No Project” alternative be considered. The No Project alternative generally is considered to be equivalent to a “no development” alternative. The purpose of a No Project alternative is to allow decision makers to compare the impacts of approving the Project with the impacts of not approving the Project.

With this alternative, the Sand Canyon Plaza Mixed-Use Project would not be implemented. More specifically, because there would be no grading, construction, or operational activities associated with this alternative, there would not be impacts related to cultural resources, air quality, global climate change, noise, and traffic and circulation. Under this alternative, the existing mobile home units would remain consistent with past approvals.

Adoption of Alternative 1 would not necessarily preclude ultimate development of the Project site in accordance with the existing General Plan and zoning regulations for the site, or land use designations or regulations subsequently adopted by the City. However, if development is proposed in the future, like the Project, such development would be subject to environmental review.

On balance, Alternative 1 is considered to be the “environmentally superior” alternative, because fewer of the environmental effects of the Project would occur. However, because the proposed Project would not be implemented under this alternative, few of the Project objectives set forth in this EIR in **Section 3, Project Description** would be attained.

5.6 Alternative 2: Increased Commercial and Office

Alternative 2 (**Figure 5-1**) would increase the commercial building area by 29,400 square feet and the office building area by 30,000 square feet. Alternative 2 would also eliminate 60 dwelling units in Planning Area 2. None of the assisted living units would be constructed in Planning Area 1. All other uses on the Project site would remain as proposed.

Aesthetics

The Increased Commercial and Office Alternative would increase commercial development on the Project site and would eliminate the assisted living use and a portion of the residential units. There would be little change associated with the removal of assisted living units and residential units, because proposed commercial and office would replace these uses on-site. Therefore, there would be no substantive impacts when compared to the visual impacts of the proposed Project.

Agriculture and Forestry Resources

The Project site is not within an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation’s California Important Farmland Finder (accessed March 14, 2016). Within the City of Santa Clarita, there are no agricultural preserve areas, no land under a Williamson Act contract, and no land zoned exclusively for agricultural use. The Project site is currently zoned Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3), and is not located within an area zoned as Open Space-National Forest (OS-NF). Therefore, there would be no change to Agricultural Resources with any alternative development plan on the project site.

Air Quality

Under Alternative 2, commercial building area would increase by 29,400 square feet and office building area would increase by 30,000 office square feet. These uses would replace the assisted living facility and 60 residential units. This Alternative would result in a change in project trip generation; however, this change would be minor and therefore would result in similar air quality impacts as compared to the Project.

Biological Resources

Alternative 2 replaces the proposed assisted living facility and a portion of the residential uses with commercial and office space. No changes in the grading footprint, as compared to the Project, would occur with this alternative. Therefore Alternative 2 would result in similar impacts to biological resources as compared to the Project.

Cultural Resources

Grading associated with this alternative would be substantially the same as the Project. The Cultural Resources Inventory prepared for the project did not identify any historical or archeological resources on the Project site. Additionally, no unique paleontological resources were identified on the site. Therefore, all impacts associated with cultural resources would be similar to the Project.

Geology and Soils

The development footprint under this alternative would be similar to the Project. Therefore, there would be no change to geological impacts and recommended mitigation measures under this Alternative. Consequently, potential geological impacts associated with Alternative 2 would be similar to those of the Project.

Greenhouse Gas Emissions

Under Alternative 2, the commercial building area would increase by 29,400 square feet and office building area would increase by 30,000 office square feet. These uses would replace the assisted living facility and 60 residential units. This alternative would result in a change in Project trip generation; however, this change would be minor and therefore would result in similar greenhouse gas impacts as compared to the Project.

Hazards and Hazardous Materials

The development footprint under this alternative would be similar to the Project. Therefore, the potential hazards impacts and mitigation measures would remain substantially the same as the Project.

Hydrology and Water Quality

Similar to the Project, Alternative 2 would not violate any water quality standards. As indicated previously, the development footprint would not change under this Alternative. Therefore, impacts to hydrology and water quality would be similar with Alternative 2.

Land Use and Planning

Alternative 2 would develop a project consistent with the City's General Plan. This alternative would add nearly 60,000 square feet of commercial uses, replacing the proposed assisted living facility and residential units. From a land use perspective, this is not a significant change as compared to the Project. Therefore, impacts associated with this alternative would be similar to the Project.

Mineral and Energy Resources

Alternative 2 would not impact the Project site as it is not within a mineral area identified on Exhibit CO 2, Mineral Resources, of the General Plan Conservation and Open Space Element, and the site is not otherwise known to contain mineral resources. The Project site is not located within an MRZ2 designated area of the City. Therefore, the Project would not result in the loss of availability of a known mineral resource and would have no significant impacts.

Noise

Under this alternative, the development footprint would remain the same as the Project. There would be no changes to project grading, installation of infrastructure and building construction, and therefore no change in construction related noise impacts. As indicated previously, there will be no significant change in vehicle trip generation with this alternative. Consequently, operational noise impacts would remain substantially the same as compared to the Project.

Population and Housing

Alternative 2 would reduce the Project's housing inventory by 60 dwelling units, resulting in the reduction of the Project's population by 155 persons. This would not be a significant reduction in population, and the elimination of 60 residential units would not result in a significant change in the availability of housing units in the City. Consequently, Alternative 2 would have substantially similar impacts to the Project.

Parks and Recreation

Alternative 2 would result in a reduction in residential units. However, this reduction is not significant when compared to the Project. Therefore, Alternative 2 would have substantially the same impacts on recreation when compared to the Project.

Public Services

Alternative 2 would develop a project consistent with the City's General Plan. This alternative would add nearly 60,000 square feet of commercial uses, replacing the proposed assisted living facility and residential units. From a public services perspective, this is not a significant change as compared to the Project. Therefore, impacts associated with this alternative would be similar to the Project.

Transportation/Traffic

Alternative 2 would reduce the population when compared to the Project, which would reduce residential generated vehicle trips. However, the increase in commercial building area would increase commercial-generated vehicle trips. It is expected that these minor changes in the Project would not significantly change the overall Project-related vehicle trips. Therefore, Alternative 2 would have substantially the same impacts on transportation/traffic as the Project.

Utilities and Service Systems

This alternative would add nearly 60,000 square feet of commercial uses, replacing the proposed assisted living facility and residential units. From a utilities and service systems perspective, this is not a significant change as compared to the Project. Therefore, impacts associated with this Alternative would be similar to the Project.

Solid Waste

Alternative 2 would be required to comply with all federal, state, and local solid waste regulations, including the 2013 Green Building Standards Code, and AB 939 waste diversion requirements. The 2013 Green Building Standards Code aims to improve the health, safety, and general welfare of the public by incorporating design and construction measures which result in waste reduction by promoting material conservation and the efficient use of resources. As discussed above, the most recent data published by CalRecycle shows that the City met the diversion rate required by AB 939 and AB 1016 in 2014. Thus, impacts would be less than significant.

Wastewater

Alternative 2 would be required to prove to the CSDLAC and the City of Santa Clarita or County of Los Angeles that the additional flow would not impact the sewer system or provide adequate funds for necessary improvements to the sewer system. Due to this requirement, the Project and related projects would not result in significant impacts to wastewater service and facilities. The legally permitted levels of sewer service are contingent upon the available capacity of the CSDLAC's treatment facilities, which is in turn limited to levels associated with approved growth identified by SCAG. The City and CSDLAC would review site-specific development plans to determine the impact on existing sewer mains. Individual projects would be required to pay the

cost to relocate existing sewer mains impacted by new development. Development of the Project would not result in significant cumulative impacts in regards to wastewater services.

Water Supply

The timing of Alternative 2 places it within the time frame for calculating "planned future uses" within the 2015 UWMP. This information is incorporated by reference in the WSA. SCWD accounted for the Project's total water demand when it provided its projected single-family and multi-family residential account information through 2050 for inclusion in the 2015 UWMP (refer to 2015 UWMP Table 2-5). In summary, there would be sufficient water supply to meet the project's water demand under an average/normal water year, single dry year, or multiple dry years. In addition, the Project would include development of a distribution system that would provide sufficient capacity for domestic and fire flow requirements. Impacts would be less than significant.

Conclusion on Environmental Analyses

A summary comparison of impacts associated with the Project alternatives is provided in **Table 5-1, Comparison of Alternatives' Consistency with Project Objectives** (page [5-22](#)). Alternative 2 is considered to be substantially the same environmentally as the Project.

2. Analysis of Project Objectives

Alternative 2 does not satisfy all of the Project objectives, which are set forth in this section as well as **Section 3, Project Description**. Project objectives not fully met or impeded by Alternative 2 are identified in **Table 5-1, Comparison of Alternatives' Consistency with Project Objectives** below. (page [5-22](#)).

5.7 Alternative 3: Ridgeline Preservation

Approximately 1,200 linear feet of the City identified significant ridgeline would be preserved under Alternative 3 (**Figure 5-2**) due to the elimination of the northerly portion of Planning Area 5. To a lesser extent, the Ridgeline Preservation Alternative would also remove 29 dwelling units from Planning Area 5. The alternative would also increase open space/landscape areas within the Project. None of the other Project site plan specifics would be changed.

Aesthetics

Alternative 3 would reduce impacts on a City-designated significant ridgeline. Approximately 1,200 lineal feet of this ridgeline would be preserved due to the elimination of the northerly portion of Planning Area 5. In turn, there would be less grading, preserving more of this ridgeline in a natural state. Total open space on the Project site would increase with this alternative. Therefore, there are fewer impacts associated with Alternative 3.

Agriculture and Forestry Resources

The Project site is not within an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation's California Important Farmland Finder (accessed March 14, 2016). Within the City of Santa Clarita, there are no agricultural preserve areas, no land under a Williamson Act contract, and no land zoned exclusively for agricultural use. The Project site is currently zoned Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3), and is not located within an area zoned as Open Space-National Forest (OS-NF). Therefore, there would be no change to Agricultural Resources with any alternative development plan on the Project site.

Air Quality

Under Alternative 3, 29 dwelling units would not be constructed, resulting in a reduction in Project grading and an increase in open space. This reduction in project grading would reduce construction related impacts. From an operational standpoint, this alternative would reduce vehicle trips, which in turn would reduce emissions. Alternative 3 would result in a reduction of air quality impacts as compared to the Project.

Biological Resources

Alternative 3 would reduce grading and thereby increase open space. Additional open space would provide more natural area for plant and animal habitat. Therefore, Alternative 3 would reduce biological impacts as compared to the Project.

Cultural Resources

Grading associated with this alternative would be reduced as compared to the Project. The Cultural Resources Inventory prepared for the project did not identify any historical or archeological resources on the Project site. Additionally, there were no unique paleontological resources identified on the site. However, the reduction in the Project's development footprint would reduce the potential impact to the above resources if discovered during development of the Project site. Therefore, impacts associated with cultural resources would be slightly reduced as compared to the Project.

Geology and Soils

Under this alternative, 29 dwelling units would not be constructed, resulting in a reduction in Project grading and increase in open space. However, this change in the development footprint would not be significant as compared to the Project. Therefore, potential impacts to geology and soils would be considered significant and would require mitigation similar to the Project. Impacts associated with geology and soils under this alternative would be similar to the Project.

Greenhouse Gas Emissions

Under this alternative, 29 dwelling units would not be constructed, thereby resulting in fewer traffic trips with a corresponding reduction in greenhouse gas emissions. However, this change is only a 5% reduction in the number of residential units as compared to the Project. Therefore, this Alternative would have similar impacts as compared to the Project.

Hazard and Hazardous Materials

Under this alternative, 29 dwelling units would not be constructed. However, the development footprint would be similar to the proposed Project. Therefore, the potential hazards impacts and mitigation measures would remain substantially the same as the proposed Project.

Hydrology and Water Quality

Similar to the Project, Alternative 3 would not violate any water quality standards. As indicated previously, the development footprint would not change substantially under this alternative. Therefore, impacts to hydrology and water quality would be similar with Alternative 3.

Land Use and Planning

Alternative 3 would develop a project consistent with the City's General Plan. This alternative would reduce the total number of residential units to 551. From a land use perspective, this is not a significant change as compared to the Project. Therefore, impacts associated with this Alternative would be similar to the Project.

Mineral and Energy Resources

Alternative 3 would not impact the Project site as it is not within a mineral area identified on Exhibit CO 2, Mineral Resources, of the General Plan Conservation and Open Space Element, and the site is not otherwise known to contain mineral resources. The Project site is not located within an MRZ2 designated area of the City. Therefore, the Project would not result in the loss of availability of a known mineral resource and would have no significant impacts.

Noise

Under this alternative, the development footprint would remain substantially the same as the Project. There would be minor reductions in project grading, the development footprint, installation of infrastructure, and building construction. However, these changes would not be significant. Consequently, noise impacts would remain substantially the same as compared to the Project.

Population and Housing

Alternative 3 would insignificantly impact population when compared to the Project. This alternative would reduce the City's housing inventory by up to 29 dwelling units, resulting in a potential population decrease of 90 persons. Commercial uses would not be affected by this alternative. This would not be a significant reduction in population, and the elimination of 29 residential units would not result in a significant change in the availability of housing units in the City. Consequently, Alternative 3 would have substantially similar impacts to the Project.

Parks and Recreation

Alternative 3 would result in a reduction in residential units. However, this reduction is not significant when compared to the Project. Therefore, Alternative 3 would have substantially the same impacts on recreation when compared to the Project.

Public Services

Alternative 3 would develop a project consistent with the City's General Plan. This Alternative would reduce the total number of residential units to 551. There would be no change in the commercial square footage. From a public services perspective, this is not a significant change as compared to the proposed Project. Therefore, impacts associated with this alternative would be similar to the Project.

Transportation/Traffic

Alternative 3 would reduce the number residential units to 551. This reduction in residential units, albeit minor, would result in a slight reduction in vehicle trips as compared to the Project. However, this would not significantly change the overall Project-related vehicle trips. Therefore, Alternative 3 would have substantially the same impacts on transportation/traffic as the Project.

Utilities and Service Systems

Alternative 3 would reduce the number of residential units by 29 as compared to the Project. From a utilities and service systems perspective, this is not a significant change as compared to the Project. Therefore, impacts associated with this Alternative would be similar to the Project.

Solid Waste

Alternative 3 would be required to comply with all federal, state, and local solid waste regulations, including the 2013 Green Building Standards Code, and AB 939 waste diversion requirements. The 2013 Green Building Standards Code aims to improve the health, safety, and general welfare of the public by incorporating design and construction measures which result in waste reduction by promoting material conservation and the efficient use of resources. As discussed above, the most recent data published by CalRecycle shows that the City met the diversion rate required by AB 939 and AB 1016 in 2014. Thus, impacts would be less than significant.

Wastewater

Alternative 3 would be required to prove to the CSDLAC and the City of Santa Clarita or County of Los Angeles that the additional flow would not impact the sewer system or provide adequate funds for necessary improvements to the sewer system. Due to this requirement, the Project and related projects would not result in significant impacts to wastewater service and facilities. The legally permitted levels of sewer service are contingent upon the available capacity of the CSDLAC's treatment facilities, which is in turn limited to levels associated with approved growth identified by SCAG. The City and CSDLAC would review site-specific development plans to determine the impact on existing sewer mains. Individual projects would be required to pay the cost to relocate existing sewer mains impacted by new development. Development of the Project would not result in significant cumulative impacts in regards to wastewater services.

Water Supply

The timing of Alternative 3 places it within the time frame for calculating “planned future uses” within the 2015 UWMP. This information is incorporated by reference in the WSA. SCWD accounted for the Project's total water demand when it provided its projected single-family and multi-family residential account information through 2050 for inclusion in the 2015 UWMP (refer to 2015 UWMP Table 2-5). In summary, there would be sufficient water supply to meet the project's water demand under an average/normal water year, single dry year, or multiple dry years. In addition, the Project would include development of a distribution system that would provide sufficient capacity for domestic and fire flow requirements. Impacts would be less than significant.

Conclusion on Environmental Analyses

A summary comparison of impacts associated with the Project alternatives is provided in **Table 5-1, Comparison of Alternatives' Consistency with Project Objectives** (page [5-22](#)). Alternative 3 is considered to be substantially the same environmentally as the Project.

Analysis of Project Objectives

Alternative 3 generally is considered environmentally superior to the Project, and Alternative 3 satisfies all of the Project objectives, which are set forth in this EIR at **Section 3, Project Description**. Project objectives not fully met or impeded by Alternative 3 are identified in **Table 5-1, Comparison of Alternatives' Consistency with Project Objectives** below. (page [5-22](#)).

5.8 Alternative 4: ACOE-CDFW Avoidance

Alternative 4 (Figure 5-3) would avoid jurisdictional areas associated with Sand Canyon wash. Specifically, 7,800 square feet of commercial building area would be eliminated in Planning Area 1, 44 units would be eliminated in Planning Area 2, Planning Area 3, consisting of 10.1 acres, would be converted from residential use to open space (removing 122 units), Planning Area 4 would be reduced by 42 units, Planning Area 5 would be reduced by 42 dwelling units. The above modifications would result in an increase of 22.4 acres of open space. In total, Alternative 4 would remove 250 units when compared to the Project.

Aesthetics

Alternative 4 would continue to develop the site with residential and commercial uses but would increase the amount of on-site open space. Due to the reduction in residential units and commercial square footage, viewsheds would appear more open. Based on this information the Alternative would result in fewer visual impacts than the proposed Project.

Agriculture and Forestry Resources

The Project site is not within an area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation's California Important Farmland Finder (accessed March 14, 2016). Within the City of Santa Clarita, there are no agricultural preserve areas, no land under a Williamson Act contract, and no land zoned exclusively for agricultural use. The Project site is currently zoned Mixed Use Neighborhood (MXN) and Urban Residential 3 (UR-3), and is not located within an area zoned as Open Space-National Forest (OS-NF). Therefore, there would be no change to Agricultural Resources with any alternative development plan on the Project site.

Air Quality

Under Alternative 4, 250 residential units and 7,800 square feet of commercial space would not be constructed, resulting in a reduction in Project grading and increase in open space. This reduction in Project grading would reduce construction related impacts. From an operational standpoint, this alternative would reduce vehicle trips, which in turn would reduce emissions. Alternative 4 would result in a reduction of air quality impacts as compared to the Project.

Biological Resources

As indicated previously, Alternative 4 would remove all development within areas under the jurisdiction of ACOE and CDFW. Though the jurisdictional areas on-site are highly disturbed, the preservation of these areas under this alternative would result in additional open space on-site reducing biological impacts as compared to the Project.

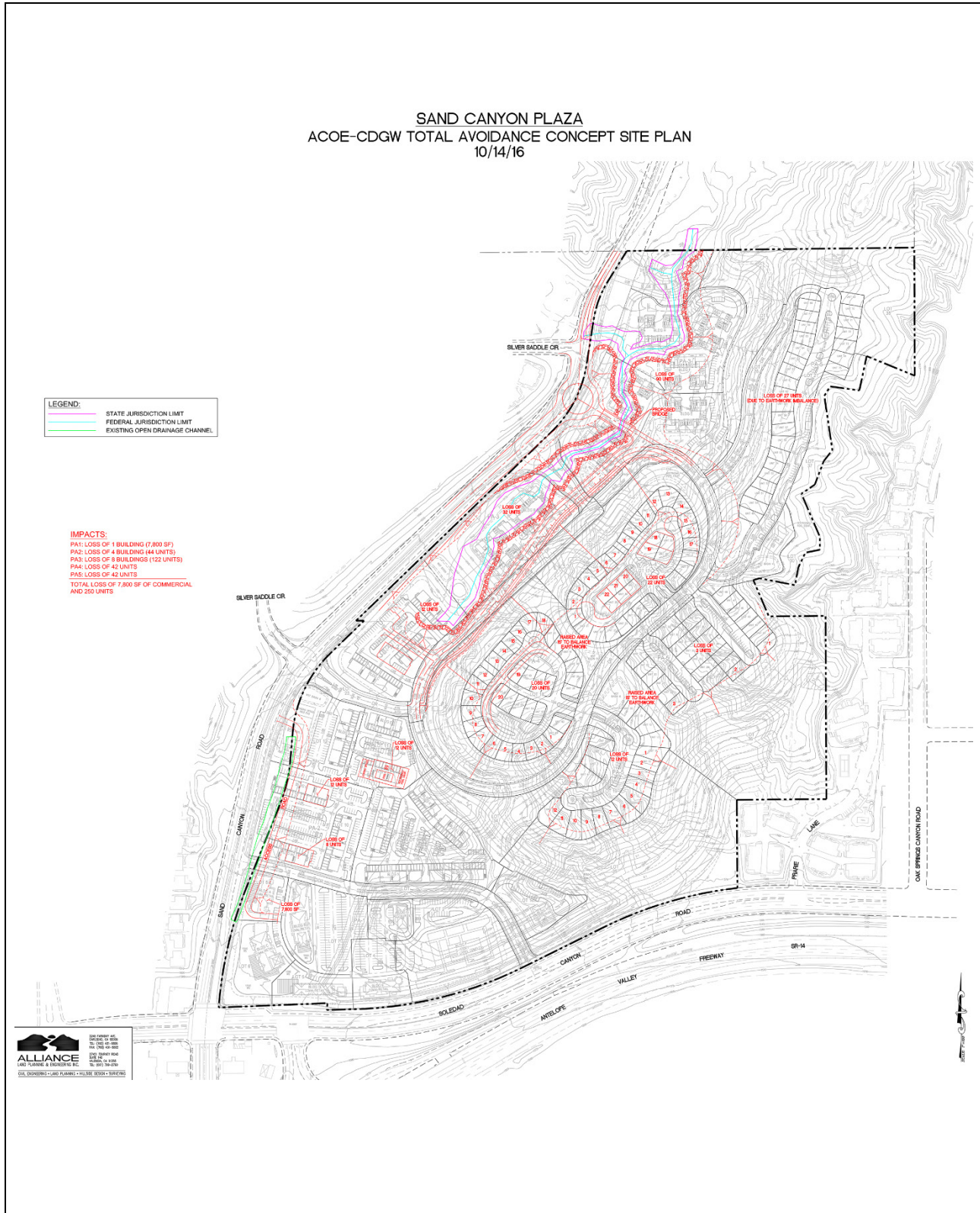


Figure 5-3 Alternative 4: ACOE-CDFW Avoidance

Cultural Resources

Grading associated with Alternative 4 would be significantly reduced as compared to the Project. The Cultural Resources Inventory prepared for the Project did not identify any historical or archeological resources on the Project site. Additionally, no unique paleontological resources were identified on the site. However, the preservation of jurisdictional areas would reduce the potential for impacts to the above resources if discovered during development of the Project site. Therefore, this Alternative would have less impact than the Project.

Geology and Soils

Implementation of Alternative 4 would result in less grading than the Project due to a reduced development footprint and would consequently be expected to reduce geotechnical impacts. The potentially significant impacts and recommended mitigation measures associated with the Project would remain under this alternative; however, because less grading would occur, Alternative 4 would reduce overall geotechnical hazards as compared to the Project.

Greenhouse Gas Emissions

Under this Alternative, 250 dwelling units would be eliminated along with 7,800 square feet of commercial floor area. This is a 43% reduction in residential units and a 6% reduction in commercial floor area as compared to the Project. This reduction in residential units and commercial floor area would result in a reduction in construction and operational vehicle-related emissions. Therefore, impacts to greenhouse gas emissions would be less as compared to the Project.

Hazards and Hazardous Materials

Alternative 4 results in a reduction of residential units and commercial square footage as compared to the Project. This alternative would also result in a reduction in the development footprint. However, the Phase 1 Environmental Site Assessment prepared for the site did not indicate any potential hazards that could not be mitigated. Therefore, the potential hazards impacts and mitigation measures would remain substantially the same as the Project.

Hydrology and Water Quality

As indicated previously, the development footprint would be reduced under this alternative. Therefore, implementation of this alternative would result in fewer erosion and sedimentation impacts during construction and operation, because the amount of area to be graded and impervious surfaces would be less. Similar to the Project, water quality BMPs would be implemented under this alternative to comply with City and state requirements. Therefore, water quality and hydrology impacts under this alternative would be reduced as compared to the Project.

Land Use and Planning

This Alternative would reduce the number of residential units by 250 and the commercial floor area by 7,800 square feet as compared to the Project. This reduction results in a development plan that would be inconsistent with the City's General Plan. The site is zoned MXN, which permits densities up to 18 units per acre with an appropriate mix of commercial square footage. The City's General Plan, based on the site's location, considered the site suitable for higher densities and intensities. From a land use perspective, this is a significant change as compared to the Project. Therefore, due to conflicts with the site's land use designation, impacts associated with this alternative would be greater as compared to the Project.

Mineral and Energy Resources

Alternative 4 would not impact the Project site as it is not within a mineral area identified on Exhibit CO 2, Mineral Resources, of the General Plan Conservation and Open Space Element, and the site is not otherwise known to contain mineral resources. The Project site is not located within an MRZ2 designated area of the City. Therefore, the Project would not result in the loss of availability of a known mineral resource and would have no significant impacts.

Noise

Under this Alternative, the development footprint would be reduced as compared to the proposed Project. There would be reductions in project grading, the installation of infrastructure, and building construction. From an operational standpoint, there would be fewer residential units and less commercial square footage, resulting in reduced on-site noise generation. Consequently, noise impacts would be reduced as compared to the Project.

Population and Housing

Alternative 4 would reduce population as compared to the Project. This alternative would reduce the City's housing inventory by 250 units, resulting in a potential population decrease of 775 persons as compared to the Project. Commercial uses would be slightly reduced under this alternative; thereby reducing employment opportunities as compared to the Project. This would be a significant reduction in population as compared to the Project. Alternative 4 would not provide much assistance to the City in meeting its projected housing needs. In summary, Alternative 4, due to the elimination of housing, would result in slightly greater impacts to population and housing as compared to the Project.

Parks and Recreation

Alternative 4 would result in a reduction in residential units. This reduction would be significant when compared to the Project. From a recreation perspective, there would be lower demand for recreational services and facilities as compared to the Project. Therefore, Alternative 4 would have reduced impacts on recreation as compared to the Project.

Public Services

Alternative 4 would reduce the total number of residential units to 330. There would be a slight reduction in commercial square footage. From a public services perspective, there would be lower demand for public services as compared to the Project. Therefore, this alternative would result in reduced impacts to public services.

Transportation/Traffic

Alternative 4 would reduce the number residential units by 250, resulting in a total of 330 residential units. In addition, this Alternative would reduce the commercial square footage by 7,800, resulting in total commercial square footage of 122,800. This reduction in residential units and commercial square footage would result in a reduction in vehicle trips as compared to the Project.

Utilities and Service Systems

As previously discussed, Alternative 4 would reduce the number of residential units and commercial square footage. This would result in lower demand for utilities and service systems as compared to the Project. Therefore, impacts associated with this Alternative would be reduced as compared to the Project.

Solid Waste

Alternative 4 would be required to comply with all federal, state, and local solid waste regulations, including the 2013 Green Building Standards Code, and AB 939 waste diversion requirements. The 2013 Green Building Standards Code aims to improve the health, safety, and general welfare of the public by incorporating design and construction measures which result in waste reduction by promoting material conservation and the efficient use of resources. As discussed above, the most recent data published by CalRecycle shows that the City met the diversion rate required by AB 939 and AB 1016 in 2014. Thus, impacts would be less than significant.

Wastewater

Alternative 4 would be required to prove to the CSDLAC and the City of Santa Clarita or County of Los Angeles that the additional flow would not impact the sewer system or provide adequate funds for necessary improvements to the sewer system. Due to this requirement, the Project and related projects would not result in significant impacts to wastewater service and facilities. The legally permitted levels of sewer service are contingent upon the available capacity of the CSDLAC's treatment facilities, which is in turn limited to levels associated with approved growth identified by SCAG. The City and CSDLAC would review site-specific development plans to determine the impact on existing sewer mains. Individual projects would be required to pay the cost to relocate existing sewer mains impacted by new development. Development of the Project would not result in significant cumulative impacts in regards to wastewater services.

Water Supply

The timing of Alternative 4, places it within the time frame for calculating "planned future uses" within the 2015 UWMP. This information is incorporated by reference in the WSA. SCWD accounted for the Project's total water demand when it provided its projected single-family and multi-family residential account information through 2050 for inclusion in the 2015 UWMP (refer to 2015 UWMP Table 2-5). In summary, there would be sufficient water supply to meet the project's water demand under an average/normal water year, single dry year, or multiple dry years. In addition, the Project would include development of a distribution system that would provide sufficient capacity for domestic and fire flow requirements. Impacts would be less than significant.

Therefore, impacts associated with this Alternative would be reduced as compared to the Project.

Conclusion on Environmental Analyses

A summary comparison of impacts associated with the Project alternatives is provided in **Table 5-1**, below. Environmental impacts associated with Alternative 4 would be reduced as compared to the Project.

Analysis of Project Objectives

While Alternative 4 is considered environmentally superior to the Project, Alternative 4 does not satisfy all of the Project objectives, which are set forth in this EIR at **Section 3, Project Description**. Project objectives not fully met or impeded by Alternative 4 are identified in **Table 5-1, Comparison of Alternatives' Consistency with Project Objectives** below.

5.9 Comparative Analysis of Project Objectives

As part of the Project alternatives analysis, consistency with project objectives must be evaluated. **Table 5-1** below lists the Project objectives (also stated in **Section 3, Project Description**) and indicates whether each Project alternative meets, partially meets, or fails to meet Project objectives.

Table 5-1 Comparison of Alternatives' Consistency with Project Objectives

Project Objective	No Project Alternative	Alternative 1: Increased Commercial and Office	Alternative 2: Ridgeline Preservation	Alternative 3: ACOE-CDFW Avoidance Alternative
Create a new mixed-use community with connected neighborhoods that provides for residential, commercial and recreational uses in close proximity to each other.	F	P	M	P
Provide a sensitive and compatible Project through the use of appropriate grading, landscape, and water quality methods.	F	M	M	M
Provide development and transitional land use patterns that do not conflict with surrounding communities and land uses.	F	M	M	P

Project Objective	No Project Alternative	Alternative 1: Increased Commercial and Office	Alternative 2: Ridgeline Preservation	Alternative 3: ACOE-CDFW Avoidance Alternative
Arrange land uses to reduce vehicle miles traveled and energy consumption, and to encourage pedestrian mobility.	F	M	M	P
Design neighborhoods to create a unique identity and sense of place.	F	M	M	M
Design neighborhoods to locate a variety of residential and non-residential land uses in close proximity to each other and major road corridors, transit, and trails.	F	M	M	P
Provide a rich set of public spaces.	F	M	M	M
Implement sustainable development principles, including greater energy efficiency, waste reduction, drought-tolerant landscaping, use of water efficiency measures, and use of recycled materials and renewable energy sources.	F	M	M	M
Create and enhance opportunities for non-vehicular travel and encourage pedestrian mobility by providing an internal pedestrian circulation system that links residential neighborhoods to on-site recreation areas, regional trail systems, and neighborhood retail/commercial areas.	F	P	M	P
Foster the design and integration of a mutually beneficial relationship between the natural and built environments, and implement sensitive land use transition treatments, attractive streetscapes, and high quality design themes.	F	M	M	M
Integrate a new community into the City's existing and planned circulation network.	F	M	M	M
Provide a landscape design emphasizing a pleasant neighborhood character and inviting streetscapes.	F	M	M	M
Provide on-site recreational facilities to meet the demands of future residents.	F	P	M	P
Enhance and augment the housing market by providing a variety of housing types and densities to meet the varying needs of future residents.	F	P	M	P
Adopt development regulations that provide flexibility to respond and adjust to changing economic and market conditions.	F	M	M	P
Provide a tax base to support public services and infrastructure.	F	P	M	P
Create permanent jobs on-site through the incorporation of commercial land uses to assist the City in meeting its jobs/housing balance.	F	M	M	P
Adopt development regulations and guidelines that allow site, parking and facility sharing, and other innovations that reduce the costs of providing public services.	F	P	M	P
Restore and minimize impacts to important biotic resources.	F	M	M	M
Minimize impacts to oak trees and incorporate, where possible, oak trees into public spaces.	F	M	M	M

KEY (Level of Consistency with Project Objectives):

M = Alternative Meets Project Objective; P = Alternative Partially Meets Project Objective; F = Alternative Fails to Meet Project Objective

5.10 Off-Site Alternatives

Alternative sites of generally the same size in the eastern of the City of Santa Clarita do not exist. Consistent with General Plan intent, the Project involves development of an infill parcel. No potential alternative project sites in the local vicinity are similar in acreage or provide similar characteristics. No potential alternative sites could serve primary project objectives. For the reasons cited above, no alternative sites were analyzed for this Project.

5.11 Environmentally Superior Alternative

The CEQA Guidelines require that the discussion of project alternatives focus on those alternatives that can feasibly attain the basic objectives of the project while avoiding or reducing the significant impacts of the project as proposed. **Table 5-2** below provides a summary of alternatives discussed in this section in relation to environmental impacts and the ability to meet project objectives.

- **Alternative 1: No Project.** Alternative 1 would reduce the number and extent of environmental impacts associated with the Project. However, this alternative would not meet the basic project objectives, which call for creating mixed-use project for an infill site to meet future demands.
- **Alternative 2: Increased Commercial and Office.** Alternative 2 would increase commercial use by 29,400 square feet and office space by 30,000 square feet. Alternative 2 would also remove 60 dwelling units from Planning Area 2. Lastly, none of the assisted living units would be constructed in Planning Area 1. All other uses on the Project site would remain as proposed. However, this Alternative would not fully meet the project objectives.
- **Alternative 3: Ridgeline Preservation.** Approximately 1,200 lineal feet of the City identified significant ridgeline would be preserved under this Alternative due to the elimination of the northerly portion of Planning Area 5. To a lesser extent, the Ridgeline Preservation Alternative would also remove 29 dwelling units from Planning Area 5. The alternative would also increase open space/landscape areas within the Project. None of the other Project site plan specifics would be changed. Section 15126.6(e)(2) of the CEQA Guidelines indicates that if the No Project Alternative (Alternative 1) is the “environmentally superior” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Among the remaining Project alternatives, Alternative 3 is considered to be the “Environmentally Superior Alternative” for purposes of CEQA.
- **Alternative 4: ACOE-CDFW Avoidance:** Alternative 4 would avoid jurisdictional areas associated with Sand Canyon wash. Specifically, 7,800 square feet of commercial building area would be eliminated in Planning Area 1, 44 units would be eliminated in Planning Area 2, Planning Area 3, consisting of 10.1 acres, would be converted from residential use to open space (removing 122 units), Planning Area 4 would be reduced

by 42 units, Planning Area 5 would be reduced by 42 dwelling units. The above modifications would result in an increase of 22.4 acres of open space. In total, Alternative 4 would remove 250 units when compared to the Project.

Table 5-2 Summary Comparison of Alternatives

Environmental Issue	No Project	Increased Commercial/Office	Ridgeline Preservation	ACOE-CDFW Avoidance
Aesthetics	greater	similar	fewer	fewer
Agriculture and Forestry Resources	similar	similar	similar	similar
Air Quality	fewer	similar	fewer	fewer
Biological Resources	fewer	similar	fewer	fewer
Cultural (Historic) Resources	similar	similar	similar	fewer
Geology and Soils	fewer	similar	fewer	fewer
Greenhouse Gas	fewer	similar	similar	fewer
Hazards	greater	similar	similar	similar
Hydrology/Water Quality	fewer	similar	similar	fewer
Land Use and Planning	greater	similar	similar	greater
Mineral and Energy Resources	similar	similar	similar	similar
Noise	fewer	similar	similar	fewer
Population and Housing	greater	similar	similar	greater
Public Services – Fire	fewer	similar	similar	fewer
Public Services – Police	fewer	similar	similar	fewer
Public Services – Schools	fewer	similar	similar	fewer
Public Services – Recreation	fewer	similar	similar	fewer
Public Services – Libraries	fewer	similar	similar	fewer
Transportation	fewer	similar	similar	fewer
Utilities – Solid Waste	fewer	similar	similar	fewer
Utilities – Wastewater	fewer	similar	similar	fewer
Utilities – Water Supply	fewer	similar	similar	fewer

The CEQA Guidelines require that an environmentally superior alternative be identified from the alternatives considered in an EIR. If the No Project alternative is environmentally superior to the project as proposed, an environmentally superior alternative is to be identified from the other alternatives considered. An alternative is environmentally superior when it would avoid or substantially lessen a significant impact that would result from the Project. Alternative 3, Ridgeline Preservation, would be considered the environmentally superior alternative.

In this case, Alternative 1: No Project, Existing General Plan and Zoning (mobile homes remain), would reduce the number and extent of environmental impacts associated with the Project. However, this Alternative would not meet the basic objectives of the Project, and none of the beneficial impacts would be realized. Alternative 2: Increased Commercial/Office, would have similar impacts to the Project. However, this Alternative would not fully meet the basic objectives of the Project. Alternative 4: ACOE-CDFW would generally reduce the number and extent of environmental impacts associated with the Project. However, this Alternative would not fully meet the basic objectives of the Project.

6. Effects Found Not Significant

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires an environmental impact report (EIR) to briefly describe any possible significant effects that were determined not to be significant. This chapter addresses the potential environmental effects that have been found not to be significant, as well as summarizes which impacts were found to be less than significant, both with and without the imposition of mitigation measures, in the EIR.

To assist in determining whether a project will have a significant effect on the environment, the CEQA Guidelines identify criteria for conditions that may be deemed to constitute a substantial or potentially substantial adverse change in physical conditions. Specifically, Appendix G of the CEQA Guidelines (Environmental Checklist) lists the Thresholds of Significance to be considered when determining whether a project may have a significant impact.

6.1 No Impacts

Aesthetics

- Aes-2 Would the project substantially damage scenic resources, including, but not limited to, identified ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Scenic Highway

Agriculture and Forestry Resources

- Ag-1 Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?
- Ag-2 Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Ag-3 Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
- Ag-4 Would the project result in the loss of forestland or conversion of forestland to non-forest use?
- Ag-5 Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use?

Cumulative Agriculture and Forestry Resources Impacts

Biological Resources

- Bio-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
- Bio-7 Would the project affect a Significant Ecological Area (SEA) as identified on the City of Santa Clarita ESA Delineation Map?

Geology and Soils

- Geo-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 fault. Refer to Division of Mines and Geology Special Publication 42?
- Geo-5 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Hazards and Hazardous Materials

- Haz-1 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Haz-3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- Haz-5 For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?
- Haz-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?

Hydrology and Water Quality

- Hyd-7 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?
- Hyd-8 Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Mineral and Energy Resources

- Min-1 Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- Min-2 Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Noise

- N-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 airstrip, would the project expose people residing or working in the project area to excessive noise levels?
- N-6 For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Transportation/Traffic and Circulation

- T-3 Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

6.2 Less Than Significant Impacts

Aesthetics

- Aes-1 Would the project have a substantial adverse effect on a scenic vista?
- Aes-3 Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
- Project Construction
 - Project Operations
- Aes-4 Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?
- Project Construction
 - Project Operations

Cumulative Aesthetics Impacts

Air Quality

- AQ-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?
- AQ-2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- AQ-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 release in emissions which exceed quantitative thresholds for ozone precursors)?
- AQ-4 Would the project expose sensitive receptors to substantial pollutant concentrations?
- AQ-5 Would the project create objectionable odors affecting a substantial number of people?
- Regional and Localized Construction Emissions
 - Localized Operational Emissions
 - Toxic Air Contaminants
 - Odors
- AQ-6 Will the Project increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?
- AQ-7 Will the Project exceed the assumptions utilized in preparing the AQMP?
- Regional Plans and Air Quality Management Plan Consistency
 - General Plan Consistency

Cumulative Construction Emissions Impacts

Cumulative Plan Consistency Impacts

Biological Resources

- Bio-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?

Cumulative Biological Resources Impacts

Cultural Resources

CR-1 Would the project cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?

CR-3 Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Cumulative Cultural Resources Impacts

Geology and Soils

Geo-2 Would the project result in substantial soil erosion or the loss of topsoil?

Geo-9 Would the project destroy, cover or modify any unique geologic or physical feature?

Cumulative Geology and Soils Impacts

Greenhouse Gas Emissions/Climate Change

GHG-1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

- Construction-Related Emissions
- Operational Emissions

GHG-2 Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

- Construction-Related Emissions
- Operational Emissions

Cumulative Greenhouse Gas Emissions Impacts

Hazards and Hazardous Materials

Haz-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 into the environment?

- Construction
- Operation

Cumulative Hazards and Hazardous Materials Impacts

Hydrology and Water Quality

Hyd-1 Would the project violate any water quality standards or waste discharge requirements?

Hyd-2 Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in

aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

- Hyd-3 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?
- Hyd-4 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?
- Hyd-5 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?
- Hyd-6 Would the project otherwise substantially degrade water quality?
- Hyd-9 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?
- Hyd-10 Would the project be subject to inundation by seiche, tsunami, or mudflow?
- Hyd-11 Would the project result in changes in the rate of flow, currents, or the course and direction of surface water and/or groundwater?
- Hyd-12 Would the project result in other modification of a wash, channel creek, or river?

Cumulative Hydrology and Water Quality Impacts

Land Use

- LU-1 Would the project physically divide an established community?
- LU-2 Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Cumulative Land Use Impacts

Mineral and Energy Resources

- Min-3 Would the project use nonrenewable resources in a wasteful and inefficient manner?

Cumulative Mineral Resources Impacts

Cumulative Energy Resources Impacts

Noise

- N-1 Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Traffic Noise
 - Parking Noise
 - Stationary Sources
- N-3 Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- Traffic Noise
 - Parking Noise
 - Stationary Sources
- N-4 Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- Traffic Noise
 - Parking Noise
 - Stationary Sources

Population and Housing

- PH-1 Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- PH-2 Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- PH-3 Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Cumulative Population and Housing Impacts

Parks and Recreation

- Rec-1 Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Rec-2 Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Cumulative Parks and Recreation Impacts

Public Services – Fire Protection

Cumulative Fire Protection Impacts

Public Services – Police Protection

Cumulative Police Protection Impacts

Public Services – Schools

Cumulative Schools Impacts

Public Services – Library Services

Cumulative Library Services Impacts

Transportation/Traffic and Circulation

- T-1 Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- Project Construction
- T-4 Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- T-6 Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Utilities and Service Systems – Solid Waste

- Util-2 Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Cumulative Solid Waste Impacts

Utilities and Service Systems – Wastewater

Cumulative Wastewater Impacts

Utilities and Service Systems – Water Supply

- Util-6 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements?
- Util-7 Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Cumulative Water Supply Impacts

6.3 Less Than Significant Impacts with Mitigation Incorporated**Aesthetics**

- Aes-2 Would the project substantially damage scenic resources, including, but not limited to, identified ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Hillside Development

Biological Resources

- Bio-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 or U.S. Fish and Wildlife Service?
- Bio-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- Bio-3 Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- Bio-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Cultural Resources

- CR-1 Would the project cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?
- CR-2 Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

- CR-4 Would the project disturb any human remains, including those interred outside of formal cemeteries?

Geology and Soils

- Geo-1 Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:
- ii) Strong seismic ground shaking?
 - iii) Seismic-related ground failure, including liquefaction?
 - iv) Landslides?
- Geo-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-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- Geo-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?
- Geo-6 Would the project change topography or ground surface relief features?
- Project Construction
 - Debris Flows
 - Differential Settlement
- Geo-7 Would the project require earth movement (cut and/or fill) of 10,000 cubic yards or more?
- Geo-8 Would the project develop and/or grade on a slope greater than 10 percent natural grade?

Hazards and Hazardous Materials

- Haz-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 the environment?
- Haz-7 Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?
- Haz-8 Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Noise

- N-1 Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Mixed-Use Projects
- N-2 Would the project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?
- Operational Vibration
- N-3 Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- Mixed-Use Projects
- N-4 Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- Mixed-Use Projects

Public Services – Fire Protection

- PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?
- Project Construction
 - Project Operations
 - Wildlife Fire Hazard

Public Services – Police Protection

- PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?
- Project Construction
 - Project Operations

Public Services – Schools

PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

- Impacts to Sulphur Springs Union School District
- Impacts to William A. Hart Union High School District

Public Services – Library Services

PS-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities?

Transportation/Traffic and Circulation

T-1 Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- Project Operations

T-2 Would the project conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?

- Project Construction
- Project Operations

T-5 Would the project result in inadequate emergency access?

Cumulative Traffic Impacts

Utilities and Service Systems – Solid Waste

Util-1 Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Utilities and Service Systems – Wastewater

- Util-3 Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Util-4 Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Util-5 Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

7. Significant Irreversible Effects on the Environment

7.1 Introduction

Use of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible if a large commitment of these resources makes their restoration thereafter unlikely. According to §15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines, irretrievable commitment of such resources is to be evaluated to ensure that their consumption by a proposed project is justified. In addition, this section must also identify any irreversible damage caused by environmental accidents associated with the Project.

7.2 Discussion

The construction and use of residential and commercial uses would irreversibly commit construction materials and nonrenewable energy resources. These energy resource demands would be used for construction, heating and cooling of buildings, transportation of people and goods, as well as lighting and other associated energy needs. Nonrenewable and slowly renewable resources used by the Project land uses and improvements would include, but are not limited to, lumber and other forest products, sand and gravel, asphalt, petrochemical construction materials, steel, copper, lead and other metals, and water. A marginal increase in the commitment of facility maintenance services would also be required. Project impacts related to consumption of nonrenewable and slowly renewable resources are considered to be less than significant, because development within the Project would not use unusual amounts of energy or construction materials.

Irreversible long-term environmental changes would accompany the proposed conversion of a partially developed parcel to a residential and commercial urban-scale in-fill development site. Changes would include a significant change in the visual character of the site associated with landform modification and increased building height and bulk, an increase in local and regional traffic with associated increase in air pollution emissions and noise levels, volume of solid waste generation, volume of wastewater generation, and an increase in water and energy consumption. The Project would require additional school space and recreational opportunities. Although the Project site is partially developed, it contains undeveloped areas that have, although minimal, biological habitat of value. It is unlikely that the existing environmental conditions would be restored to their original condition subsequent to project development; however, mitigation measures are proposed throughout **Section 4, Environmental Impact Analysis** of this EIR to mitigate the effects of the development impacts.

The CEQA Guidelines also require a discussion of the potential for environmental damage caused by an accident associated with the project. The following discussion identifies site characteristics and proposed future uses that could be sources of potential accidents.

The Project is located within a seismically active region and would be exposed to ground shaking in the event of a seismic event. Conformance with the regulatory provisions of the City of Santa Clarita and the Uniform Building Code pertaining to construction standards would minimize, to the extent feasible, damage and injuries in the event of such an occurrence. Geotechnical hazards can be mitigated by stabilization, removal, or redesign; no significant impacts on the site are expected.

Uses proposed by the Project would be expected to use and store chemicals and/or substances that are typically found in urban settings. Given the multitude of federal, state, and local regulations governing the use of such substances, however, the Project is not expected to involve activities that would damage the environment or pose a risk to public health. With implementation of the applicable General Plan actions and enforcement of state and federal laws governing the upset conditions associated with hazardous materials and wastes, impacts would be less than significant.

8. Growth-Inducing Impacts

8.1 Introduction

The purpose of this chapter is to evaluate the growth-inducing potential of the Project. With respect to potential growth-inducing impacts, the California Environmental Quality Act (CEQA) Statutes and Guidelines require a discussion of the ways in which a project could foster economic or population growth, or the construction of additional housing in the surrounding environment. Discussion should take into account the project characteristics that may encourage and/or facilitate future growth that, either individually or cumulatively, could significantly affect the environment. CEQA emphasizes that growth in an area should not be considered beneficial, detrimental, or of little significance.

8.2 Thresholds for Determining Growth-Inducing Impact

In general terms, a project may foster spatial, economic, or population growth in a geographic area if it meets any of the criteria, identified below, as determined by the City of Santa Clarita.

- Removal of an impediment to growth (e.g., the establishment of an essential public service or the provision of new access to an area).
- Urbanization of land in a remote location (e.g., leapfrog development).
- Economic expansion or growth occurring in an area in response to a project (e.g., changes in revenue base, employment expansion, etc.).
- Establishment of a precedent-setting action (e.g., a change in zoning or general plan designation).

If a project meets any of these criteria, it is considered growth inducing. An evaluation of this project against these four growth-inducing criteria is provided in the sections below.

8.3 Growth Inducement Potential

8.3-1 Removal of an Impediment to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services. The Project is considered an infill project, and is surrounded on all sides by existing development.

An established transportation network presently exists in the area, which offers the Project and surrounding area local and regional access. Regional access to the Project is provided by I-5 and

SR-14. Primary local access to the Project site is provided by Sand Canyon Road and Soledad Canyon Road.

The water and sewer infrastructure required to support the Project is available and extended to the site. No new major water or sewer mains other than those required on-site are needed.

Electricity and natural gas transmission infrastructure presently exist on the site. The Project would not necessitate the construction of a distribution system to convey this energy to uses on individual project sites. This system would be designed to accommodate uses of individual projects, and would not extend beyond the requirements or boundary of the Project site.

In conclusion, no growth-inducing impacts are expected for the criterion.

8.3-2 Leap-Frog Growth

Development can be considered growth inducing when it is not contiguous to existing urban development and intervening open space areas occur between developments. The Project is infill development and would not introduce leap-frog development to the City of the region. Given this, the Project would not induce growth under this criterion, as it would not result in the urbanization of land that is not contiguous to existing urban development.

8.3-3 Economic Growth

The growth forecast for the land uses associated with the Project would add 580 new dwelling units (a net increase of 457 dwelling units) in the Project area. Based on the City's estimated household size of 3.10 residents per dwelling unit, the net housing increase would add approximately 1,417 residents to the City's population. Property proximal to the site could be expected to experience increased economic pressure to develop or redevelop. However, this development pressure would be localized only to the immediate area of the Project and not the region. Actions taken to entitle land for future development would be subject to approvals associated with the planning process, as described below under **Section 8.4, Precedent-Setting Action**.

Development of the Project site would increase the area's population over present conditions, and can be expected to generate increased demand for goods and services. The Project is consistent with the General Plan. It is expected that existing retailers can meet the demand for goods and services. Therefore, development of the Project is not expected to induce substantial commercial growth in the City or surrounding areas.

Future residents of the Project site also represent an incremental increase in the local labor force. Given the relatively small number of residents anticipated at predicted development growth (1,417) it is expected that new residents seeking employment in the City could be absorbed.

Therefore, it is not anticipated that the Project would induce substantial growth currently undeveloped properties in the City.

8.4 Precedent-Setting Action

The decision to allow development and redevelopment through approval of the Project would require the discretion of the decision-making body, which is the City of Santa Clarita. If the Project were to be approved by the City, its approval would not necessarily mean that other development approvals in the area would follow. Consequently, the Project is not considered to be precedent setting.

9. Significant Unavoidable Effects That Cannot be Avoided if the Proposed Action Is Implemented

The California Environmental Quality Act (CEQA) Guidelines §15126(b) requires an Environmental Impact Report (EIR) to “describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications, and the reasons why the project is being proposed, notwithstanding their effect, should be described.”

Section 4, Project Description, of this EIR provides a description of the potential environmental impacts of the proposed project and recommends mitigation measures to reduce impacts to a less than significant level, where possible. After implementation of mitigation measures, most of the potentially significant or significant impacts associated with the Project would be reduced to less than significant levels. However, the impacts listed below could not be feasibly mitigated and would result in a significant and unavoidable impact associated with approval of the Sand Canyon Plaza Mixed-Use Project.

Air Quality

- Regional Operational Emissions
- Cumulative Operational Emissions

Noise

- Construction Noise
- Construction Vibration Levels (Human Annoyance)
- Cumulative Traffic Noise

10. References

Lead Agency

Tom Cole, Director of Community Development
Jason Crawford, AICP, Planning and Economic Development Manager
James Chow, Senior Planner
Patrick Leclair, Associate Planner
Ian Pari, Senior Traffic Engineer

Preparers of the EIR

Susan Tebo, Tebo Environmental Consulting President
Collette Morse, Morse Planning Group, Principal

Air Quality, Noise and Greenhouse Gas

Pomeroy Environmental Inc.
Brett Pomeroy, President

References

All references are included at the end of each environmental topic.

