CITY OF SANTA CLARITA

BOUQUET CANYON PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

SCH No. 2018121009

Prepared for:

HAI NGUYEN
ASSOCIATE PLANNER
CITY OF SANTA CLARITA
COMMUNITY DEVELOPMENT DEPARTMENT
23920 VALENCIA BOULEVARD, SUITE 302
SANTA CLARITA, CA 91355

EMAIL: HNGUYEN@SANTA-CLARITA.COM
PHONE: (616) 255-4365

Prepared by:

3760 KILROY AIRPORT WAY, SUITE 270
LONG BEACH, CA 90806

APRIL 2020

TABLE OF CONTENTS

TABLES

FIGURES

APPENDIX

A: Initial Study, Notice of Preparation, and Responses to NOP

B: Air Quality, Energy and Greenhouse Gas Modeling Worksheets

C: Biological Technical Report

D: Cultural Resources Report

E: Geotechnical Report and Paleontological Resources Records Check

F: Phase I Environmental Site Assessment

G: Hydrology Report and Urban Stormwater Mitigation Plan

H: Noise Monitoring Data and Modeling Worksheets

I: Correspondence With Public Services and Utility Agencies

J: Traffic Impact Analysis

This page intentionally left blank.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

PROPOSED PROJECT

This EIR evaluates the proposed Bouquet Canyon Project. The project site is approximately 67.6 acres of undeveloped land located in the Saugus area of the City of Santa Clarita, approximately 0.2 miles to the north of the junction of Bouquet Canyon Road and Plum Canyon Road. The site is currently undeveloped and is covered by a mixture of natural and altered landscapes, prominent hills on the west, and Bouquet Creek, which flows along the northern portion of the site from east to west. The proposed project would develop this site with a total of 375 for-sale dwelling units divided into groups of five distinct neighborhoods:

Planning Areas 1 and 1a – These two planning areas will comprise of a total of 64 single family detached homes with driveways. They are located in the western and southwestern portion of the project site.

Planning Area 2 – This area will consist of 136 single family detached homes in 8-pack clusters. This area is located in the central portion of the project site and would be accessed by a street passing next to Planning Area 3.

Planning Area 3 – This area will consist of 90 single-family attached, attached backyard town style homes. This area is located on the southeastern portion of the project site.

Planning Area 4 – This area will consist of 85 two-story, attached rowtown homes with carriage units. This area is located in the northern portion of the project site.

The development of the site will include extensive alterations to the existing landscape and topography, with substantial site improvements to support a residential community. A major element is the reconfiguration of Bouquet Creek and its adjacent floodplain. Other improvements include internal streets, storm drainage, water, sewer, electrical and natural gas infrastructure, including off-site connections to existing distribution mains for water, sewer, energy and telecommunications services, private recreation areas, and public parkland and trails. An additional facet of the project is the realignment of a segment of Bouquet Canyon Road. This realignment is a planned objective in the Santa Clarita General Plan Circulation Element. It would involve abandoning a portion of the existing Bouquet Canyon Road between Hob Avenue and Pam Court and constructing a new segment starting 1,500 feet north of Plum Canyon Road and extending to 700 feet south of Shadow Valley Lane. The new portion of Bouquet Canyon Road would be a four-lane roadway with bicycle lanes and parkways on both sides.

The proposed project would be constructed over an estimated time-frame of 60 months, in four distinct phases: site clearing/mass grading of the entire site, site improvements, off-site improvements, and home construction and landscaping. The grading plan would involve an estimated excavation of 2,069,664 cubic yards and an embankment (fill) of 2,052,237 cubic yards. All earthwork would be balanced on site. All planning areas are anticipated to be developed simultaneously, with full occupancy occurring by 2024-25.

For more detailed descriptions and exhibits, see Section 2 of this Draft EIR.

Required Approvals

City of Santa Clarita

- Tentative Tract Map 82126—to subdivide the subject property into 19 lots for residential land uses, streets, private drives, drainage infrastructure, slopes, and various open space lots.
- Conditional Use Permit 18-004—for private gating of multi-family units, any building heights greater than 35 feet, and cluster development.
- Architectural Design Review 18-010—for the proposed building design, styles, and forms.
- Development Review 18-009—for the proposed physical design and layout of the project.
- Hillside Development Review (Class IV) 18-001—to develop land with average cross slopes of 10 percent or more.
- Ridgeline Alteration Permit 18-001—for development near a designated significant ridgeline in the ridgeline preservation overlay zone.
- Oak Tree Permit (Class 4) 19-003 —required for any encroachments or removals of protected oak trees.
- Landscape Plan Review 19-017 – for proposed landscape plan.

Los Angeles Regional Water Quality Control Board

- Construction General Permit, under the National Pollutant Discharge Elimination System.
- Water Quality Certification, pursuant to Section 401 of the federal Clean Water Act.

United States Army Corps of Engineers

- Nationwide Permit, pursuant to Section 404 of the federal Clean Water Act, for alterations to Bouquet Creek.

Federal Emergency Management Agency

- Letter of Map Revision, pursuant to Title 44 of the Code of Federal Regulations, Part 65, to modify floodplain limits along Bouquet Creek and amend the City's Flood Insurance Rate Map, under the National Flood Insurance Program.

California Department of Fish and Wildlife

- Streambed Alteration Agreement, pursuant to Sections 1601-1605 of the California Fish and Game Code.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1, below, identifies the environmental impacts of the proposed project, proposed mitigation measures, and the level of significance of the impacts after mitigation occurs. Through the EIR scoping process, which is documented in Appendix A of this Draft EIR, several types of impacts were found to have effects that were not significant. These are identified in Section 6.3 of this Draft EIR.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
AESTHETICS		
Impact 3.1a: The proposed project would not have a substantial adverse effect on a scenic vista because the project would only alter portion of the significant ridgeline on the project site, and because said ridgeline is not the most substantial ridgeline in the Saugus community. Therefore, impacts would be less than significant, requiring no mitigation.	None Required	Not Applicable
Impact 3.1b: While the project would involve alteration of a significant ridgeline and removal of protected oak trees, only a portion of the ridgeline on the project site would be impacted and the majority of oak trees on the site are in average or poor condition and/or have limited aesthetic value due to the lack of public views of the trees. Further, the applicant would be required to replace the 27 oak trees to be removed by the project with 91 oak trees (or the equivalent monetary value) pursuant to the City's Oak Tree Permit standards. Therefore, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, resulting in less than significant impacts requiring no mitigation.	None Required	Not Applicable
Impact 3.1c: The project would substantially alter the existing, undeveloped landscape of the project site; however, the proposed structures would utilize materials and design elements consistent with the Community Character and Design Guidelines for the Saugus community. No new homes or other structures would exceed two stories in height and the built environment character of all proposed planning areas would be consistent in scale and massing with surrounding residential neighborhoods. Further, the project provides visual buffers to soften the extent	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
of building massing and maintains views of the site's prominent ridgeline for travelers along Bouquet Canyon Road. Therefore, the proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, resulting in less than significant impacts requiring no mitigation.		
Impact 3.1d: The proposed project would introduce a variety of new outdoor lighting fixtures throughout the development areas, and additional street lighting along the new segment of Bouquet Canyon Road. Compliance with the City's existing outdoor lighting restrictions would prevent off-site light spillage and glare and would ensure that the project's lighting sources would not adversely affect day or nighttime views in the area, resulting in less than significant impacts requiring no mitigation.	None Required	Not Applicable
AIR QUALITY		
Impact 3.2a: The project would not conflict with or obstruct implementation of the 2016 AQMP and impacts from diesel-powered equipment would be less than significant with implementation of mitigation measures MM 3.2-1 and 3.2-2.	**MM 3.2-1:** Refer to language for MM 3.2-1, below. **MM 3.2-2**: Refer to language for MM 3.2-2, below.	Less than Significant
Impact 3.2b: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard with implementation of mitigation measures MM 3.2-1 and 3.2-2. Therefore, impacts would be less than significant with mitigation incorporated.	**MM 3.2-1:** All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the EPA-certified Tier 4 emission standards. In addition, all construction equipment shall be outfitted with best available control technologies (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	MM 3.2-2: The contractor shall utilize hauling trucks no larger than Medium Heavy Duty Trucks (MHDT) (i.e., gross vehicle weight rating [GVWR] 14,001 – 33,000 pounds) during the site preparation and grading phases of construction.	
Impact 3.2c: The project would not expose sensitive receptors to substantial pollutant concentrations with implementation of mitigation measures MM 3.2-1 and MM 3.2-2.	**MM 3.2-1:** Refer to language for MM 3.2-1, above. **MM 3.2-2**: Refer to language for MM 3.2-2, above.	Less than Significant
Impact 3.2d: The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and a less than significant impact would occur.	None Required	Not Applicable
BIOLOGICAL RESOURCES		
Impact 3.3a: The project would remove habitat that supports a rare plant species (slender mariposa lilies) and a sensitive animal species (burrowing owl). However, with implementation of mitigation measures MM 3.3-1 and MM 3.3-2, the proposed project would have a less than significant adverse effect, either directly or indirectly, on candidate, sensitive, or special-status species identified locally or regionally, or by the CDFW or USFWS.	**MM 3.3-1: Preserve or Replace Slender Mariposa Lilies** Mitigation for project impacts to the slender mariposa-lily (Calochortus clavatus var. gracilis) shall include one or more of the following, implemented in consultation with the City and CDFW prior to construction: • Prior to construction, a mitigation plan shall be developed that describes methods to mitigate for impacts to slender mariposa lily at a 1:1 ratio. The mitigation plan shall include a description of the mitigation site, seed/bulb collection and planting methods, maintenance and monitoring requirements, and performance standards to measure the success of the mitigation. Slender mariposa lily bulbs shall be collected at the end of the growing season and prior to ground disturbance, or seeds shall be obtained from a native plant nursery if available. The seeds/bulbs shall be planted within an appropriate on-site or off-site mitigation area, which will be conserved as open space in perpetuity. • Payment into a mitigation bank and/or in-lieu fee program that has mitigation available for the rare plant species.	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	• Preservation of land that contains the rare plant species. **MM 3.3-2: Burrowing Owl Avoidance** In compliance with the CDFW Staff Report on Burrowing Owl Mitigation (2012), a take avoidance survey shall be conducted on the study area within 14 days prior to ground disturbance to determine presence of burrowing owl. If the take avoidance survey is negative and burrowing owl is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required. If burrowing owl is observed during the take avoidance survey, active burrows shall be avoided by the project in accordance with the CDFW's Staff Report. The CDFW shall be immediately informed of any burrowing owl observations. A Burrowing Owl Protection and Relocation Plan shall be prepared by a qualified biologist, which must be sent for approval by CDFW prior to initiating ground disturbance. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. Relocation shall only occur September 1 through January 31, outside of the nesting season.	
Impact 3.3b: The proposed project would result in permanent impacts to 28.68 acres of native plant-dominated habitat and 55.55 acres of habitat dominated by non-native species and previously disturbed areas. The elderberry savanna and southern willow scrub/giant reed stand habitats on the project site are considered sensitive natural communities by CDFW (totaling 1.26 acres) and would be permanently impacted by the proposed project. However, both habitats are considered low quality due to their size and the presence of invasive species. Although southern willow scrub/giant reed stand is considered low-quality habitat, the project would offset permanent impacts to 0.70 acres through compensatory mitigation for jurisdictional streambed impacts as outlined in mitigation measure MM 3.3-3. Therefore, with implementation of appropriate mitigation measures, the proposed project would have a less than significant adverse effect on riparian habitat or sensitive natural	**MM 3.3-3: Secure CDFW Streambed Alteration Agreement** Prior to the City's issuance of a grading permit, the applicant shall demonstrate that a Streambed Alteration Agreement has been issued by the CDFW. Temporary impact areas under CDFW jurisdiction shall be returned to pre-project topographic contours once the project has been completed. Permanent impacts to areas under CDFW jurisdiction for southern willow scrub/giant reed stand (0.70 acres) shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of CDFW jurisdictional streambed at ratio of no less than 1:1. Given that the remaining portion of Bouquet Canyon Creek is dominated by invasive giant reed stands, which is of extremely low biological function and value and contributes to downstream infestation of giant reed, the remaining permanent impacts to CDFW jurisdiction (8.63 acres) shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of CDFW jurisdictional streambed at a ratio of no less than 0.5:1. Best management practices (BMPs) to minimize and avoid	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
community identified in local or regional plans, policies, regulations, or by CDFW or the USFWS.	impacts to CDFW jurisdiction during and after construction will be addressed as part in the Streambed Alteration Agreement. Minimization and avoidance measures may include, but are not limited to, the following: • Construction-related equipment will be stored in developed areas, outside of drainages. No equipment maintenance will be done within or adjacent to the drainage. • Mud, silt, spoil sites, raw cement, asphalt, or other pollutants from construction activities will not be placed within or adjacent to the drainage. • Open trenches or other excavated areas will be properly secured at the end of the day to avoid entrapment of animals, or an escape ramp will be provided. • To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site. • Construction personnel shall strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel. • Exclusion fencing shall be installed to demarcate the limits of disturbance and shall be maintained until the completion of construction activities. • To the extent feasible, construction will be conducted outside of the bird nesting season (see mitigation measure 3.3-5, later herein).	
Impact 3.3c: The project would result in 0.19 acres of permanent impacts and 0.46 acres of temporary impacts to non-wetland waters of the United States. Permanent impacts would be concentrated on the western and eastern ends of Bouquet Creek within the project footprint. The remaining portion of Bouquet Creek would be temporarily impacted by the construction of a	**MM 3.3-4: Provide Evidence of Section 404 and 401 Permits** Prior to the City's issuance of a grading permit, the applicant shall demonstrate that the appropriate regulatory permits have been issued by the USACE and RWQCB. Temporarily impacted WUS shall be returned to pre-project topographic contours once the project has been completed. Compensatory mitigation for permanent impacts to WUS	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
new flood control channel south of the natural Bouquet Creek channel on the project site. Compensatory mitigation is required for permanent impacts as part of the Clean Water Act Section 404 and 401 permits. As such, with mitigation incorporated, the proposed project would have a less than significant adverse effect on state or federally protected wetlands through direct removal, filing, hydrological interruption, or other means.	shall be required as part of subsequent permitting requirements. Permanent impacts to WUS shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at a ratio of no less than 1:1. BMPs to minimize and avoid impacts to WUS during and after construction will be addressed as part of the USACE and RWQCB permitting process. Minimization and avoidance measures may include, but are not limited to, the following: • Construction-related equipment will be stored in developed areas, outside of the drainage. No equipment maintenance will be done within or adjacent to the drainage. • Source control and treatment control BMPs will be implemented to minimize the potential contaminants that are generated during and after construction. Water quality BMPs will be implemented throughout the project to capture and treat potential contaminants. • Substances harmful to aquatic life will not be discharged into the drainage. All hazardous substances will be properly handled and stored. • A Storm Water Pollution Prevention Plan will be prepared to prevent sediment from entering the drainage during construction. • To avoid attracting predators during construction, the project will be kept clean of debris to the extent possible. All food-related trash items will be enclosed in sealed containers and regularly removed from site. • Construction personnel will strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel. • Exclusion fencing will be installed to demarcate the limits of disturbance. The exclusion fencing should be maintained until the completion of construction activities.	
Impact 3.3d: The proposed project would result in temporary impacts on the movement of terrestrial and avian wildlife through the project site during construction; however, impacts	**MM 3.3-5: Avoid Disruption of Active Bird Nests during Construction** Schedule construction activities (i.e., earthwork, clearing, and grubbing) outside of the general bird nesting season for migratory birds, if feasible.	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
from activities such as construction and fuel modification would be temporary. Bouquet Creek does provide a migratory fish corridor given existing barriers to wildlife movement upstream and downstream of the project site and the ephemeral nature of the creek. Because the majority of the stream would be recontoured to pre-project conditions following construction and because the project site would not permanently disrupt wildlife movement in the area, impacts on wildlife movement would be less than significant without mitigation. However, the project may disturb or destroy active migratory bird nests and young protected by the Migratory Bird Treaty Act. Therefore, avoidance and minimization measures, as outlined in mitigation measure MM 3.3-5, would be required to reduce impacts on migratory birds to less than significant.	This season is February 15 through August 31 for songbirds and January 15 through August 31 for raptors. If construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory birds and raptors, a qualified biologist shall perform a preconstruction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the Migratory Bird Treaty Act and California Fish and Game Code. The preconstruction survey shall be performed no more than seven days prior to the commencement of construction activities. The results of the preconstruction survey shall be documented by the qualified biologist. If construction is inactive for more than seven days, an additional survey shall be conducted. If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no construction within 300 feet (500 feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, or as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations in order to minimize disturbance to nesting birds.	
Impact 3.3e: The project site contains 64 oak trees that are protected by the City of Santa Clarita's Oak Tree Preservation Ordinance, which protects all oak trees of the genus Quercus regardless of size from removal, pruning, cutting, or encroachment. The proposed project would remove 26 oak trees, subject 1 oak tree to major encroachment and 2 oak trees to minor encroachment and preserve the remaining 35 oak trees. In order to receive an oak tree permit for the removal or major encroachment of 27 protected oak trees, the City would require approximately 91 replacement oak trees to be planted in the	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
landscaped areas of the project site (which must consist of the coast live oak, valley oak, canyon live oak, or interior live oak species) to offset the loss of oak trees. If planting on-site is not possible, the applicant may donate the replacement oak trees to the City or provide the equivalent monetary value of the replacement trees to the City. Compliance with the City of Santa Clarita's Oak Tree Preservation Ordinance, including the Standards for Performance of Permitted Work of the Oak Tree Preservation Guidelines, would ensure that the project would not conflict with any local policies or ordinances protecting biological resources and impacts would be less than significant.		
CULTURAL RESOURCES		
Impact 3.4a: The project would have no impact on a historical resource, as defined by Section 15064.5 of the CEQA Guidelines.	None Required	Not Applicable
Impact 3.4b: Although no archaeological resources were identified within the project site during the cultural resources investigations, there have been a number of findings of such resources in the project vicinity, indicating a high potential to discover presently unknown resources during project excavation work. Mitigation measures are proposed to avoid accidental destruction of potentially significant archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines.	**MM 3.4-1: Archaeological and Native American Monitoring Program** The applicant shall retain a Secretary of the Interior Professional Qualified archaeologist and/or Registered Professional Archaeologist to develop a monitoring program for the project site in areas of young alluvium and colluvium (see Appendix D: Figure 10, Areas of Young Alluvium or Colluvium Deposits). This program shall also address potential discovery of the Ruiz cemetery on the main ridgeline. The monitoring program shall include the archaeological context, rationale for monitoring, Native American participation, monitoring procedures, and what to do with resource/remains discoveries. The monitoring program shall require an archaeologist and Native American monitor from the Fernandeño Tataviam Band of Mission Indians to hold a preconstruction meeting with the grading contractor and both are to be present during initial ground-disturbing activities within the areas of young alluvium and colluvium. Both archaeological and Native American monitors shall have the authority to temporarily halt or redirect grading and other ground-disturbing activities in the event cultural resources are encountered. If potentially significant cultural material is	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	encountered, the monitors shall make recommendations regarding the treatment of the discovery. Impacts to significant archaeological deposits should be avoided if feasible, but if such impacts cannot be avoided, the deposits should be evaluated for eligibility to the California Register of Historical Resources (CRHR). If the deposit is not CRHR-eligible, no further protection of the find is necessary. If the deposits are CRHR-eligible, impacts shall be avoided or mitigated. Acceptable mitigation may consist of but is not necessarily limited to systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility. **MM 3.4-2: Chari/Suraco Cemetery Identification and Avoidance** Prior to the issuance of a grading permit associated with Planning Area 1, the project developer shall provide the City with evidence of the exact location of the early twentieth century-period Chari/Suraco cemetery, using noninvasive techniques, and shall delineate those areas in the field to provide visual markers to ensure that grading crews avoid that burial site. The Chari/Suraco cemetery shall be included in the permanent open space area to be preserved in the land immediately east of Planning Area 1.	
Impact 3.4c: To avoid destruction of human remains associated with two known historic-period cemeteries found on-site, avoidance measures and construction monitoring will be required, and impacts would be less than significant.	**See MM 3.4-1 and 3.4-2 above**	Less than Significant
ENERGY CONSUMPTION		
Impact 3.5a: The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources and a less than significant impact would occur.	None Required	Not Applicable
Impact 3.5b: The project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency and a less than significant impact would occur.	None Required	Not Applicable
GEOLOGY AND SOILS		

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.6a.i: No State-mapped earthquake faults occur within the project site. An indication of a fault rupture was identified during site geotechnical investigations. The project would not induce any movement or further rupture of this feature; however, further analysis is required to determine if it is active and warrants development restrictions. With mitigation, potential impacts to habitable structures would be avoided.	**MM 3.6-1: Further Testing and Evaluation of the Fault Feature** Prior to the approval of a precise development plan, additional materials testing, and evaluation of the fault feature discovered in Boring FA-10 shall be conducted. If this is determined to be inactive, no further measures would be required. If it is determined to be active, an appropriate Restricted Use Area shall be defined, and restrictions on construction in that area shall also be defined, which shall be noted on the tentative and final subdivision maps.	Less than Significant
Impact 3.6a.ii: The project would not cause potential substantial adverse effects involving strong seismic ground shaking. Compliance with the seismic design criteria required by the Santa Clarita Municipal Code would reduce potential seismically induced ground shaking impacts to less than significant.	None Required	Not Applicable
Impact 3.6a.iii: The project would remove and replace unstable materials that could result in substantial adverse effects involving seismic-related ground failure, including liquefaction. Compliance with the provisions of the Santa Clarita Municipal Code and the recommendations in the project geotechnical report would sufficiently mitigate on-site liquefaction hazards.	None Required	Not Applicable
Impact 3.6a.iv: The project's grading plan would remediate existing landslide conditions, and compliance with the provisions of the Santa Clarita Building Code would ensure that the earthwork and slope stability measures are sufficient to reduce potential landslide hazards to less than significant.	None Required	Not Applicable
Impact 3.6b: Site clearance and grading activities would expose soils to potential erosion due to rainstorms or winds. Compliance with existing regulatory standards would provide sufficient measures to prevent significant erosion impacts. The developed site would reduce erosion potential and provide effective erosion controls over the long term, such that there would not be significant erosion impacts.	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.6c: The project is located on land with a geologic unit or soil that is unstable and could potentially result in on-site landslide, subsidence, or liquefaction. Compliance with the provisions of the Santa Clarita Building Code and the mitigation measures identified in the project geotechnical report would sufficiently alleviate the unstable soil conditions. Impacts would be less than significant.	None Required	Not Applicable
Impact 3.6d: The project would be located on expansive soil, which could create structural damage to proposed structures located in those areas. Compliance with the provisions of the Santa Clarita Building Code and the recommendations in the project geotechnical report would mitigate potential impacts to a level of less than significant.	None Required	Not Applicable
Impact 3.6e: The project would not involve the use of septic tanks or alternative waste water disposal systems as all wastewater would be discharged to a sanitary sewer system. There would be no impact.	None Required	Not Applicable
Impact 3.6f: Excavation would disturb two geologic formations where important fossil resources have been discovered in the Santa Clarita Valley. Field monitoring by a qualified paleontologist would ensure that significant paleontological resources are not destroyed by excavation work. The project would partially alter a City-designated Significant Ridgeline in the western part of the site; however, this would be a less than significant impact.	**MM 3.6-2:** The developer shall retain a qualified paleontologist meeting the Society of Vertebrate Paleontology Standards to develop a monitoring program for the project site in areas where Castaic and Saugus Formation sedimentary layers are exposed or are likely to be exposed during project construction. The qualified paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources and shall be authorized to stop work where potential paleontological resources are discovered to provide an opportunity to examine, recover, and characterize such materials. Additionally, the qualified paleontologist shall conduct construction worker paleontological resources sensitivity training at the project kickoff meeting, prior to ground-disturbing activities. Any significant paleontological resources collected during project-related excavations shall be curated into an accredited repository. The qualified	Less Than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	paleontologist shall prepare a final monitoring and mitigation report for submittal to the City that documents the results of the monitoring effort and any discoveries.	
GREENHOUSE GAS EMISSIONS		
Impact 3.7a: The project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment and impacts would be less than significant.	None Required	Not Applicable
Impact 3.7b: The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and impacts would be less than significant.	None Required	Not Applicable
HAZARDS AND HAZARDOUS MATERIALS		
Impact 3.8a: The proposed grading and development plan would maintain sufficient ground cover above an existing abandoned/plugged oil well located along the proposed Bouquet Canyon Road alignment, and sufficient space for access by a well rig and related equipment, in the event that a future leak triggers a need to re-abandon the well to current DOGGR standards. Testing of the well site during project construction will ensure that any leaks are identified at that time and any significant amounts of hydrocarbon substances that may be found are properly disposed of. With this mitigation, the project would not create a significant hazard involving the release of hazardous materials into the environment.	**MM 3.8-1:** Prior to the issuance of a grading permit, the project applicant shall test the oil/gas well located on APN 2812-008-022 for leakage. The soils around the oil/gas well shall also be tested for significant amounts of hydrocarbons. The results of the soils testing shall be submitted to the City of Santa Clarita Planning Division for review. Any soils containing significant amounts of hydrocarbons shall be disposed of in accordance with local, state, and federal laws.	Less than Significant
Impact 3.8b: The project will be designed to comply with the Los Angeles County Fire Code standards for development in a Very High Fire Hazard Severity Zone and will implement construction phase mitigation measures to reduce the potential for accidental fires from various construction ignition sources and ensure adequate emergency access. The City's existing emergency response and evacuation procedures are sufficient to manage	Please refer to Mitigation Measures 3.15-1 thru 3.15-3, listed with Impact 3.15c.	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
emergency evacuation circumstances that could occur due to wildland fires in the project area. With these design and mitigation measures, the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires.		
HYDROLOGY AND WATER QUALITY		
Impact 3.9a: Project construction and operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade the quality or surface water or groundwater.	None Required	Not Applicable
Impact 3.9b: The project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	None Required	Not Applicable
Impact 3.9c.i: The project would not substantially alter the existing drainage pattern of the project site or the project vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site.	None Required	Not Applicable
Impact 3.9c.ii: The project would not substantially alter the existing drainage pattern of the project site or the project vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface water runoff, resulting in flooding on- or off-site.	None Required	Not Applicable
Impact 3.9c.iii: The project would not substantially alter the existing drainage pattern of the project site or the project vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute surface water runoff that would exceed the capacity of existing or planned stormwater drainage	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
systems or provide substantial additional sources of polluted runoff.		
Impact 3.9d: The project would not risk release of pollutants due to inundation in a flood hazard, tsunami, or seiche zones.	None Required	Not Applicable
Impact 3.9e: The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None Required	Not Applicable
NOISE		
Impact 3.10a: The project would generate temporary construction noise levels that could result in adverse impacts to the nearest existing homes. This impact would be reduced to less than significant through mitigation measure MM 3.10-1, requiring various construction control measures. The fully developed/occupied project's normal activities would not generate significant increases in local noise levels and mitigation would not be required.	**MM 3.10-1:** To reduce noise impacts due to construction, the project applicant shall demonstrate, to the satisfaction of the City of Santa Clarita Community Development Director, that the project complies with the following: • Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating project construction activities, including haul truck deliveries, shall only occur between the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. on Saturdays, and with no activity allowed on Sundays or federal holidays. The project construction supervisor shall ensure compliance with the note and the City of Santa Clarita shall conduct periodic inspections at its discretion. • During all project construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the nearest noise-sensitive receptors. • The construction contractor shall locate equipment staging in areas that would create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the site during all project construction.	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.10b: Project implementation would not result in significant vibration impacts to nearby sensitive receptors.	None Required	Not Applicable
PUBLIC SERVICES		
Impact 3.11.1a: The proposed community of 375new homes would expand the amount of suburban residential land uses requiring fire department services in the project area. Compliance with existing Fire Code standards pertaining to building design, internal circulation, fire flows, and emergency access would be sufficient to maintain desired levels of fire protection services to this area. No new or expanded fire station facilities would be required to address this project's impacts. The proposed new section of Bouquet Canyon Road would not be detrimental and may be beneficial from the standpoint of emergency access. Impacts would be less than significant.	None Required	Not Applicable
Impact 3.11.2a: The proposed community of 375 new homes would expand the amount of suburban residential land uses in the Saugus area and affect LASD's ability to maintain adequate service ratios in this area. LASD is currently constructing a new, centrally located Santa Clarita Valley Station to replace the existing station, which would provide sufficient space to accommodate additional sworn personnel and improve SCV Station's level of service. In addition, the proposed new section of Bouquet Canyon Road would be beneficial from the standpoint of emergency access. No new or expanded LASD station facilities would be required to provide public safety and law enforcement services to the project site. Impacts would be less than significant.	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.11.3a: The project would result in the addition of approximately 280 school-aged children that would attend elementary, junior, and high schools that serve the project area. Payment of mandatory development impact fees to each affected school district would sufficiently mitigate the project's impacts involving added student enrollment to a level of less than significant.	None Required	Not Applicable
Impact 3.11.4a: The project would add approximately 1,125 new residents to the City's population that could utilize local public parks and recreation facilities. Payment of parkland dedication in-lieu fees as specified in the Santa Clarita Municipal Code would offset the project's impact on the supply of public parkland	None Required	Not Applicable
TRANSPORTATION/TRAFFIC		
Impact 3.12-a: After mitigation, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	**MM 3.12-1:** David Way and Old Bouquet Canyon East: Remove existing traffic signal. Close David Way between Old Bouquet Canyon Road and Copper Hill Drive (eliminates south leg of the David Way and Copper Hill Drive intersection). Construct new east leg at David Way at Copper Hill Drive intersection and connect to Old Bouquet Canyon Road. At the David Way and Copper Hill Drive intersection, construct median island to restrict the left-turn movement (southbound left) from David Way to Copper Hill Drive and install stop sign at David Way. **MM 3.12-2:** Benz Road and Copper Hill Drive: Construct median island to restrict left-turn movement (northbound left) from Benz Road to Copper Hill Drive. **MM 3.12-3:** New Bouquet Canyon Road and Old Bouquet Canyon East: Installation of a traffic signal	Less Than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	MM 3.12-4: The project proponent shall pay the project's fair share contribution to a collective set of improvements around the Project site would alter and improve traffic flow on Benz Road, Copper Hill Drive, Kathleen Avenue, David Way, and Bouquet Canyon Road. **MM 3.12-5:** Bouquet Canyon Road and Vasquez Canyon Road. The project proponent shall pay the project's fair share (2%) of the cost of these improvements: Add a northbound right-turn de-facto lane and add a dedicated westbound left-turn lane. Installation of traffic signal with northbound and southbound split-phasing. **MM 3.12-6:** New Bouquet Canyon Road and Old Bouquet Canyon Road West. The project proponent shall pay the project's fair share (25%) of the cost of these improvements: Construct median island to restrict left-turn movement (southbound left) from Old Bouquet Canyon Road to eastbound New Bouquet Canyon Road. **MM 3.12-7:** Kathleen Avenue and Copper Hill Drive. The project proponent shall pay the project's fair share (2%) of the cost of these improvements: Installation of a traffic signal and widen Copper Hill Drive from 2 lanes to 4 lanes from Benz to Kathleen. **MM 3.12-8:** Golden Valley Road and Plum Canyon Road. The project proponent shall pay the project's fair share (8%) of the cost of these improvements: Update corridor signal timing coordination, as needed, due to future cumulative traffic volumes. **MM 3.12-9:** Seco Canyon Road and Bouquet Canyon Road. The project proponent shall pay the project's fair share (42%) of the cost of these improvements: Add second southbound left-turn lane, add one eastbound right-turn lane, add third northbound through lane.	

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	MM 3.12-10: Bouquet Canyon Road and Newhall Ranch Road. The project proponent shall pay the project's fair share (8%) of the cost of these improvements: Add third westbound left-turn lane. **MM 3.12-11:** Golden Valley Road and Newhall Ranch Road. The project proponent shall pay the project's fair share (0.5%) of the cost of these improvements: Extend median pocket from 300 feet to 500 feet plus taper. Update corridor signal timing coordination, as needed, due to future cumulative traffic volumes. **MM 3.12-12:** New Bouquet Canyon Road and Old Bouquet Canyon Road East (Copper Hill). The project proponent shall pay the project's fair share (5%) of the cost of these improvements: Add second northbound through lane, add second southbound through lane.	
Impact 3.12-b: The proposed project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b).	None Required	Not Applicable
Impact 3.12-c: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	None Required	Not Applicable
Impact 3.12-d: With secondary access to Bouquet Canyon Road provided for Planning Areas 1, 2 and 3, the proposed project would not result in inadequate emergency access.	**MM 3.12-13:** A secondary access to the proposed segment of Bouquet Canyon Road shall be provided for the homes in Planning Areas 1, 2 and 3 that are accessible only to that new roadway segment. This secondary access shall be identified on the project plans and approved by the County Fire Department and City of Santa Clarita, prior to approval of a Final Tract Map.	Less Than Significant
TRIBAL CULTURAL RESOURCES		

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.13-a: The proposed project site is not currently listed nor eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. Therefore, the project would have no impact on tribal cultural resources associated with a known historic resource.	None Required	Not Applicable
Impact 3.13-b: The proposed project site is located within ancestral tribal territory of the FTBMI. Consultation with that tribal entity determined that they consider this site to be sensitive and the City and the applicant have agreed to implement construction control measures to prevent accidental damage or destruction to tribal cultural resources. With those measures, as specified in mitigation measure MM 3.13-1, potential impacts would be avoided or reduced to less than significant.	**MM 3.13-1:** The applicant shall retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians to observe all clearing, grubbing, and grading operations within areas designated sensitive for tribal cultural resources, including areas with young alluvium and colluvium soil conditions. Monitoring activities. If cultural resources are encountered, the Native American monitor will have the authority to request that ground-disturbing activities cease within 60 feet of discovery to assess and document potential finds in real time. One monitor will be required on-site for all ground-disturbing activities in areas designated through additional consultation. However, if ground-disturbing activities occur in more than one of the designated monitoring areas at the same time, then the parties can mutually agree to an additional monitor, to ensure that simultaneously occurring ground-disturbing activities receive thorough levels of monitoring coverage. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County coroner shall be contacted pursuant to California Health and Safety Code Section 7050.5 and that code shall be enforced for the duration of the project. Inadvertent discoveries of human remains and/or funerary objects and the subsequent disposition of those discoveries shall be decided by the most likely descendant as determined by the Native American Heritage Commission, should those findings be determined as Native American in origin.	Less than Significant
UTILITIES AND SERVICE SYSTEMS		

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.14.1a: The proposed project would require water service provided by SCV Water's Santa Clarita Water Division (SCWD). The development of 375 new residential units and private and common landscape areas on the project site would generate a water demand of approximately 338.85 acre-feet per year. This would require construction of new on- and off-site water infrastructure to connect to the existing local water distribution lines maintained and operated by SCWD. Impacts would be less than significant.	None Required	Not Applicable
Impact 3.14.1b: SCV Water would have sufficient water supplies to meet the project's water demand of 338.85 acre-feet per year to supply water service to the 375 new homes and the irrigated landscape areas proposed by the project, during normal, dry, and multiple dry years. Impacts would be less than significant.	None Required	Not Applicable
3.14.2a: Wastewater flows from the project site would be discharged to the Los Angeles County Sanitation District's Bouquet Canyon Relief Trunk Sewer, then conveyed to the Saugus and Valencia WRPs for treatment. The trunk sewer and the Saugus and Valencia WRPs would have sufficient capacity to convey and treat the flows generated by the fully developed project. Therefore, the project would not require the construction of new or expanded wastewater collection or treatment facilities and impacts would be less than significant.	None Required	Not Applicable
Impact 3.14.2-b: The project would need to annex into the SDLAC to discharge wastewater into their sanitary sewer system for conveyance and treatment. Wastewater flows from the project site, estimated at 0.082 mgd, would be conveyed to the SCVJSS for treatment. The Saugus and Valencia WRPs have sufficient capacity to treat the flows generated by the fully developed project and existing wastewater infrastructure within Bouquet Canyon Road has the capacity to convey project-generated	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
wastewater to the SCVJSS. As such, impacts would be less than significant.		
Impact 3.14.3a: The stormwater drainage facilities developed on-site would be designed to contain stormwater from a 100-year storm. Infiltration and biofiltration basins are designed to hold a greater capacity than the water quality volume required by the County of Los Angeles. As such, the project would not require new or expanded stormwater drainage facilities outside of the project limits; therefore, the project would have a less than significant impact on existing municipal storm drain facilities. No unique impacts would result from the proposed on-site drainage improvements beyond the impacts evaluated for the overall project footprint.	None Required	Not Applicable
Impact 3.14.4a: The project area is already served by electricity, natural gas, and telecommunication service providers. As such, the proposed project would require connections to existing infrastructure, such as electricity lines and natural gas mains in surrounding roadways. As no other modifications to existing off-site infrastructure facilities are anticipated as a result of adequate electric and natural gas capacity and existing telecommunication services, the project would not require construction or expansion of such utility facilities, resulting in less than significant impacts requiring no mitigation.	None Required	Not Applicable
WILDFIRE		
Impact 3.15a: The project would not conflict with an emergency response plan and would not have a significant effect on emergency evacuation efforts in the event of a major wildfire event.	None Required	Not Applicable
Impact 3.15b: The project would not exacerbate wildfire risks, and therefore would not create conditions that would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	None Required	Not Applicable

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 3.15c: Project design would include fuel modification zones required by the County Fire Department, underground utilities including a pressurized water system, and an internal circulation network that would reduce fire risks. These standard design features in wildland fire hazard areas would not result in temporary or ongoing adverse impacts to the environment. Construction activities could accidentally ignite fires; however, with the control measures specified in the mitigation measures herein, impacts would be less than significant.	**MM 3.15-1: Construction Fire Prevention Plan:** The Project Applicant shall develop a Construction Fire Prevention Plan that addresses training of construction personnel and provides details of fire-suppression procedures and equipment to be used during construction. Information contained in the plan shall be included as part of project-related environmental awareness training. At minimum, the plan shall include the following: • Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, use of spark arrestors, and hot work restrictions; • Work restrictions during periods of high winds, Red Flag Warnings and High to Extreme Fire Danger days; • Fire coordinator role and responsibility; • Worker training for fire prevention, initial attack firefighting, and fire reporting; • Emergency communication, response, and reporting procedures; • Coordination with local fire agencies to facilitate agency access through the project site; • Emergency contact information **MM 3.15-2: Fuel Modifications, Landscaping, and Irrigation:** The Construction Contractor shall ensure the implementation of all construction-phase flammable vegetation removal, fuel modification landscape materials, and irrigation systems required by the Los Angeles County Fire Department, prior to combustible building materials being delivered to the site. **MM 3.15-3: Emergency Vehicle Access Plan During Construction:** To avoid impeding emergency vehicle and evacuation traffic around construction vehicles and equipment, the Project Applicant, in consultation with the City, shall develop an Emergency Vehicle Access Plan that includes the following:	Less than Significant

Topic/Impacts	Mitigation Measures	Level of Significance After Mitigation
	• Evidence of advanced coordination with emergency service providers, including but not necessarily limited to police departments, fire departments, ambulance services, and paramedic services; • Emergency service providers will be notified of the proposed project locations, nature, timing, and duration of any construction activities, and will be asked for advice about any road access restrictions that could impact their response effectiveness; and • Project construction schedules and routes designed to avoid restricting movement of emergency vehicles to the best extent possible. Provisions to be ready at all times to accommodate emergency vehicles. Provisions could include the use of platings over excavations, short detours, and/or alternate routes.	
Impact 3.15d: The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	None Required	Not Applicable

ALTERNATIVES

Section 15126.6 of the CEQA Guidelines requires an evaluation of reasonable range of alternatives to the proposed project or to the location of the project, to provide an opportunity to consider other scenarios that could reduce or avoid one or more of the project's significant or potentially significant impacts. Alternatives involving a higher intensity of development are not under consideration, as that would increase the level of impacts. A reduction in the number of housing units is not under consideration, as this is prohibited under Section 15092(c) of the CEQA Guidelines, if there are other, feasible ways to mitigate the project's significant impacts and such measures have been identified in this EIR. An alternative location or an alternative type of land use is not under consideration, as the project is consistent with the City's land use policies for this site and the project applicant does not control other suitable sites in this area.

Three alternatives are examined in Chapter 5 of this Draft EIR:

1) A No-Project Alternative, to compare the impacts of approving the proposed project against the impacts of not approving the proposed project. Pursuant to Section 15126.6(e)(1) of the CEQA Guidelines, this alternative is defined as no change in the existing conditions.
2) A Reduced Grading Alternative that would reduce the aesthetic and air quality impacts associated with the project. This alternative would limit the grading of the prominent ridgeline and hillside flanks on the western edge of the site to only what is required for the proposed Bouquet Canyon Road roadway realignment. It would relocate a number of homes in that hilly area to other planning areas
3) A Reduced Alterations to Bouquet Creek, Oak Trees, and Sensitive Habitat Alternative, which would preserve more of the open spaces on the project site that support Waters of the United States and streambed resources, oak trees, and sensitive plants and wildlife.

The No-Project Alternative is considered to be the Environmentally Superior Alternative as it would have the least impact and would not result in any short- or long-term impacts that would occur as a result of the proposed project or the other alternatives. However, Section 15126.6(e)(2) of the CEQA Guidelines requires that, when the No-Project Alternative is the Environmentally Superior Alternative, the EIR must also identify a different "build" alternative that would have a lesser level of impact than the project. The Reduced Alterations to Bouquet Creek, Oak Trees, and Sensitive Habitat Alternative would be environmentally superior as it would have a lesser level of impact than the project for five types of impacts, whereas the Reduced Grading Alternative would have a lesser level of impact than the project for three types of impacts. The Reduced Alterations to Bouquet Creek, Oak Trees, and Sensitive Habitat Alternative would have a lesser impact than the project for aesthetics, biological resources, cultural resources, geology/soils, and hydrology/water quality.

AREAS OF CONTROVERSY OR KNOWN CONCERN

Comments Made at Public Scoping Meeting Held on January 9, 2019

- Traffic—congestion and traffic controls, effects on local access and circulation, sight distance at intersections, speeds, consequences on local circulation of the planned extension of Copper Hill Drive occurs? Would that extension be triggered by this project?
- Noise
- Dust during grading and potential adverse health effects
- Air Quality
- FEMA regulations, NPDES Requirements and Drainage Controls
- Keep the process transparent

Written Comments Received During Notice of Preparation Response Period

California Department of Fish and Wildlife (CDFW)

- CDFW is concerned that the Project proposed to channelize Bouquet Creek and create a small low flow channel as a landscape feature.
- CDFW is concerned that the project is impacting Bouquet Creek, which is occupied by unarmored threespine stickleback. According to CNDDB, there are numerous historical records of unarmored threespine stickleback, a state fully protected species, in Bouquet Creek. Except as provided in the Fish and Game Code (e.g., for necessary scientific research), take of any fully protected species is prohibited and cannot be authorized by CDFW (Fish and Game Code Sections 5515 and 3511). "Take" is defined in Section 86 of Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."
- The project location is within the floodplain and active channel of Bouquet Creek. CDFW is concerned the project may affect sensitive species that occur within Bouquet Creek at this location and immediately above and below the project.
- A review of CNDDB indicates multiple occurrences of burrowing owl within two miles north of the project site. The project site has the potential to support burrowing owls.
- CDFW is concerned that the proposed avoided open space area would be surrounded on all sides by development. The proposed open space location appears to be 400 feet wide or less.

California Department of Transportation (Caltrans)

- Caltrans is interested in the effects of the project on performance on Interstate 5 and State Route 14.
- Caltrans encourages the use of Vehicle Miles Traveled (VMT) to be used in the EIR.

Federal Emergency Management Agency (FEMA) Floodplain Management and Insurance Branch

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the Flood Insurance Rate Maps), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any development must not increase base flood elevation levels. The term development means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials. A hydrologic and hydraulic analysis must be performed prior to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.
- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision.

County of Los Angeles Fire Department

- The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, fire hydrants, brush clearance, and fuel modification plans.
- Potential impacts to erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones, archaeological and cultural resources, and the County Oak Tree Ordinance should be addressed.

Native American Heritage Commission (NAHC)

- NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project site.
- Perform an archaeological records search through the regional California Historical Research Information System.
- If an archaeological inventory survey is required, a professional report detailing findings and recommendations should be prepared.
- A Sacred Lands File search should be conducted through NAHC.
- Lack of surface evidence of archaeological resources does not preclude their subsurface existence.

Santa Monica Mountains Conservancy (Conservancy)

- The Conservancy is concerned with the project's effects on biological and aesthetic impacts.
- The project would not provide any ecologically substantial open space area or open space area that remains connected to an un-channelized section of Bouquet Creek.
- The DEIR needs to ascertain whether the project would have significant adverse impacts on the unarmored threespine stickleback, a fully protected species.
    - The DEIR needs to show that there is no adverse impact to unarmored threespine stickleback and/or its habitat, and any/all mitigation actions cannot result in take of the unarmored threespine stickleback.
- Stream channelization is documented as a threat to unarmored threespine stickleback, so the protection and restoration for the establishment of pools, shallow backwater areas, and aquatic vegetation in Bouquet Canyon Creek is important for preservation of the unarmored threespine stickleback population.
- The DEIR must include alternatives that:
    - Do not chop off the top of the prominent ridgeline for a linear park with a full-length ridgeline road;
    - Do not channelize any of the onsite length of Bouquet Creek except the minimum to allow the new bridge over the creek; and
    - Provide 10 acres of ungraded, permanently protected habitat that abuts a future un-channelized section of Bouquet Creek to provide habitat connectivity to National Forest lands.
- If the need for fill to construct a realignment of Bouquet Canyon Road is what is driving the project design, then the DEIR must state that fact.

- To compensate for the need to mine the prominent ridgeline for fill, the project should aggressively mitigate the adverse aesthetic impact by including many acres of ungraded onsite contiguous open space in public view corridors along either existing Bouquet Canyon Road or the proposed realignment of the road.
    - If this is not done, then the project must be conditioned to purchase at least ten contiguous acres of natural habitat along a nearby section of Bouquet Canyon Road, or 100 natural acres in the watershed, prior to map recordation.
    - If offsite habitat is purchased for the above, it must have a recorded conservation easement or be dedicated in fee simple to a public agency. It must also provide the land interest holder with an upfront long-term monitoring payment of $50,000 to generate annual visitation funding.
- The DEIR must address potential growth-inducing impacts of the new road alignment providing access and utilities to the abutting large open space parcels to the southeast.
- The DEIR must also address the potential adverse ecological impacts of street lighting and vehicle traffic on the private HOA open space area that abuts the road realignment.
- The compensation that the County will receive for the loss of its land (through the use of County correctional facility land) must be established.
- The DEIR must analyze whether the proposed new road alignment and large slope easements through the Plum LLC lots to the southeast will eliminate habitat that was mitigation for the adjoining existing housing development.
- The DEIR must address the biological isolation of the site.
- The DEIR must analyze what new barrier will be constructed between the correctional facility and the new road alignment and the adverse impacts that additional traffic and closer proximity of traffic will have on the youth in the correctional facility.
- The DEIR should contain all necessary infrastructure and long-term funding to address TMDL issues.

Santa Clarita Valley Water Agency (SCVWA)

- An estimation of the anticipated demand from the project should be determined with assistance from the SCVWA
- The evaluation of impacts should address any needed new facilities either onsite or offsite to serve the proposed project.
- Mitigation measures should be required in the DEIR and Mitigation Monitoring Reporting Program (MMRP) for the payment of all water supply related fees prior to the issuance of building permits.

- The entitlements should include water conservation measures in the MMRP and as conditions of project approval.

ISSUES TO BE RESOLVED

No unresolved issues have been identified at this time. The Project Applicant has agreed to implement all proposed mitigation measures and the results of the analyses presented in this EIR have indicated that the project would not result in any significant, unavoidable impacts.

1. INTRODUCTION

1.0 INTRODUCTION

1.1. PURPOSE AND LEGAL AUTHORITY

This Environmental Impact Report (EIR) evaluates the environmental consequences that could result from implementation of the Bouquet Canyon Project (project). The project consists of a new residential community of 375 for-sale housing units with related infrastructure, dedicated open space areas, public trails, public parks, private recreation, and landscape elements on approximately 73.7 acres of undeveloped land.

A major project component includes the closure of a portion of Bouquet Canyon Road, between Pam Court and Hob Avenue, and the construction of a new alignment of Bouquet Canyon Road that would provide a more direct alignment to existing segments north and south of the project site, consistent with the Santa Clarita General Plan Circulation Element. In addition, the project includes the channelization of a portion of the flood zone in the northeastern portion of the site while retaining the natural stream course for low flows. A complete project description is contained within Section 2.0, Project Description, of this EIR.

This EIR has been prepared to meet all the substantive and procedural requirements of the California Environmental Quality Act (CEQA; California Public Resources Code Section 21000 et seq.) as amended; the CEQA Guidelines (California Code of Regulations Title 14, Section 15000 et seq.); and the City of Santa Clarita's rules, regulations, and procedures for the implementation of CEQA. The City of Santa Clarita is the lead agency for this project, with primary responsibility for conducting the environmental review process and approving or denying the project.

In enacting CEQA, the California State legislature declared its intent regarding the purposes of an EIR in Section 21002.1 of the CEQA Statute, as follows:

1) Serve as an informational document that will inform the City's decision-makers and the public generally of the significant environmental impacts of the project.

2) Identify possible ways to minimize the significant effects and consider reasonable alternatives that could avoid or reduce one or more of the significant environmental effects that may be identified with respect to the project.

3) Obligate the City to impose measures identified in the EIR to avoid or mitigate potentially significant effects, whenever it is feasible to do so.

4) Grant the City the right to approve a project, despite identification of potential significant effects on the environment that cannot be mitigated due to economic, social, or other conditions.

5) Provide meaningful public disclosure, in a timely and cost-effective manner, of the potential environmental effects that the City considers to be significant.

CEQA Guidelines Section 15382 defines a significant effect to the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the

environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

The City is required to consider the information in the EIR, along with any other relevant information, in making its decision on the project. The EIR is circulated to responsible agencies and trustee agencies with resources affected by the project, state agencies with jurisdiction by law, federal agencies, neighboring jurisdictions, and interested parties and individuals. The purpose of public and agency review of the EIR includes sharing expertise, disclosing agency analysis, checking for accuracy, detecting omissions, discovering public concerns, and soliciting comments. In reviewing the EIR, reviewers should focus on the sufficiency of the document in identifying and analyzing potentially significant effects on the environment and avoiding or mitigating the significant effects of the project.

1.2. SCOPE AND CONTENT OF THE EIR

To initiate the public scoping for this EIR, the City prepared an Initial Study and a Notice of Preparation (NOP) in compliance with CEQA Guidelines Section 15082, which was released for public review on December 4, 2018. The NOP was mailed to 15 entities, consisting of the State Clearinghouse, responsible, agencies, and other relevant local, state, and federal agencies, and interested individuals and organizations. The NOP was also posted at the Los Angeles County Clerk's office for public viewing, for a 30-day period beginning December 3, 2018. A 45-day comment period on the NOP closed on January 18, 2019. A public scoping meeting was held at Santa Clarita City Hall on January 9, 2019, to solicit input from interested agencies, organizations, and individuals. A copy of the Initial Study and NOP and comments received on the NOP are included in **Appendix A** of this EIR. City staff determined the scope of analysis of this EIR based on the findings of the Initial Study and public and agency comments on the NOP. Potentially significant impacts were identified in regard to the following topics, which are examined in this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy Consumption
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The EIR also contains other discussions as required by CEQA, including an analysis of cumulative impacts, effects found not to be significant, significant and unavoidable environmental effects, growth-inducing effects, significant irreversible environmental effects, and alternatives to the project.

1.3. EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on the EIR scoping process described in the preceding section, the City determined that the proposed project would not result in significant impacts regarding the following topics addressed by CEQA, and thus, do not warrant further analysis in the EIR:

- Agriculture and Forestry Resources
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Recreation

1.4. LEAD, RESPONSIBLE AND TRUSTEE AGENCIES

The City of Santa Clarita is the lead agency for this EIR because it holds the primary responsibility for approving the project and certifying the EIR. A responsible agency is a public agency other than the lead agency that has discretionary approval over a project. A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of California. Refer to the following Subsection 1.1.5, Intended Uses of this EIR, for a list of lead agency approval actions required for this project, along with other approvals required from responsible agencies. It has been determined that there are no trustee agencies for this project.

1.5. INTENDED USES OF THE EIR

This document has been prepared as a project EIR, to provide information that will inform the City's considerations on whether to approve, approve with revisions, or deny any or all of the following discretionary land use approval actions:

- Tentative Tract Map No. 82126—to subdivide the subject property into 19 lots for residential land uses, streets, private drives, drainage infrastructure, slopes, and various open space lots.
- Conditional Use Permit 18-004—for private gating of multi-family units, any building heights greater than 35 feet, and cluster development.
- Architectural Design Review 18-010—for the proposed building design, styles, and forms.
- Development Review 18-009—for the proposed physical design and layout of the project.
- Hillside Development Review (Class 4) 18-001—to develop land with average cross slopes of 10 percent or more.
- Ridgeline Alteration Permit 18-001—for development near a designated significant ridgeline in the ridgeline preservation overlay zone.
- Oak Tree Permit (Class 4) 19-003—required for any encroachments or removals of protected oak trees.

- Landscape Plan Review 19-017 – for proposed landscape plan.

Additionally, the EIR will support the following actions to be taken by the responsible agencies noted below:

- California Department of Fish and Wildlife, Lakebed and Stream Alteration Permit;
- Federal Emergency Management Agency, Conditional Letter of Map Revision and Letter of Map Revision;
- Los Angeles Regional Water Quality Control Board, National Pollution Discharge Elimination System (NPDES) General Construction Permit, Clean Water Act Section 401 Certification; and
- U.S. Army Corps of Engineers, Clean Water Act Section 404 Permit.

1.6. ENVIRONMENTAL REVIEW PROCESS

As an initial step in complying with the procedural requirements of CEQA, the City of Santa Clarita filed an NOP with the California Governor's Office of Planning and Research. This is the official notice that an EIR would be prepared as outlined above in Subsection 1.1.2, Scope and Content of the EIR.

A Notice of Completion (NOC) and a Notice of Availability (NOA) of the Draft EIR were published in the The Signal Newspaper on April 4, 2020 and circulated for public review and comment on April 6, 2020**.** The NOC and copies of the Draft EIR were sent to the State Clearinghouse for review and comment by interested state agencies, and the EIR has been assigned State Clearinghouse Number 2018121009. The Draft EIR will be available for review and comment by the public and public agencies for a 60-day period from **April 6, 2020** to **June 5, 2020.**

Comments on the EIR should be sent to the following:

Hai Nguyen, Associate Planner
City of Santa Clarita
Community Development Department
23920 Valencia Boulevard, Suite 302
Santa Clarita, CA 91355

Email: HNGUYEN@santa-clarita.com
Phone: (661) 255-4365

The Draft EIR will also be available for review on the City's website [https://www.santa-clarita.com/city-hall/departments/communitydevelopment/planning/environmental-impact-reports-under-review].

The City, as the lead agency, will consider written comments received on the Draft EIR in making its decision whether to certify the Final EIR prior to approving or taking action on the project. Written responses to comments raised with respect to environmental issues discussed in the Draft EIR will be prepared and presented in the Final EIR. Furthermore, written responses to comments received from any responsible or trustee agencies will be made available to these agencies at least 10 days prior to the public hearing at which certification of the Final EIR will be considered. These comments, and their responses, will be included in the Final EIR for consideration by the City Council, as well as by any other decision-makers.

2. PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

This section describes the project's environmental setting, identifies various community-based and private real estate-based objectives the proposed plan aims to achieve, describes the land use, design, and infrastructure elements of the development plan, outlines the proposed construction program and time frames, and lists the various discretionary land use approvals required to permit the project to proceed.

2.1 PROJECT TITLE AND SUMMARY

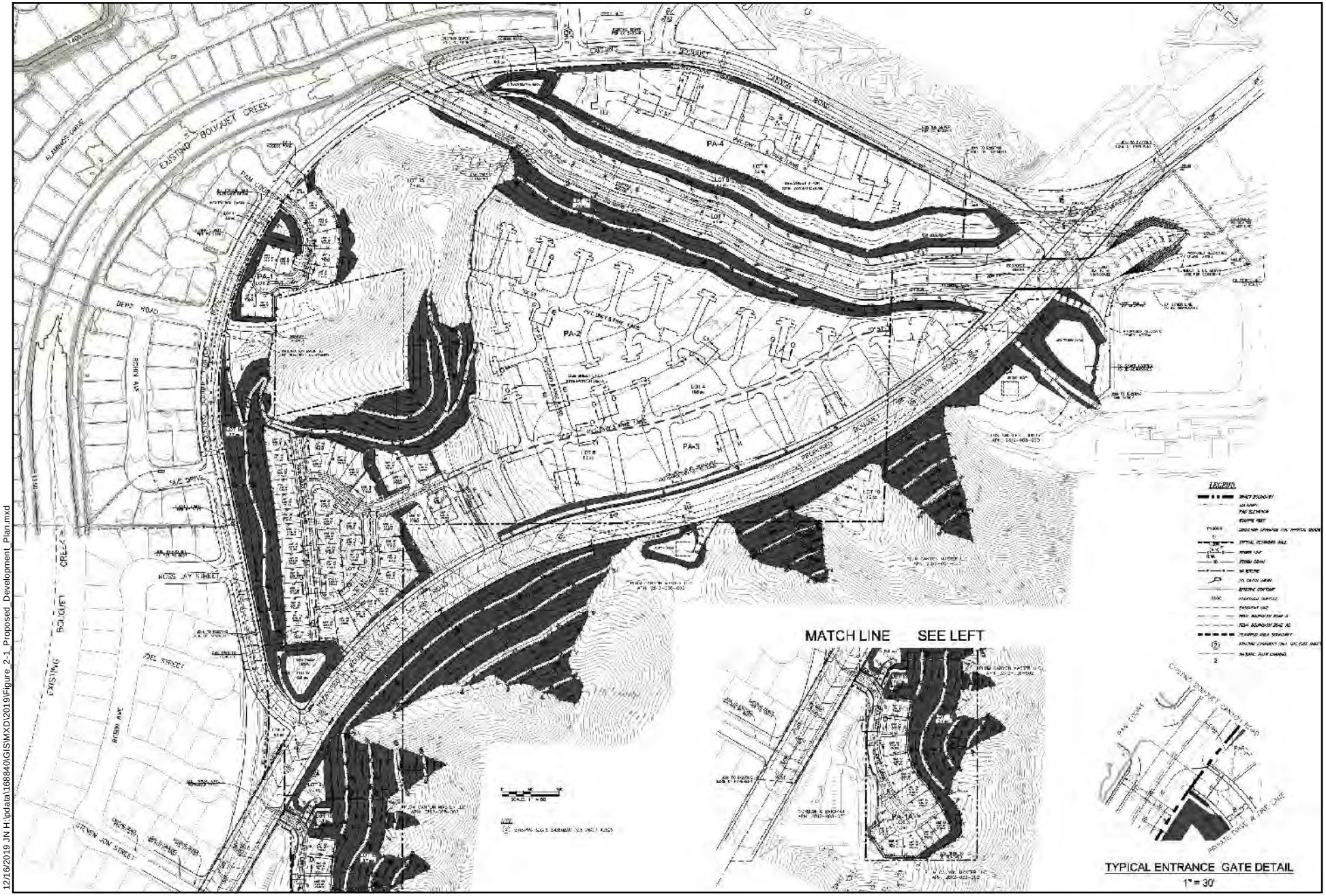
The proposed project is the "Bouquet Canyon Project." Throughout this EIR, it will be simply referred to as the "project."

Located in the Saugus area, along the northern edge of the City of Santa Clarita, the project site consists of undeveloped land, covered by a mixture of natural and altered landscapes, prominent hills in the western side, and a stream course known as Bouquet Creek flowing from east to west in the northern part of the site. Development of 375 for-sale homes is proposed in five distinct neighborhoods, along with extensive site improvements including internal streets and driveways, storm drainage, water, and sewer facilities, electrical and natural gas facilities, private recreation areas, public parkland and trails, and a reconfiguration of Bouquet Creek and its adjacent floodplain to provide flood control within the project and maintain regular stream flows already occurring. This project also includes construction of a new segment of Bouquet Canyon Road, to follow the general alignment identified in the Santa Clarita General Plan Circulation Element. This is intended to facilitate local and regional travel through a more direct route, compared to the existing long curve that forms the northern and western borders of the site. The total development footprint would cover approximately 67.57 acres. **Figure 2-1** illustrates the proposed development plan.

Land clearance, grading, and the construction of all site improvements and homes is tentatively estimated to occur over a period of five years, with homes to be sold in phases in response to market demand. For purposes of the analyses conducted for this EIR, it is presumed that all homes will be sold and occupied, and all elements of the project completed and functional by approximately 2025.

2.2 ENVIRONMENTAL SETTING

The project site is located along the northern city limits, between the San Gabriel Mountains to the southeast and the Angeles National Forest to the north. The Topatopa Mountains are west of the western city limits and the Santa Susana Mountains are southwest of the city limits. Castaic Lake is 7.5 miles to the northwest, and Lake Piru is 14.6 miles to the west. The Santa Clara River is 1.9 miles to the south. Interstate 5 is approximately 5.6 miles to the west and State Highway 14 is 4.5 miles to the southeast. **Figure 2-2** illustrates the project's location in a regional setting. The project site is just south of the junction of Copper Hill Drive and Bouquet Canyon Road and north of the intersection of Bouquet Canyon Road and Plum Canyon Road. **Figure 2-3** illustrates the project location within the Saugus area. Bouquet Canyon Road forms the northern and western site boundaries. Bouquet Canyon Road, Plum Canyon Road, and Copper Hill Drive provide the main travel routes to and from the rest of the city and the outlying freeway network.



12/16/2019 JN H:\data\166840\GIS\MXD\2019\Figure_2-1_Proposed_Development_Plan.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities (07/2019); Urban Arena (07/2019)

Proposed Development Plan

Figure 2-1

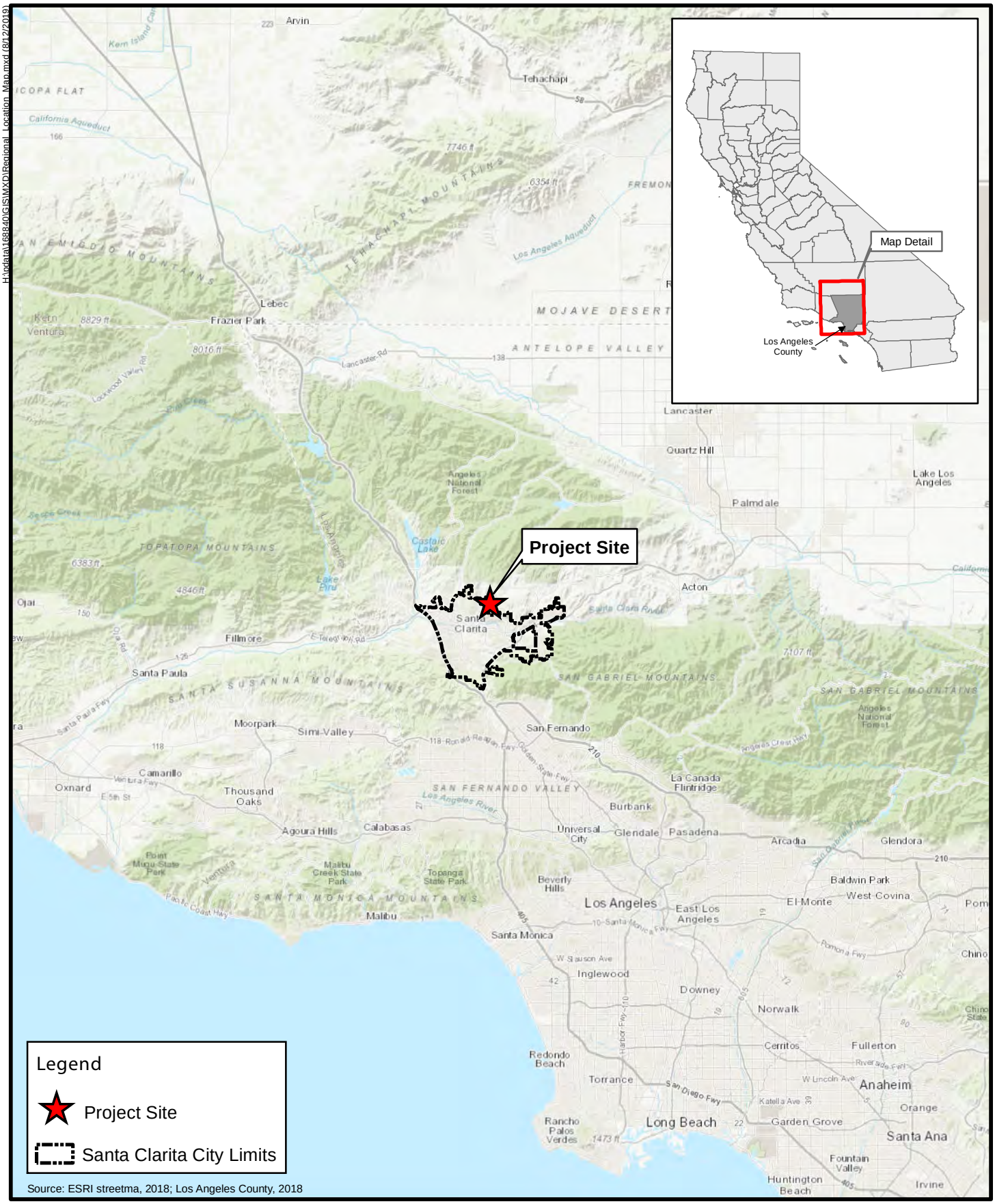
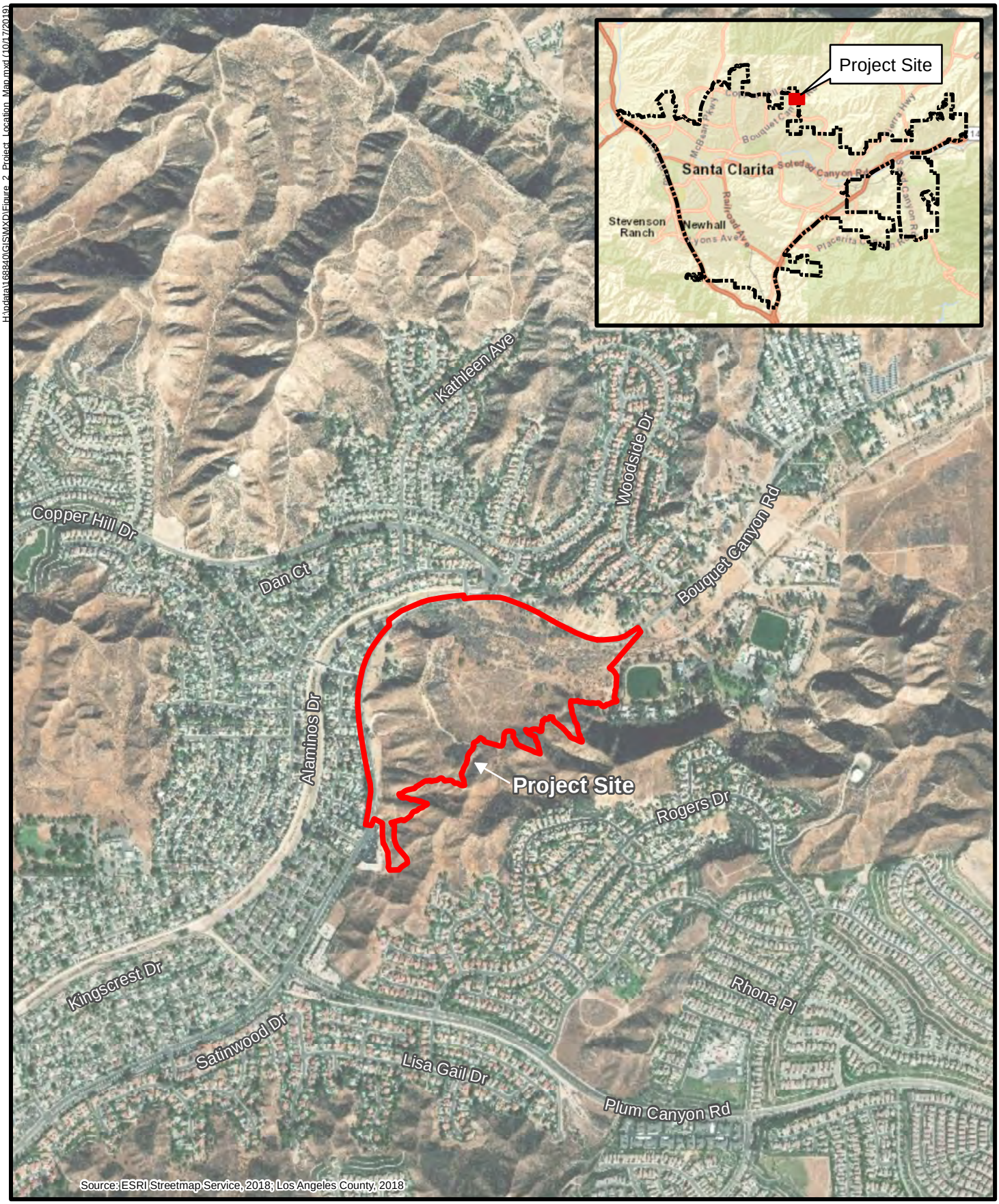


FIGURE 2-2
Regional Location Map

Michael Baker INTERNATIONAL



500 0 500
Feet

FIGURE 2-3
Project Location Map

Michael Baker INTERNATIONAL

900 0 900
Feet

Source: NearMap Imagery July 7, 2018

FIGURE 2-4
Aerial View of Site and Surroundings

Michael Baker INTERNATIONAL

Five Planning Areas comprise the project site. There is an inholding parcel of 2.9 acres, owned by another party, developed with a single-family residence near the western site boundary, opposite Fan Court, that is not part of the project site, as shown on **Figure 2-1**. Except for some attempts at crop farming on the lower/flatter land in the north/central part of the site between the 1920s and the early 1980s, the project site has remained undeveloped and not engaged in any kinds of land use activities.

As shown in **Figure 2-4**, Aerial View of Site and Surroundings, the project site is located in an area where numerous neighborhoods of single-family homes have been developed, to the north, west, and south. Scattered homes and equestrian facilities are found directly north and northeast, in a rural setting, while the Los Angeles County Probation Department Camp Joseph Scott occupies a large site immediately to the east. Undeveloped slopes separate the project site from single-family neighborhoods to the south. There is a triangular-shaped neighborhood commercial center ("Canyon Center") just to the south, along the east side of Bouquet Canyon Road. There is another commercial center farther south, at the corner of Bouquet Canyon Road and Plum Canyon Road.

Steep slopes and a prominent ridgeline define the site topography in the western side, while lower, relatively flat land is found in the eastern side. The ridgeline area is identified as a Significant Ridgeline in the City of Santa Clarita General Plan Conservation Element; the planning policies for such ridgelines are intended to minimize grading and alterations of these visually prominent landforms. Total relief across the site is 165 feet, with a high elevation of 1,530 feet above mean sea level (AMSL) on the ridgeline and a low elevation of 1,365 feet AMSL in a flat area along Bouquet Canyon Road, opposite Benz Road on the west side. Elevations in the eastern interior area and in the creek floodplain range between 1,390 and 1,400 feet AMSL.

The steep hills in the southern and western portions of the site are vegetated with Riversidean upland sage scrub, while the flatter portions are vegetated with nonnative grassland due to historical disturbance from ranching activities. Additional major landscape elements include giant reed, chamise chaparral, and scrub oak chaparral communities. A total of 64 oak trees meeting the City's specifications for a protected tree have been identified on-site. These occur throughout the site, but most are found in clusters in the northwest and southwest corners. Two species of rare plants have been identified on-site through field surveys and the on-site habitats could support other rare plants. There is no federally designated "critical habitat" on site. No federal- or state-listed rare, threatened, or endangered wildlife species have been identified on-site. Habitat occurs that could support four wildlife species of special concern; however, these were not observed during recent biological surveys. Please refer to Section 3.3, Biological Resources, for further details concerning the biological resources occurring or potentially occurring within the project site.

Bouquet Creek is an ephemeral stream that flows east to west through the northern edge of the site, supporting riparian habitat such as mule fat and giant reeds. The entire reach of Bouquet Creek through the site has been mapped as a floodplain by the Federal Emergency Management Agency, with the main drainage course classified as a 100-year flood hazard zone. The headwaters of the Bouquet Canyon drainage feature originate approximately 10 miles to the northeast of the study area in the Sierra Pelona Mountains, and non-storm-related flows through the wash are often controlled via regulated releases from Bouquet Reservoir. The Bouquet Creek streambed enters the study area at the northeastern boundary and exits at the northwestern boundary. The drainage continues under Bouquet Canyon Road at the northwestern corner of the study area boundary, where the drainage has been channelized. The

Bouquet Canyon drainage is a tributary to the Santa Clara River, which ultimately drains into the Pacific Ocean approximately 35 miles to the southwest of the study area. The on-site floodplain of Bouquet Canyon Creek is infested with invasive giant reed. A total of 0.65 acres along the creek has been determined to meet the federal criteria for Waters of the United States, and 9.8 acres are classified as a California Streambed.

Although wildlife likely use Bouquet Canyon Creek for local movement through the area, the segment through the project site would not be considered part of a regional corridor for wildlife since the creek becomes channelized and unvegetated just downstream of the study area. The project site is essentially a "dead end" for wildlife moving through the area since it does not directly connect two or more large blocks of habitat and the northern, southern, and western portions of the study area are confined by existing development. The study area is not within any wildlife corridors or linkages identified by the South Coast Missing Linkages Project (South Coast Wildlands 2008). The nearest wildlife movement corridor to the study area identified by the South Coast Missing Linkages Project is the San Gabriel – Castaic Connection, approximately 4.3 miles to the northeast of the project area.

Land use on the project site is governed by the City of Santa Clarita General Plan and Unified Development Code. In the General Plan Land Use Element, the project site is designated primarily of "Urban Residential 2 (UR2)", "Urban Residential 5 (UR5)", and "Neighborhood Commercial (CN)" zones, in addition to areas within the "Open Space (OS)" and "Public/Institution (PI)" zones; with identical corresponding zone district classifications. The UR2 land use designation is intended for neighborhoods or communities of single-family homes and other residential uses at a maximum density of 5 dwelling units per 1 acre. The UR5 land use designation provides for medium- to high-density apartment and condominium complexes in areas easily accessible to transportation, employment, retail, and other urban services. Allowable uses in this designation include multiple-family ("multifamily") dwellings at a minimum density of 18 dwelling units per 1 acre and a maximum density of 30 dwelling units per 1 acre. The CN land use designation provides for small neighborhood commercial districts that serve the short-term needs of residents in the immediate area. Multifamily dwellings may be permitted in this zone with a Conditional Use Permit (CUP). The areas on the project site that are designated as OS and PI zones would be primarily be used for the construction of a new segment of Bouquet Canyon Road, to follow the general alignment identified in the Santa Clarita General Plan Circulation Element.

The proposed residential land use mix and densities represent a combination of the UR2, UR5, and CN land use standards. The proposed project is thus considered to be consistent with the General Plan land use policies and zoning standards for the project site. As such, consistency with the City's land use policies is not further evaluated in this EIR.

Bouquet Canyon Road is classified as a Secondary Highway in the Santa Clarita General Plan Circulation Element, as it provides a key travel route between the Santa Clarita Valley and the Antelope Valley through the Angeles National Forest. It is planned to expand from two to four lanes between Plum Canyon Road and the Angeles National Forest, including a realignment in the vicinity of Copper Hill Road. The proposed project would construct this planned realignment, through the southern part of the project site.

The planning area is located within the South Coast Air Basin (SCAB), a 6,745-square-mile area encompassing Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the basin is semi-arid, characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity.

Bounded by the Pacific Ocean to the west, and mountains to the north, east, and south, and with abundant sunshine and frequent inversions, the SCAB is naturally conducive to the formation of air pollution. Air quality in the SCAB is regulated by the South Coast Air Quality Management District, through a regional Air Quality Management Plan (AQMP) that is regularly updated to reflect compliance with and progress toward meeting federal and state air quality standards. Please refer to Section 3.2, Air Quality, of this EIR, for a discussion of the project's consistency with the AQMP.

The Santa Clarita Valley is surrounded by the Santa Susana and San Gabriel Mountain ranges on the south, east and west, and the Sierra Pelona Mountains on the north. The valley lies in a transitional microclimatic zone of the basin between the "valley marginal" and "high desert" climate types. Situated far enough from the ocean to escape coastal influences, the valley's climate is generally mild with hot summers and sunny, warm winters. Average annual precipitation is about 13 inches, usually received between November and March, although some mountain areas south of the valley may receive up to 24 inches of precipitation per year.

Predominant wind patterns for the Santa Clarita Valley generally follow those of a mountain/valley regime. During the day, effects of the onshore flow reach inland and are enhanced by a localized up-valley or mountain pass wind. During the night, surface radiation cools the air in the mountains and hills, which flows down-valley, producing a gentle "drainage wind." The predominant wind patterns are broken by occasional winter storms and episodes of Santa Ana winds, which are strong winds that originate in the desert. Usually warm and often carrying dust and sand, the Santa Ana winds occur 5-10 times per year between September and March and are particularly strong in mountain passes and at canyon outlets.

Most wastewater generated in Santa Clarita is collected for treatment by the Santa Clarita Valley Sanitation District (SCVSD), which includes two existing water reclamation plants (WRPs) operated by the Los Angeles County Sanitation Districts (LACSD). These are the Saugus WRP and the Valencia WRP, which are interconnected, forming the Santa Clarita Valley Joint Sewerage System. The joint powers agreement that created the regional system allows the Valencia WRP to accept flows that exceed the capacity of the Saugus WRP. The water is treated to tertiary levels (biological treatment followed by filtration and disinfection) and discharged to the Santa Clara River. There are currently no sewer lines within the project site, and the subject property is not within the service limits of the LACSD.

Water service in the project area and throughout the Santa Clarita Valley is provided by the Santa Clarita Water Agency (SCV Water). This agency was created on January 1, 2018, by an act of the state legislature (Senate Bill [SB] 634) through the merger of the three water agencies in the Santa Clarita Valley; it serves a population of 273,000 via 70,000 retail water connections. The merger included Castaic Lake Water Agency and its Santa Clarita Water Division, Newhall County Water District, and the Valencia Water Company. There are currently no SCV Water transmission or storage facilities, or other types of water infrastructure maintained by SCV Water within the project site.

While there are overhead electrical power lines along Bouquet Canyon Road, there is no energy infrastructure of any type within the project site and there are no municipal drainage facilities on site. All site runoff currently sheet flows following the topographic contours of the land, toward Bouquet Creek and other low spots found on the western side of the site.

2.3 PROJECT OBJECTIVES

The proposed project is intended to both accomplish private development objectives and implement the City's General Plan policies for this area, as follows:

a. Provide a range of housing units in distinct neighborhoods, to expand the opportunities for homeownership in the Saugus area in particular, and Santa Clarita in general.

b. Build high-quality homes that will have strong appeal for home buyers.

c. Deliver new homes in a timely manner to capture a portion of the local housing demand, while economic conditions are favorable.

d. Implement the Santa Clarita General Plan Element land use policies to create a residential community at the project site, at a lower density than authorized by those policies.

e. Build a planned new segment of Bouquet Canyon Road, as identified in the Santa Clarita General Plan Circulation Element, to replace a substandard segment and improve traffic flow along this heavily traveled route.

f. Minimize grading of a significant ridgeline, while providing the necessary amount of grading to construct the new segment of Bouquet Canyon Road in the preferred alignment.

g. Construct site improvements that achieve a desirable community character which will be compatible with and enhance the residential character of surrounding neighborhoods.

h. Alleviate existing flood hazards along the path of Bouquet Creek, to benefit the project site and downstream areas.

2.4 PROJECT CHARACTERISTICS

The proposed project is illustrated in **Figure 2-1**, Proposed Development Plan, and described below.

Residential Community

The primary objective of this project, as noted earlier, is to build a community of approximately 375 for-sale homes, comprising different types of housing units to appeal to a variety of households. The homes would be developed in five distinctive neighborhoods, referred to as Planning Areas on **Figure 2-5**, with homes distributed in the neighborhoods as indicated in **Table 2.0-1**. Several architectural styles are proposed, as follows and as illustrated in **Figures 2-6** through **2-9**.

Planning Area 1 and 1A: Single-Family Detached with Driveways. The homes would be designed as two-story structures, with attached, two-car garages on lot sizes averaging 2,447 square feet. Three plans are proposed with 3–5 bedrooms and 3-5 baths, with approximately 2,307-2,543 square feet of living area.

Planning Area 2: Single-Family Detached/8-Pack Cluster. The homes would be designed as two-story structures, with attached garages on lot sizes averaging 1,635 square feet. Four plans are proposed, with 3–4 bedrooms and 2–3 baths, with approximately 1,498–1,801 square feet of total building area.

Planning Area 3: Attached Backyard Towns. The homes would be designed as two-story structures with attached garages, in groups of three attached homes, arranged around a common driveway. Three plans are proposed, with 3–4 bedrooms and 3 baths, with approximately 1,606–1,679 square feet of total building area.

Planning Area 4: Rowtowns with Carriage Units. The homes would be designed as two-story structures, with 4–7 attached homes in each "row." Each home would have its own attached garage. Four plans are proposed, with 1–3 bedrooms and 2.5 baths and approximately 721–1,521 square feet of total building area.

Table 2.0-1
SUMMARY OF PROPOSED HOUSING UNITS BY PLANNING AREA

Planning Area and Proposed Housing Type	Square Footage Range	# of Housing Units
1 and 1A: Single-Family Detached with Driveways	2,307-2,543	64
2: Single-Family Detached – 8 Pack Cluster	1,498–1,801	136
3: Attached Backyard Towns	1,606–1,679	90
4: Rowtowns with Carriage Units	721-1,521	85
	Total:	**375**

Source: Integral Communities, October 2019

Infrastructure

Streets. This project proposes off-site and on-site street improvements, as follows. A portion of existing Bouquet Canyon Road would be abandoned, between Hob Court and Pam Court, and a new alignment of Bouquet Canyon Road would be constructed from approximately 1,500 feet north of Plum Canyon Road to approximately 700 feet south of Shadow Valley Lane, in accordance with the City of Santa Clarita General Plan Circulation Element objectives for this major travel route. The Circulation Element classifies Bouquet Canyon Road as a Secondary Highway, ultimately with four travel lanes between Plum Canyon Road and Vasquez Canyon Road. The new segment of Bouquet Canyon Road included in this project would be constructed as a four-lane roadway, with bicycle lanes and parkways on both sides.

A private, on-site vehicle circulation network is proposed to provide access to homes within each planning area and access to/from Bouquet Canyon Road. Access from existing and proposed Bouquet Canyon Road would be provided to the various planning areas, as follows:

- A cul-de-sac is proposed directly opposite Pam Court, to provide access to nine homes in the northern part of Planning Area 1.
- A cul-de-sac is proposed immediately north of the northern end of the Canyon Center commercial site, to provide access to 12 homes in Planning Area 1A.
- A two-lane, gated entry street would be located between Planning Areas 1, 2, and 3, along the new segment of Bouquet Canyon Road. This entry street would link to the internal street network serving Planning Areas 1, 2, and 3 and a total of 269 homes.
- A driveway would be located a few hundred feet east of David Way, to provide access to the 85 homes in Planning Area 4.

12/16/2019 JN H:\pdata\166840\GIS\MXD\2019\Figure_2-5_Planning Areas and Types of Homes.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities (10/2019)

Planning Areas and Types of Homes

Figure 2-5

FRONT ELEVATION 'A' SPANISH COLONIAL

FRONT ELEVATION 'B' ITALIANATE

FRONT ELEVATION 'C' SANTA BARBARA

12/18/2019 JN H:\pdata\168840\GIS\MXD\2019\Fig 2.6 - 41x60 Lots Architectural Concepts.mxd

Michael Baker INTERNATIONAL

Source: Woodley Architectural Group, (October 2019)

41X60 Lots Architectural Concepts

Figure 2-6

SPANISH

© 2017 Kevin L. Crook Architect, Inc.
Refer to landscape drawings for wall, tree, and shrub locations

© 2017 Kevin L. Crook Architect, Inc.
Refer to landscape drawings for wall, tree, and shrub locations

© 2017 Kevin L. Crook Architect, Inc.
Refer to landscape drawings for wall, tree, and shrub locations

© 2017 Kevin L. Crook Architect, Inc.
Refer to landscape drawings for wall, tree, and shrub locations

Michael Baker INTERNATIONAL

8-Pack Cluster Architectural Concepts

Source: Woodley Architectural Group, (October 2019) and Kevin L. Crook Architect Inc., (2017)

Figure 2-7

FRONT ELEVATION

RIGHT ELEVATION

REAR ELEVATION

LEFT ELEVATION

12/16/2019 JN H:\pdata\168840\GIS\MXD\2019\Backyard Towns – Architectural Concept.mxd

Michael Baker INTERNATIONAL

Backyard Towns – Architectural Concept

Source: Integral Communities (10/15/2019); Woodley Architectural Group (10/15/19)

Figure 2-8

FRONT ELEVATION

REAR ELEVATION

RIGHT ELEVATION

LEFT ELEVATION

12/18/2019 JN H:\pdata\166840\GIS\MXD\2019\Rowtowns With Carriage Units-Architectural Concept.mxd

Michael Baker INTERNATIONAL

Rowtowns With Carriage Units-Architectural Concept

Source: Woodley Architectural Group, (October 2019)

Figure 2-9

Drainage. An engineered storm drainage system is proposed to collect and treat runoff from the developed site and provide enhanced flood control protection along Bouquet Creek, which would eliminate much of the existing floodplain conditions in that area. For further details, please refer to Section 3.9 in this EIR. Main elements of the proposed drainage system include:

- A new drainage channel to run parallel to Bouquet Creek, designed to contain 100-year and other higher intensity storm flows. This channel would be constructed with concrete embankments, with a soft bottom. Access roads would be built along both sides to facilitate regular and emergency maintenance operations.
- Infiltration basins, biofiltration basins, debris/desilting basins, a continuous deflective separation unit, and storage pipes to collect and treat site runoff. Infiltration basins would be located at the western end of Planning Area 4 and along the east side of the northern terminus of the new Bouquet Canyon Road, between the new road and the athletic field in the adjacent Los Angeles County Probation Camp Joseph Scott. Biofiltration basins would be located in the northern piece of Planning Area 1, where the proposed cul-de-sac enters from old Bouquet Canyon Road, immediately north of the new "Y" intersection of old and new Bouquet Canyon Roads, and in the southern portion of the project site in Planning Area 1a to the south of the new "Y" intersection of old and new Bouquet Canyon Roads.
- In-street, underground drainage lines to collect runoff from the developed areas for conveyance into the proposed concrete-sided drainage channel north of Planning Area 2.

Water and Sewer. The project would connect to existing water mains maintained by the Santa Clarita Valley Water agency, Santa Clarita Water Division, located in Bouquet Canyon Road to the north and south of the proposed new segment of Bouquet Canyon Road. This connection would provide potable water service to an on-site, underground water distribution system to serve all of the homes' interior plumbing fixtures and for all outdoor irrigation applications. The project would need to annex into LACSD, to authorize discharge of wastewater from throughout the project site to LACSD's trunk sewer, referred to as the 24-inch Bouquet Canyon Relief Sewer, located in Bouquet Canyon Road, south of Seco Canyon Road. The project would be required to construct a new sewer main, located in Bouquet Canyon Road, to convey the project's wastewater flows to LACSD's trunk sewer. A private system of underground sewers would collect wastewater generated at the homes and recreation centers for conveyance into the new sewer main.

Energy and Communications. Electrical energy would be provided throughout the residential planning areas via a connection to Southern California Edison's facilities, located in Copper Hill Drive and Bouquet Canyon Road. A portion of each home's electrical demand would be met with on-site solar photovoltaic panels, pursuant to California's 2019 Building Energy Efficiency Standards (Title 24, Parts 6 and 11 of the California Code of Regulations), which take effect on January 1, 2020. Natural gas service would be provided to all homes and the two recreation centers via a connection to Southern California Gas Company's transmission main lines, located in Bouquet Canyon Road and Copper Hill Drive. The project would also install underground cables to enable connections within each planning area to telecommunications services from a local provider of such services.

Open Spaces, Landscaping and Amenities

A variety of private and public amenities are included in the proposed project. This includes two private recreation centers (one in Planning Area 1 and another in Planning Area 2), with in-ground swimming pools and hot tubs, outdoor decks, barbeques, building spaces for social gatherings, and restrooms/changing areas. Two private, open turf/play areas are proposed as outdoor amenities within Planning Area 4. Common landscape areas would be planted within the perimeters of each planning area, and between rows of homes in Planning Areas 3 and 4. An extensive landscaping program is proposed, including community open spaces, street trees and parkways along streets, recreational turf areas, native and manufactured slopes, fuel modification areas, creek riparian enhancements, stormwater management and private yards. **Figure 2-10** illustrates the proposed landscape plan.

An interconnected public walking trail network is proposed around the site perimeter, behind (south edge of) Planning Area 4, through Planning Area 1, and around and up to the top of the hill formation in the western part of the site, as depicted on **Figure 2-1, Proposed Development Plan**. A linear public park, with turf areas, ornamental landscape elements, a tot lot, and seating areas, is proposed within the segment of Bouquet Canyon Road that is to be abandoned, between Hob Court and Pam Court. A public parking lot, with adjacent open turf areas, is proposed along the new segment of Bouquet Canyon Road, between the east edge of Planning Area 3 and the eastern end of the new drainage channel, near the northeast corner of the site. This would grant public access to the on-site public trail network.

The northernmost knoll feature in the western part of the site is to be preserved in its natural landform condition, and this feature and adjacent lowland along Bouquet Canyon Road would be the most prominent open space element within the project site. A low-flow "restored to natural" drainage channel, parallel to the proposed main flood control channel, is proposed as a 30-foot wide, landscaped open space corridor to be constructed in the primary drainage zone between Planning Areas 2 and 4. The public trail network described above would provide visual access to the open space along the drainage zone, and walking access along and to the knolltop.

Construction Program

Construction of the project would entail several main phases and durations, over an estimated 60-month time frame, as summarized in **Table 2.0-2**, below. Construction would occur in the indicated sequence; however, there could be some overlap between phases, where feasible, to shorten the overall construction process. The grading plan would entail approximately 2,070,000 cubic yards of earth work, to be balanced across the site.

Table 2.0-2
CONSTRUCTION PROGRAM

Construction Phase	Duration (Months)
Site Clearing/Mass Grading of Entire Site	12
Site Improvements (streets, underground utilities)	6
Off-Site Improvements (new Bouquet Canyon Road, drainage basins, slopes, new flood channel)	6
Home Construction and Landscaping	36
Total Construction Period:	60

Source: Integral Communities 2019

CONCEPT PLANT SCHEDULE

STREET TREES
AGONIS FLEXUOSA / PEPPERMINT TREE
CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE
CINNAMOMUM CAMPHORA / CAMPHOR TREE
GELIERA PARVIFLORA / AUSTRALIAN WILLOW
JACARANDA MIMOSIFOLIA / JACARANDA
KOELREUTERIA BIPINNATA / CHINESE FLAME TREE
PODOCARPUS GRACILIOR / FERN PINE
QUERCUS AGRIFOLIA / COAST LIVE OAK
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE
ULMUS PARVIFOLIA / CHINESE ELM

NATIVE SLOPE TREES
SAMBUCUS NIGRA / COMMON ELDERBERRY

COMMUNITY TREES
AGONIS FLEXUOSA / PEPPERMINT TREE
CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE
CHILOPSIS LINEARIS / DESERT WILLOW
CINNAMOMUM CAMPHORA / CAMPHOR TREE
GELIERA PARVIFLORA / AUSTRALIAN WILLOW
JACARANDA MIMOSIFOLIA / JACARANDA
KOELREUTERIA BIPINNATA / CHINESE FLAME TREE
PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
PODOCARPUS GRACILIOR / FERN PINE
QUERCUS AGRIFOLIA / COAST LIVE OAK
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE
ULMUS PARVIFOLIA / CHINESE ELM

MOISTURE-ADJACENT TREES
ACER MACROPHYLLUM / BIG LEAF MAPLE
ALNUS RHOMBIFOLIA / WHITE ALDER
JUGLANS HINDSII / CALIFORNIA BLACK WALNUT
PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
POPULUS FREMONTII / FREMONT COTTONWOOD
QUERCUS AGRIFOLIA / COAST LIVE OAK
SALIX GOODINGII / WILLOW
SALIX LAEVIGATA / RED WILLOW
SALIX LASIOLEPIS / ARROYO WILLOW
SALIX LUCIDA / PACIFIC WILLOW
SAMBUCUS NIGRA / COMMON ELDERBERRY
UMBELLULARIA CALIFORNICA / CALIFORNIA LAUREL

FUEL MOD NATIVE SLOPES
BACCHARIS PILULARIS / COYOTE BRUSH
CLEOME ISOMERIS / BLADDERPOD SPIDERFLOWER
DIPLACUS AURANTIACUS / STICKY MONKEYFLOWER
ENCELIA CALIFORNICA / CALIFORNIA ENCELIA
ENCELIA FARINOSA / BRITTLE BUSH
EPHEDRA CALIFORNICA / CALIFORNIA JOINT FIR
ERICAMERIA LINEARIFOLIA / TURPENTINE BUSH
HESPEROYUCCA WHIPPLEI / CHAPARRAL YUCCA
ISOCOMA MENZIESII / GOLDENBUSH
KECKIELLA CORDIFOLIA / CLIMBING PENSTEMON
LOTUS SCOPARIUS / CALIFORNIA DEER WEED
MALOSMA LAURINA / LAUREL SUMAC
OPUNTIA LITTORALIS / SHORE CACTUS
RHUS INTEGRIFOLIA / LEMONADE BERRY
RHUS OVATA / SUGAR BUSH
SALVIA MELLIFERA / BLACK SAGE

NATIVE SLOPES
ADENOSTOMA FASCICULATUM / CHAMISE
ARTEMISIA CALIFORNICA / CALIFORNIA SAGEBRUSH
BACCHARIS PILULARIS / COYOTE BRUSH
CLEOME ISOMERIS / BLADDERPOD SPIDERFLOWER
DIPLACUS AURANTIACUS / STICKY MONKEYFLOWER
ENCELIA CALIFORNICA / CALIFORNIA ENCELIA
ENCELIA FARINOSA / BRITTLE BUSH
EPHEDRA CALIFORNICA / CALIFORNIA JOINT FIR
ERICAMERIA LINEARIFOLIA / TURPENTINE BUSH
ERIOGONUM FASCICULATUM / COMMON BUCKWHEAT
HESPEROYUCCA WHIPPLEI / CHAPARRAL YUCCA
ISOCOMA MENZIESII / GOLDENBUSH
KECKIELLA CORDIFOLIA / CLIMBING PENSTEMON
LOTUS SCOPARIUS / CALIFORNIA DEER WEED
MALOSMA LAURINA / LAUREL SUMAC
OPUNTIA LITTORALIS / SHORE CACTUS
RHUS INTEGRIFOLIA / LEMONADE BERRY
RHUS OVATA / SUGAR BUSH
SALVIA MELLIFERA / BLACK SAGE

STORMWATER MANAGEMENT
ACHILLEA MILLEFOLIUM / COMMON YARROW
BACCHARIS PILULARIS / COYOTE BRUSH
BACCHARIS SALICIFOLIA / MULE FAT
BIDENS SPP.
CAREX SPP. / SEDGE
CORNUS SERICEA / RED TWIG DOGWOOD
ELEOCHARIS SPP.
JUNCUS ACUMINATUS / TAPERED RUSH
MIMULUS SPP. / MONKEYFLOWER
NASTURTIUM SPP. / WATERCRESS
POLYGONUM SPP.
RUMEX SPP.
SCHOENOPLECTUS ACUTUS / HARDSTEM BULRUSH
SCHOENOPLECTUS AMERICANUS / THREE-SQUARE BULRUSH
SCHOENOPLECTUS CALIFORNICUS / CALIFORNIA BULRUSH
SISYRINCHIUM BELLUM / BLUE EYED GRASS

TURFGRASS
WARM SEASON TURFGRASS

PARKWAYS
ACHILLEA MILLEFOLIUM / COMMON YARROW
ARISTIDA PURPUREA / PURPLE THREEAWN
BACCHARIS PILULARIS 'PIGEON POINT' / COYOTE BRUSH
CAREX PRAEGRACILIS / SLENDER SEDGE
DUDLEYA SPP. / DUDLEYA
ELYMUS CONDENSATUS 'CANYON PRINCE' / CANYON PRINCE WILD RYE
ERIGERON GLAUCUS / BEACH DAISY
ERIOGONUM FASCICULATUM 'WARRINER LYTLE' / WARRIVER LYTLE BUCKWHEAT
EROPHYLLUM CONFERTIFLORUM / GOLDEN YARROW
HESPEROYUCCA WHIPPLEI / CHAPARRAL YUCCA
IRIS DOUGLASIANA 'PACIFIC COAST HYBRIDS' / PCH IRIS
JUNCUS SPP. / RUSH
MIMULUS SPP. / MONKEYFLOWER
MONARDELLA VILLOSA / COYOTE MINT
MUHLENBERGIA RIGENS / DEER GRASS
NASSELLA PULCHRA / PURPLE NEEDLE GRASS
SALVIA SPATHACEA / HUMMINGBIRD SAGE
SALVIA X 'BEE'S BLISS' / SAGE
SISYRINCHIUM BELLUM / BLUE EYED GRASS
ZAUSCHNERIA CALIFORNICA / CALIFORNIA FUCHSIA

PRIVATE YARD

COMMUNITY ORNAMENTAL LANDSCAPE
ACHILLEA MILLEFOLIUM / COMMON YARROW
ARISTIDA PURPUREA / PURPLE THREEAWN
ARTEMISIA CALIFORNICA 'CANYON GREY' / PROSTRATE CALIFORNIA SAGEBRUSH
BACCHARIS PILULARIS / COYOTE BRUSH
BACCHARIS PILULARIS 'PIGEON POINT' / COYOTE BRUSH
CAREX PRAEGRACILIS / SLENDER SEDGE
CORETHROGYNE FILAGINIFOLIA 'SILVER CARPET' / CALIFORNIA ASTER
DIPLACUS AURANTIACUS / STICKY MONKEYFLOWER
DUDLEYA SPP. / DUDLEYA
ELYMUS CONDENSATUS 'CANYON PRINCE' / CANYON PRINCE WILD RYE
ENCELIA CALIFORNICA / CALIFORNIA ENCELIA
ENCELIA FARINOSA / BRITTLE BUSH
ERIGERON GLAUCUS / BEACH DAISY
ERIOGONUM FASCICULATUM 'WARRINER LYTLE' / WARRIVER LYTLE BUCKWHEAT
EROPHYLLUM CONFERTIFLORUM / GOLDEN YARROW
HESPEROYUCCA WHIPPLEI / CHAPARRAL YUCCA
IRIS DOUGLASIANA 'PACIFIC COAST HYBRIDS' / PCH IRIS
JUNCUS PATENS / CALIFORNIA GRAY RUSH
MIMULUS SPP. / MONKEYFLOWER
MONARDELLA VILLOSA / COYOTE MINT
MUHLENBERGIA RIGENS / DEER GRASS
NASSELLA PULCHRA / PURPLE NEEDLE GRASS
RHAMNUS CALIFORNICA 'MOUND SAN BRUNO' / CALIFORNIA COFFEEBERRY
RHUS INTEGRIFOLIA / LEMONADE BERRY
ROSA CALIFORNICA / CALIFORNIA WILD ROSE
SALVIA / FUCANTHA / MEXICAN BUSH SAGE
SALVIA MELLIFERA / BLACK SAGE
SALVIA SPATHACEA / HUMMINGBIRD SAGE
SALVIA X 'BEE'S RUSS' / SAGE
SISYRINCHIUM BELLUM / BLUE EYED GRASS
TRICHOSTEMA LANATUM / WOOLLY BLUE CURLS
ZAUSCHNERIA CALIFORNICA / CALIFORNIA FUCHSIA

UNDISTURBED NATIVE LANDSCAPE
UNDISTURBED NATURAL VEGETATION

RIPARIAN
AMBROSIA PSILOSTACHYA / WESTERN RAGWEED
ANEMOPSIS CALIFORNICA / YERBA MANSA
BACCHARIS PILULARIS / COYOTE BRUSH
BACCHARIS SALICIFOLIA / MULE FAT
CORNUS SERICEA / RED TWIG DOGWOOD
JUNCUS SPP. / RUSH
SCHOENOPLECTUS ACUTUS / HARDSTEM BULRUSH
SCHOENOPLECTUS AMERICANUS / THREE-SQUARE BULRUSH
SCHOENOPLECTUS CALIFORNICUS / CALIFORNIA BULRUSH
TYPHA SPP. / CATTAIL
VITIS GIRDIANA / DESERT WILD GRAPE

Source: Urban Arena, October 2019

Michael Baker INTERNATIONAL

Proposed Landscape Plan

Figure 2-10

Development Program and Estimated Full Buildout

At this time, it is anticipated that all planning areas would be developed simultaneously. Depending on the pace of home sales and occupancy, completion and full occupancy of the new residential community and all of its elements is estimated to occur by 2024–2025.

2.5 GOVERNMENT APPROVALS ADDRESSED BY THIS EIR

This EIR is intended to inform and provide clearance under CEQA for governmental approval actions necessary to authorize the project to proceed. These approvals are listed below.

City of Santa Clarita

- Tentative Tract Map No. 82126—to subdivide the subject property into 19 lots for residential land uses, streets, private drives, drainage infrastructure, slopes, and various open space lots.
- Conditional Use Permit 18-004—for private gating of multi-family units, any building heights greater than 35 feet, and cluster development.
- Architectural Design Review 18-010—for the proposed building design, styles, and forms.
- Development Review 18-009—for the proposed physical design and layout of the project.
- Hillside Development Review (Class 4) 18-001—to develop land with average cross slopes of 10 percent or more.
- Ridgeline Alteration Permit 18-001—for development near a designated significant ridgeline in the ridgeline preservation overlay zone.
- Oak Tree Permit (Class 4) 19-003—required for any encroachments or removals of protected oak trees.
- Landscape Plan Review 19-017 – for the proposed landscape plan.

Los Angeles Regional Water Quality Control Board

- General Construction Permit, under the National Pollutant Discharge Elimination System.
- Water Quality Certification, pursuant to Section 401 of the federal Clean Water Act.

United States Army Corps of Engineers

- Nationwide Permit, pursuant to Section 404 of the federal Clean Water Act, for alterations to Bouquet Creek.

Federal Emergency Management Agency

- Letter of Map Revision ("LOMR"), pursuant to Title 44 of the Code of Federal Regulations, Part 65, to modify floodplain limits along Bouquet Creek and amend the City's Flood Insurance Rate Map, under the National Flood Insurance Program.

California Department of Fish and Wildlife

- Streambed Alteration Agreement

This page intentionally left blank.

3.1 AESTHETICS

3.1 AESTHETICS

Pursuant to the environmental scoping process conducted during the initial phase of this EIR (see Initial Study and Notice of Preparation documentation in **Appendix A**), this section of the Draft EIR evaluates the potential aesthetics, light, and glare impacts that may result from the proposed project. Aesthetics impacts are addressed in terms of potential effects involving alterations of or obstruction of views of scenic resources and changes to the visual character and quality of the site and surrounding environment.

3.1.1 ENVIRONMENTAL SETTING

3.1.1.1 SCENIC VISTAS AND RESOURCES

The City of Santa Clarita General Plan Conservation and Open Space Element states that "while aesthetic value is subjective, it is one of the elements that contribute to people's experience of an area. Most communities identify scenic resources as an important asset, although what is considered 'scenic' may vary according to its environmental setting" (Santa Clarita 2011, p. CO-52). The Conservation and Open Space Element further states that scenic resources "can include natural open spaces, topographic formations, and landscapes that contribute to a high level of visual quality. These are significant resources that can be maintained and enhanced to promote a positive image in the community. Many people associate natural landforms and landscapes with scenic resources, such as lakes, rivers and streams, mountain meadows, and oak woodlands. These areas, generally felt by residents to possess natural beauty, provide a positive visual experience and help to define the aesthetic character of an area. Scenic resources can also include man-made open spaces and the built environment, such as parks, trails, nature preserves, sculpture gardens, and similar features" (Santa Clarita 2011, p. CO-53).

The Santa Clarita Valley is characterized by diverse topography, including river valleys, canyons, mountains, and ridgelines. Many of these areas within the valley have remained undeveloped because of natural barriers, such as slope constraints, resulting in a number of scenic and open space areas. The Conservation and Open Space Element identifies 11 scenic canyon areas within the City's planning area, such as Bouquet Canyon from Bouquet Reservoir south to the junction of Bouquet Canyon Road and Soledad Canyon Road, which includes scenic features such as undulating terrain and oak, willow, and sycamore groves (Santa Clarita 2011). The project site is located in the Saugus community, which the Santa Clarita Beautification Master Plan describes as a rural community of large residential lots and open spaces, which has evolved to include development placed on hillsides and along slope faces (Santa Clarita 2001). Scenic resources in the vicinity of the proposed project site include Bouquet Creek, located immediately north of Bouquet Canyon Road, and the Haskell Canyon Open Space area, which is a 526-acre, City-owned open space area with steep hillsides, grasslands, and oak tree stands, located north of Copper Hill Drive, approximately 1,500 feet northwest of the project site. The diverse topography and prominent ridgelines that characterize the Santa Clarita Valley are displayed in the Conservation and Open Space Element's Exhibit CO-1. Prominent ridgelines in the vicinity of the project site are displayed in **Figure 3.1-1**.

The ridgeline on the western side of the project site is visible from surrounding neighborhoods and streets; however, there are other General Plan-designated, significant ridgelines in the vicinity of the project site, all of which are taller than the significant ridgeline on the project site (**Figure 3.1-1**). Therefore, the ridgeline on the project site is a character-defining feature of the project site, but in the context of the surrounding area, is not a character-defining feature of the Saugus community.

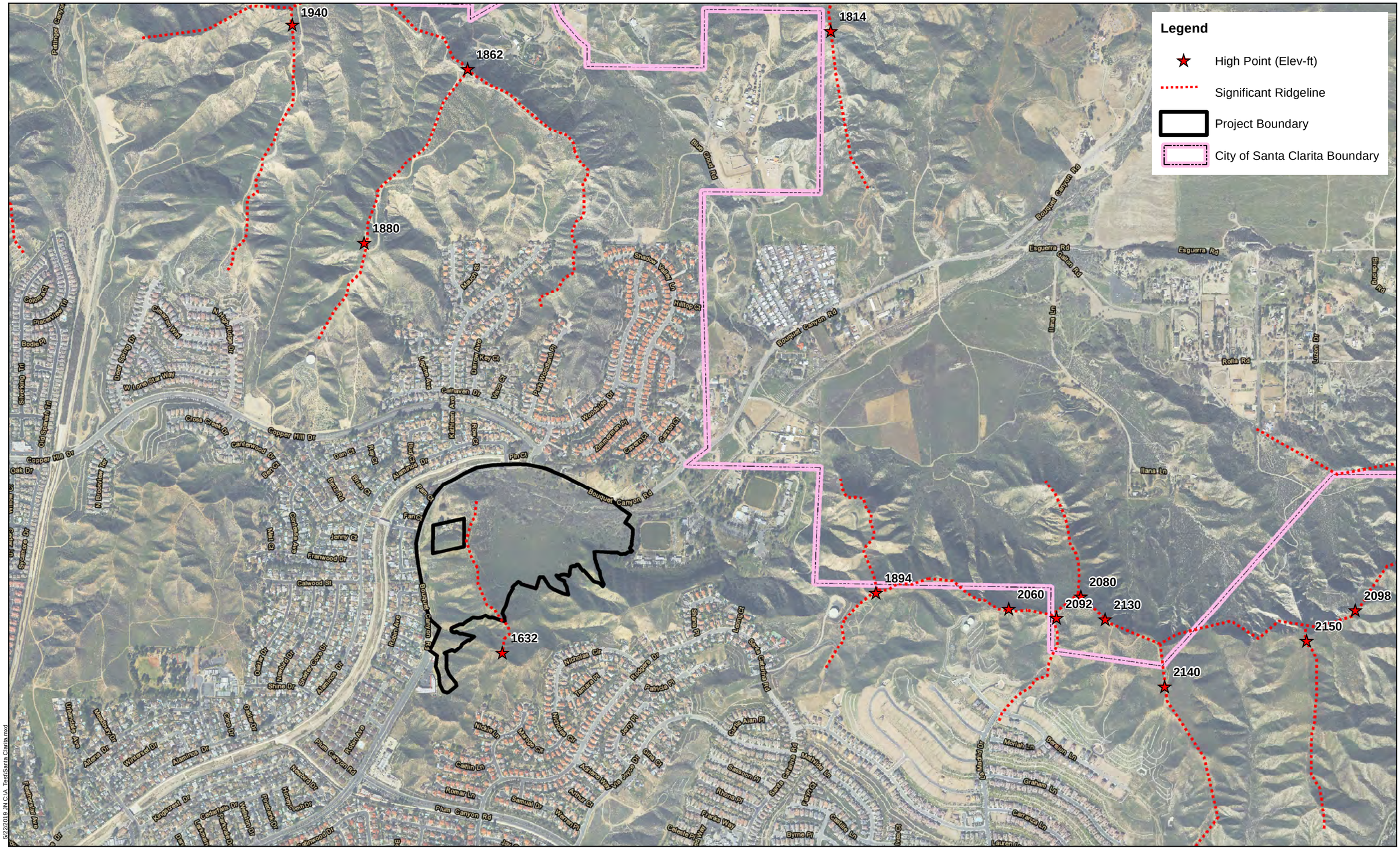
3.1.1.2 VISUAL CHARACTER OF THE SITE AND SURROUNDING AREAS

The project site is undeveloped and has natural landscape features such as undeveloped hillsides; open grassland and sage scrub habitat; a number of trees varying in size, species, and health; a seasonal creek; and a prominent ridgeline. This ridgeline is located on the western portion of the project site and is identified in the General Plan Conservation and Open Space Element as a "significant ridgeline" (Santa Clarita 2011, p. CO-7). It rises to a height of approximately 1,500 feet above mean sea level at the northern tip of the ridgeline and 1,580 feet above mean sea level at the point where the ridgeline intersects with the southern boundary of the project site. This ridgeline is approximately 100 to 180 feet above the flat, central portion of the project site (photos 7 and 8 of **Figure 3.1-4**). The flat, central portion of the project site is characterized by annual grassland habitat, interspersed with trees. The north-central portion of the project site is transected by Bouquet Creek. This portion of the project site along Bouquet Creek is characterized by dense scrub habitat and riparian vegetation (photo 7 of **Figure 3.1-4**).

The project site is bordered by Bouquet Canyon Road on the west, north, and northeast. This roadway is currently built as an undivided, two-lane road north of the intersection with Steve Jon Street, which is south of the project site. There are overhead electric utility poles running along the extent of the project site frontage. There are sidewalks, but no parkway area on the west side of the road, beginning at Pam Court and extending south, and on the north side of the road between Hob Avenue and David Way. There are no sidewalks or parkways along any portion of the project site frontage along Bouquet Canyon Road. Views of the project site from various vantage points along Bouquet Canyon Road are displayed in **Figure 3.1-3**.

A single-family home is located south and east of Bouquet Canyon Road with a driveway directly across from Fan Court. The home rests on property that is surrounded by but not part of the project site. The home was constructed in the 1950s and is located on a relatively flat portion of land between the significant ridgeline on the west side of the project site and Bouquet Canyon Road. The home is surrounded by existing mature trees, which obscure it from view from Bouquet Canyon Road (photo 4 of **Figure 3.1-3**).

Immediately north of the project site is Bouquet Canyon Road, followed by Bouquet Creek, which is channelized and runs nearly parallel to Bouquet Canyon Road between David Way and the Santa Clara River. North of the project site, the flood channel is immediately adjacent to Bouquet Canyon Road; however, beginning at Pam Court and extending south, Bouquet Creek is separated from Bouquet Canyon Road by residential development. Motorists on Bouquet Canyon Road north of Pam Court have views of the concrete channel holding Bouquet Creek through a chain-link fence separating the creek channel from Bouquet Canyon Road.



5/22/2019 JN C:\A_Test\Santa Clarita.mxd

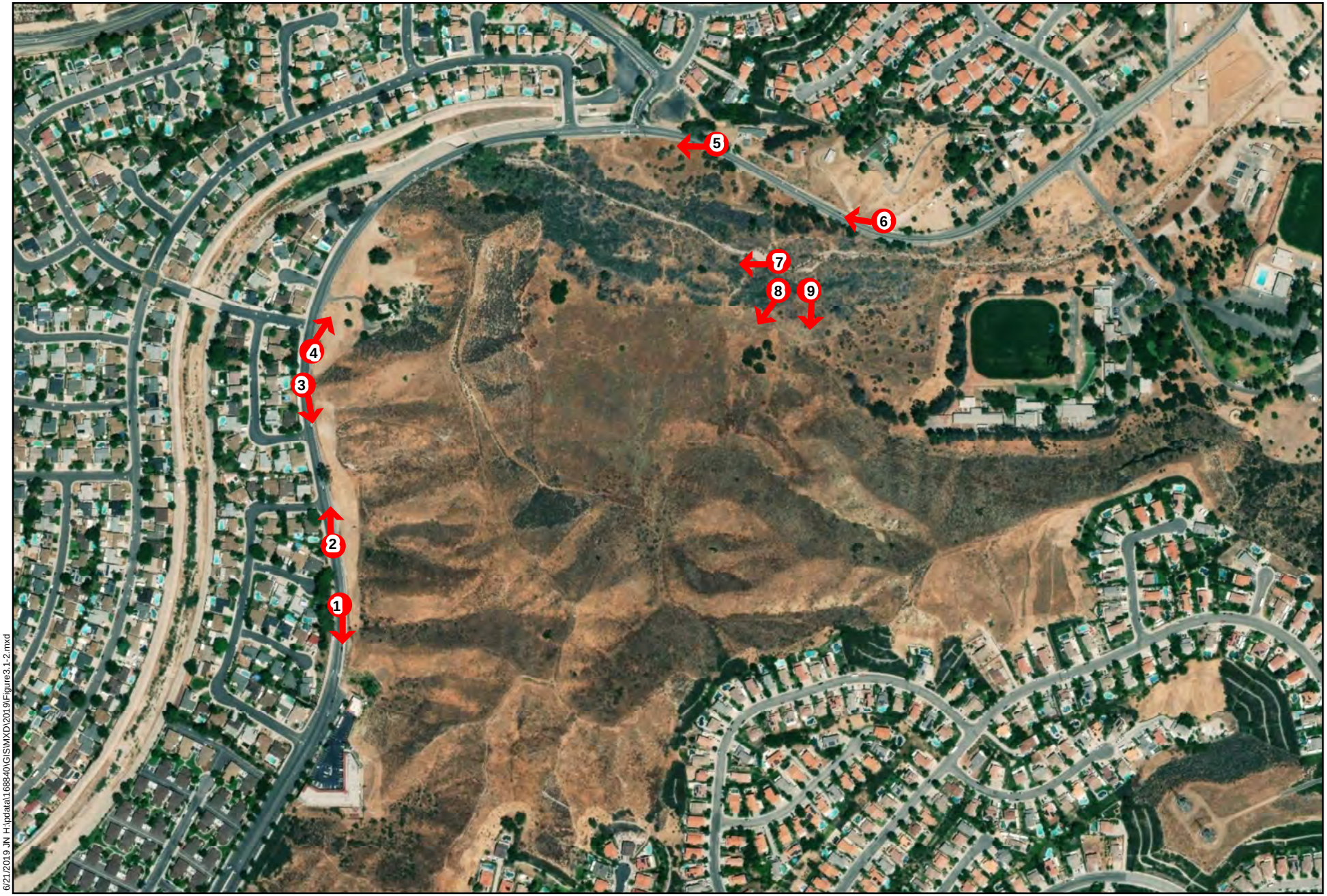
Michael Baker INTERNATIONAL

0 440 880 Feet

Source: City of Santa Clarita - https://gis.santa-clarita.com/arcgis/services, 2019

Significant Ridgelines in Project Area

Figure 3.1-1



6/21/2019 JN H:\pdata1\68840\GIS\MXD\2019\Figure3.1-2.mxd

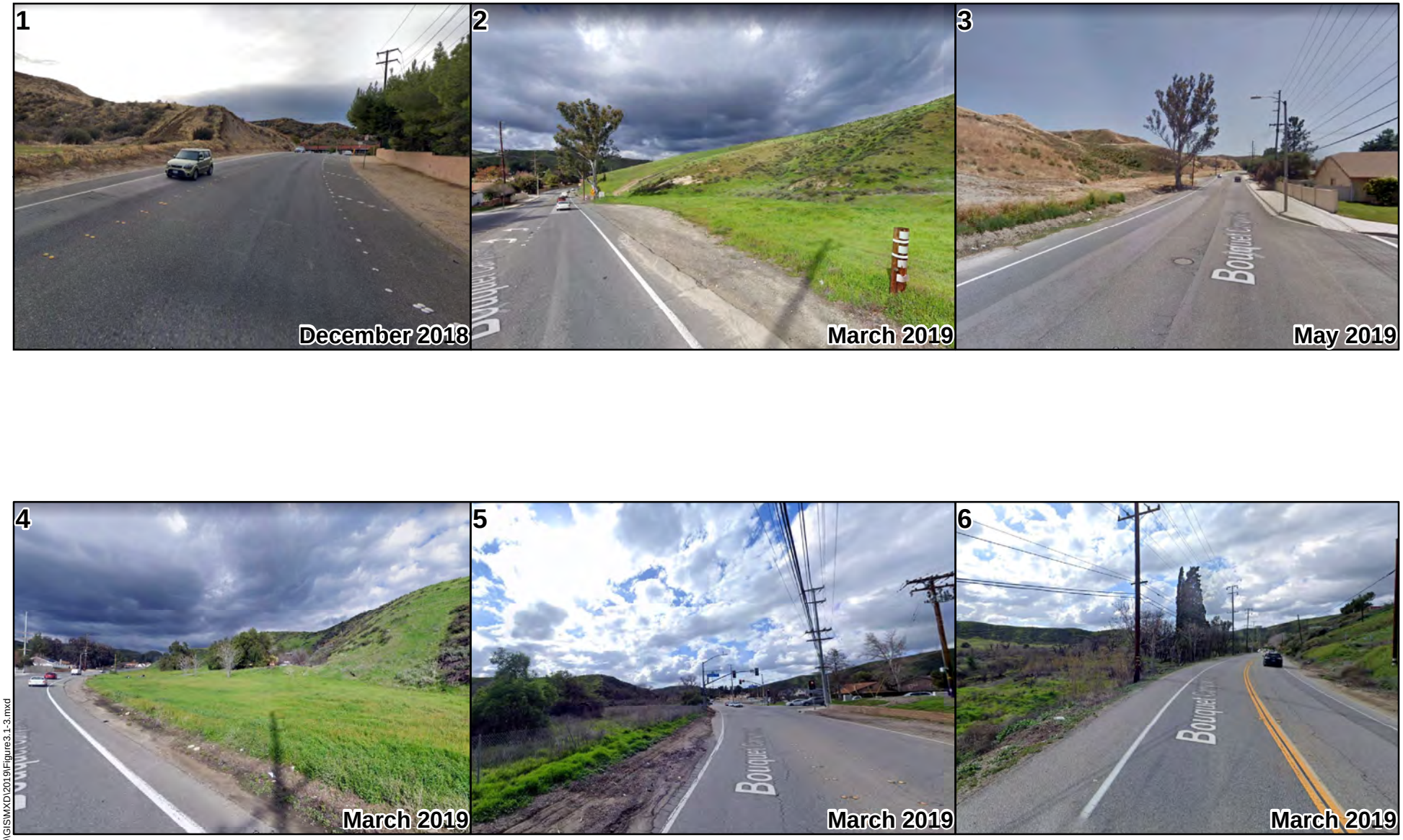
Michael Baker INTERNATIONAL

0 250 500 Feet

Source: Esri Aerial

Site Photographs Orientation Map

Figure 3.1-2



6/21/2019 JN H:\pdata\168840\GIS\MXD\2019\Figure3.1-3.mxd

Michael Baker INTERNATIONAL

Views of Project Site from Bouquet Canyon Road

Figure 3.1-3

Three single-family, rural residential properties are located north of Bouquet Canyon Road and east of David Way. One of these three homes is located on top of a small ridge, which is elevated approximately 125 feet above the project site and Bouquet Canyon Road. Farther north of these homes is a single-family, residential neighborhood generally characterized by two-story, detached homes, constructed in the 1990s in a Mediterranean style with light-colored exteriors and red tile roofs. This neighborhood extends from north of the above-mentioned rural residential homes to northwest of the project site, on either side of Copper Hill Drive, Alaminos Drive, and Calhaven Drive, which are located at approximately the same elevation as Bouquet Canyon Road and the northern portion of the project site. Farther to the north within this neighborhood, homes are located in lowlands between steep ridgelines on either side of Park Woodland Place and Kathleen Avenue. These residential streets increase in elevation as they extend north and are elevated between 30 and 90 feet above Bouquet Canyon Road. As such, motorists traveling south along Park Woodland Place and Kathleen Avenue have views of the ridgeline on the western side of the project site. Homes along Park Woodland Place are located in the valley between two ridgelines, the western of which is identified as a significant ridgeline in the General Plan Conservation and Open Space Element. This significant ridgeline is located between Park Woodland Place and Kathleen Avenue and is elevated approximately 90 feet above the northernmost extent of the significant ridgeline on the project site. Homes along Kathleen Avenue are surrounded by steep ridgelines, including the above-mentioned significant ridgeline to the east, steep hillsides to the north, and the City's Haskell Canyon Open Space area to the west, which includes a significant ridgeline that is elevated 400 feet above the highest point on Kathleen Avenue. This significant ridgeline within the Haskell Canyon Open Space area is elevated approximately 480 feet above Bouquet Canyon Road, and approximately 370 feet above the northernmost crest of the significant ridgeline located on the project site. As such, the most prominent ridgeline features within this neighborhood north of the project site are the ridgelines on either side of Park Woodland Place, and the ridgelines in the Haskell Open Space Area.

Adjacent to the eastern edge of the project site, south of Bouquet Canyon Road, is property operated by the Los Angeles County Probation Department, referred to as Camp Joseph Scott and Camp Keyton Scudder, which is approximately level with Bouquet Canyon Road and the central, flat portion of the project site. This facility is made up of a series of single-story buildings and athletic fields. The property is surrounded by a steep ridgeline to the south, which is elevated approximately 240 feet above the project site, and steep undulating terrain to the east, including General Plan-designated significant ridgelines elevated between 470 feet and 720 feet above the project site (**Figure 3.1-1**).

A small commercial site, known as the Canyon Center, is located immediately south of the project site, on the eastern side of the Steve Jon Street and Bouquet Canyon Road intersection. This commercial center contains approximately 18,000 square feet of space spread out across two buildings. Both buildings are single story, constructed in a Mediterranean style with light, stucco building exteriors and tile roofs. These commercial buildings are located approximately 200 feet below the ridgeline on the western side of the project site. East of the Canyon Center development, hilly terrain and steep hillsides south of the project site are elevated approximately 40 to 140 feet above the significant ridgeline within the project site. These hills are undeveloped and characterized by coastal scrub habitat and interspersed with trees (photos 8 and 9 of **Figure 3.1-4**). The southern faces of these ridgelines are developed with single-family homes that were constructed in the 1980s and 1990s and are located along a series of cul-de-sacs linked by collector streets to Plum Canyon Road. Homes on the north side of this neighborhood, along Nickie Lane and Timothy Drive, are one or two stories tall, constructed in a Mediterranean style with light, stucco building

exteriors and tile roofs, and located at the base of a ridgeline that rises 150 feet above the homes. Farther east, homes on the north side of Nicholas Circle, closest to the project site, are located on top of a ridgeline, approximately 190 feet above the flat, central portion of the project site, and have unobstructed views into and across the site (photo 9 of **Figure 3.1-4**).

West of the project site are one- and two-story, single-family homes that were constructed in the late 1970s and are located along a series of cul-de-sacs and short, residential roads extending from Bouquet Canyon Road. These homes are constructed with materials such as stucco, wood paneling, brick, and stone with asphalt roof tiles. The homes are located approximately 240 feet below the highest point of the significant ridgeline on the western side of the project site and do not have views into the central, flat portion of the project site. The homes are located on lots approximately 7,000 square feet in size.

3.1.1.3 LIGHT AND GLARE

The project site is currently undeveloped and contains no artificial lighting sources. The project site is surrounded by low-scale development with a variety of low-intensity outdoor night lighting sources located at single-family homes to the north, west, and farther southeast, as well as a strip commercial center to the south. The Los Angeles County Probation Department property to the east has pole-mounted lighting in two outdoor athletic fields. There are streetlights along Bouquet Canyon Road, as well as David Way and Hob Avenue to the north; Nicholas Circle to the south; and on Benz Road, Russ Jay Street, and Steve Jon Street to the west. Otherwise, existing sources of light include headlights from vehicle traffic along Bouquet Canyon Road and traffic exiting residential neighborhoods to the west and north, as well as traffic signal lights located at the intersection of Bouquet Canyon Road and David Way. There are no existing sources of glare from reflective building materials or unshielded or misaligned light fixtures on or near the project site.

3.1.2 REGULATORY AND PLANNING FRAMEWORK

3.1.2.1 FEDERAL

There are no federal regulations or planning programs that apply to the proposed project regarding aesthetic resources.

3.1.2.2 STATE

California Scenic Highway Program

California adopted a Scenic Highway Program (Streets and Highways Code, Section 260 et seq.) in 1963 to preserve and protect scenic highway corridors from change that would diminish the visual quality of areas that are adjacent to highways. The scenic designation is based on the amount of natural landscape visible by motorists, the scenic quality of the landscape, and the extent to which development intrudes upon the motorist's enjoyment of the view. The project site is not within the viewshed of any designated state scenic highway.

Nighttime Sky, California Code of Regulations, Title 24, Outdoor Lighting Standards

The California legislature passed a bill in 2001 requiring the California Energy Commission to adopt energy efficiency standards for outdoor lighting, both public and private. In November 2003, the Commission adopted changes to the California Code of Regulations, Title 24, parts 1 and 6, Building Energy Efficiency Standards. These standards became effective on October 1, 2005, and included changes to the

requirements for outdoor lighting for residential and nonresidential development. These standards are intended to improve the quality of outdoor lighting and to reduce the impacts of light pollution, light trespass, and glare. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off.

3.1.2.3 LOCAL

Santa Clarita Beautification Master Plan

The Santa Clarita Beautification Master Plan (2001) contains citywide design guidelines and addresses concepts for streetscape design, landscape enhancement, gateways, and monumentation and signage, on both a regional and a community scale. The Beautification Master Plan strives to maintain the identity of individual communities while unifying the entire city through design. The plan identifies a goal of providing landscaped medians within major arterial roadways to enhance aesthetic appeal, control vehicle circulation, calm traffic, and provide area for directional and traffic signs. The proposed project lies within the Saugus community. The Beautification Master Plan identifies Bouquet Canyon Road as a priority primary corridor and recommends beautification treatments, such as medians, signage, and landscaping.

Santa Clarita Community Character and Design Guidelines

The Santa Clarita Community Character and Design Guidelines (2009) were adopted to provide direction for the design of new residential, commercial, mixed-use, and industrial developments in the city and for the renovation and redevelopment of built areas. The guidelines are intended to ensure that existing and future development is compatible in size, scale, and appearance with existing neighborhood character within Santa Clarita and includes pedestrian-oriented design to enrich the pedestrian experience. The guidelines define the individual character of communities in Santa Clarita, list suggested building materials, and identify specific design considerations. City staff use the guidelines in assisting applicants with all aspects of project development including site planning, building orientation, building massing and articulation, and architectural themes. The Planning Commission and City Council use the guidelines to evaluate proposals for quality of design. The guidelines provide a list of appropriate building materials for use in the Saugus area, including wall materials (such as stone, tile, float finished stucco, brick, and wood shingles), accent materials (such as ornamental tile, inlaid tile, wrought iron, stone, and timber), and roofing materials (such as clay tiles, concrete tiles, and asphalt shingles).

Santa Clarita Unified Development Code

Section 17.51.050 Outdoor Lighting Standards

The outdoor lighting code of the Santa Clarita Unified Development Code (UDC) (Section 17.51.050) establishes the regulations for outdoor lighting, in order to minimize adverse off-site light obtrusion and reduce light pollution to preserve the night environment. In general, the regulations require outdoor lighting to be shielded (i.e., directed downward and be of a cut-off design), designed to avoid light trespass onto neighboring properties, and operated so that lighting does not disturb neighboring uses.

Section 17.51.040 Oak Tree Preservation

The City's UDC states that the beauty of natural areas within the Santa Clarita Valley are enhanced by the presence of large numbers of native oak trees (defined in the UDC as any tree of the genus *Querus*). The preservation ordinance outlined in Section 17.51.040 "contributes to the welfare and aesthetics of the community and retains the great historical and environmental value of these trees." It further states that oak trees "lend beauty and charm to the landscape, enhance the value of property, and preserve the character of the communities in which they exist." The City's oak tree permit places restrictions on activities that cut, prune, remove, relocate, endanger, damage, or encroach into the protected zone of any oak tree.

Section 17.51.020 Hillside Development

The City has development standards for hillside development, designed to maximize the positive impacts of site design, grading, landscape architecture, and building architecture on major landforms. Specifically, the hillside development standards are designed to maintain the essential natural characteristics of the areas such as landforms, vegetation, hydrologic features, scenic qualities, and open space, and retain the integrity of predominant off-site and on-site views in hillside areas. This is accomplished by establishing a maximum allowable density based on the average slope of a site, and providing building standards for grading design, excavation, and architecture (e.g., building setbacks and height, top of slope setback, and building style and materials). These standards are in place to maintain the identity, image, environmental quality, and sense of place that these hillside areas contribute to the city.

Section 17.51.030 Landscaping and Irrigation Standards

The landscaping standards in the UDC establish design standards for landscaping in new development to enhance the appearance of all development and to encourage protection of landmark, native, and specimen trees. The design standards accomplish this by requiring design, installation, and maintenance of landscaping and by providing standards relating to the quality, quantity, and functional aspects of landscaping and landscape screening.

Section 17.38.070 Ridgeline Preservation Overlay Zone

Significant ridgelines are highly visible to the community and often dominate the landscape. The overlay zone described in this section of the UDC attempts to preserve ridgelines within city limits for the long-term benefit of the community and for "maintenance of the unique visual characteristics" that the ridgelines provide surrounding areas. The overlay zone describes property development requirements which apply to any use, development, or alteration of land on properties within the ridgeline preservation overlay. The above requirements apply to certain development actions (such as grading permits, building permits, and land use entitlements) within 100 feet vertical and 100 feet horizontal distance from the ridgeline. The City of Santa Clarita includes the ridgeline on the west side of the proposed project site within this overlay zone.

City of Santa Clarita General Plan

Applicable goals, objectives, and policies from the City of Santa Clarita General Plan Land Use and Conservation and Open Space Elements are listed below.

Land Use Element: Community Appearance

- Goal LU 6: A scenic and beautiful urban environment that builds on the community's history and natural setting
  - Objective LU 6.5. Promote high quality development that enhances the urban environment and builds long-term value.
    - 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 Element: Geologic Resources

- 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 2.2: 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 2.2.3: 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.

Conservation and Open Space Element: Scenic Resources

- Goal CO 6: Preservation of scenic features that keep the Santa Clarita Valley beautiful and enhance quality of life, community identity, and property values.
  - Objective CO 6.6: Limit adverse impacts by humans on the scenic environment.

- 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 6.6.4: Where appropriate, require new development to be sensitive to scenic viewpoints or viewsheds through building design, site layout and building heights.

3.1.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. A project will have a significant impact involving aesthetics if it would:

a) Have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 METHODOLOGY

The analysis of aesthetics impacts in this Draft EIR is based on field surveys, a review of aesthetic resources in the project area, and an assessment of the project's grading, site, landscaping, and architectural plans in the context of policy guidance contained in the City's General Plan. Computer-generated view simulations of "as-built" conditions were also created to assist in visualizing the changes that would result from implementation of the proposed grading and building concepts.

3.1.5 ANALYSIS

Impact 3.1-a The proposed project would not have a substantial adverse effect on a scenic vista because the project would only alter a portion of the significant ridgeline on the project site, and because said ridgeline is not the most substantial ridgeline in the Saugus community. Therefore, impacts would be less than significant, requiring no mitigation.

Discussion

Scenic resources are defined above as natural open spaces, topographic formations, and landscapes that contribute to a high level of visual quality. As discussed above, many people associate natural landforms and landscapes with scenic resources, such as lakes, rivers and streams, mountain meadows, and oak woodlands. A scenic vista is often defined as a publicly accessible point or overlook where such scenic resources can be observed. There are no such public scenic overlooks on or adjacent to the project site; however, the steep terrain on the project site could make the site part of a scenic vista when viewed from a distant location. Specifically, the ridgeline on the west side of the project site is considered a designated

natural ridgeline and is identified in Exhibit CO-1 of the General Plan Conservation and Open Space Element. However, as described above, there are other General Plan-designated, significant ridgelines in the immediate vicinity of the project site, all of which are taller than the significant ridgeline on the project site.

Policy CO 2.2.3 of the City's General Plan Conservation and Open Space Element guides City decision-making to "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" (Santa Clarita 2011, p. CO-83). Further, Policy CO 2.2.1 states that the City should "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" (Santa Clarita 2011 p. CO-83). As stated in Section 2.0, Project Description, a portion of the designated ridgeline on the west side of the project site would be graded in order to build a General Plan-identified alignment for Bouquet Canyon Road. While grading would occur on this ridgeline, the project would still be consistent with Conservation and Open Space Element Policies CO 2.2.1 and 2.2.3 because the project would only alter a portion of the ridgeline, and because the ridgeline on the project site is not the most substantial ridgeline in the community. Based on the evaluations of existing conditions, including the fact that the ridgeline on the project site is not a character-defining feature of the Saugus community, the project would not result in a substantial adverse effect on a scenic vista.

Mitigation Measures

None required.

Impact 3.1-b While the project would involve alteration of a significant ridgeline and removal of protected oak trees, only a portion of the ridgeline on the project site would be impacted and the majority of oak trees on the site are in average or poor condition and/or have limited aesthetic value due to the lack of public views of the trees. Further, the applicant would be required to replace the 27 oak trees to be removed by the project with 91 oak trees (or the equivalent monetary value) pursuant to the City's oak tree permit standards. Therefore, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, resulting in less than significant impacts requiring no mitigation.

Discussion

The closest officially designated state scenic highway is part of the Angeles Crest Scenic Byway, State Highway 2, from near La Cañada-Flintridge north to the San Bernardino County line, which is approximately 30 miles from the project site. As such, the project would not damage any scenic resources within view of a state scenic highway.

As stated in the **Impact 3.1-a** discussion above, the alteration of the ridgeline located on the west side of the project site would not result in a substantial adverse effect on scenic resources, given that only a portion of the ridgeline would be altered and that the ridgeline is not a character-defining feature of the Saugus community. The project site does contain a number of oak trees, which are recognized as scenic

and protected by the City of Santa Clarita's Oak Tree Preservation property development standard (Santa Clarita UDC Section 17.51.040). As stated in this property development standard, oak trees are "recognized for their significant historical, aesthetic and environmental value" and are protected in order to preserve the "welfare and aesthetics of the community." This development standard further states that the policy of the City shall "require the preservation of all healthy oak trees unless compelling reasons justify the removal of such trees." As described in Section 3.1.2 above, the City's oak tree permit states that no person shall cut, remove, relocate, endanger, damage or encroach into the protected zone of any oak tree on any public or private property within the city except in accordance with the conditions of a valid oak tree permit issued by the City. The City's oak tree permit states that conditions may be imposed on the permit if oak trees must be removed, such as a requirement to relocate trees off-site, replace trees on-site, plant additional trees on-site to offset impacts associated with tree removal, or pay a fee or donation of boxed trees to the city to be used elsewhere in the city.

The property contains a total of 64 oak trees, varying in size, species, and health. According to the Oak Tree Survey conducted in 2018 (available as part of Appendix C to this Draft EIR) the majority (57 percent) of the oak trees on the site were considered to be in average or poor condition. There were no heritage oak trees on the project site (defined as an oak tree measuring 108 inches in diameter at 4.5 feet above the trees natural grade). Further, the aesthetic value of these oak trees is limited as public views of some of the trees are available only to passing motorists traveling on Bouquet Canyon Road. The proposed project includes a request for an oak tree permit (pursuant to Section 17.23.170 of the City's UDC) to comply with all requirements of the oak tree preservation property development standard. As part of this request, 27 oak trees would be removed or subject to major encroachment by construction activity and would require replacement trees. Further, 37 oak trees would be completely avoided or would be subject to minor encroachment and would not require replacement. Pursuant to the City's oak tree permit standards, which bases the required number of replacement trees on the size of the tree that is destroyed, 91 replacement oak trees, or the equivalent monetary value, would be required to offset the loss of 27 oak trees. If an in-lieu payment is made instead of replacing tree removals on the project site, the City would apply that money toward oak tree replenishment efforts elsewhere in the city. Compliance with the terms of the oak tree permit would offset the loss of existing oak trees, reducing impacts to less than significant.

Based on the above analysis, the project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

Mitigation Measures

None required.

Impact 3.1-c The project would substantially alter the existing, undeveloped landscape of the project site; however, the proposed structures would utilize materials and design elements consistent with the Community Character and Design Guidelines for the Saugus community. No new homes or other structures would exceed two stories/35 feet in height and the built environment character of all proposed planning areas would be consistent in scale and massing with surrounding residential neighborhoods. Further, the project provides visual buffers to soften the extent of building massing and maintains views of the site's prominent ridgeline for travelers along Bouquet Canyon Road. Therefore, the proposed project would not substantially

degrade the existing visual character or quality of public views of the site and its surroundings, resulting in less than significant impacts requiring no mitigation.

Discussion

Although the project site is surrounded on three sides (north, south, and west) by low-rise suburban residential neighborhoods, the project site is considered for the purpose of this analysis to be in a non-urbanized area given the undeveloped and natural character of the project site, the rural character of the Saugus community to the northeast and east, and the undeveloped, hillsides bordering the project site to the south and southeast.

The following analysis focuses on the view simulations created for this project as visual representations of the project's anticipated aesthetic impacts to views for motorists and potentially bicyclists traveling on Bouquet Canyon Road, which provides the primary publicly accessible vantage points of the project site to the most people on a regular basis. Each simulated set of views is based on high-quality photographs of the existing setting; the proposed built conditions are then superimposed onto the same viewing perspective, depicting the proposed building forms and landscape character at the scale these features would appear to a traveler along the roadway. Landscape conditions are presented for projected five-year and ten-year growth scenarios to show the effects of maturing landscape elements over time. The view simulations are available as **Figure 3.1-5** through **Figure 3.1-17**.

6/21/2019 JN H:\pdata\168840\GIS\MXD\2019\Figure3.1-4_A.mxd

Michael Baker INTERNATIONAL

Source: Michael Baker International, April 2019

Views of Project Site Interior

Figure 3.1-4

B

C

A

D

6/21/2019, JN:H:\jobdata\168840\GIS\MXD\2019\Figure3.1-5 - ViewKeymap.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View Simulations Key Map

Figure 3.1-5

KEYMAP

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View A
Existing View to Northeast on Bouquet Canyon Road

Figure 3.1-6

KEYMAP

6/21/2019 JN H:\pdata\168840\GIS\MXD\2019\Figure3.1-7 - ViewA_ProposedSYR.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View A
Proposed 5 Year View to Northeast on Bouquet Canyon Road

Figure 3.1-7

KEYMAP

6/21/2019 JN H:\pdata\1688401\GIS\MXD\2019\Figure3.1-8 - ViewA_Proposed10YR.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View A
Proposed 10 Year View to Northeast on Bouquet Canyon Road

Figure 3.1-8

KEYMAP

6/21/2019 JN:H:\data\168400\GIS\MXD\2019\Figure3.1-9 - ViewB_Existing.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View B
Existing View to Northeast at Russ Jay Street

Figure 3.1-9

KEYMAP

6/21/2019 JN H:\data\168400\GIS\MXD\2019\Figure3.1-10 - ViewB_ProposedSYR.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View B
Proposed 5 Year View to Northeast at Russ Jay Street

Figure 3.1-10

KEYMAP

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View B
Proposed 10 Year View to Northeast at Russ Jay Street

Figure 3.1-11

KEYMAP

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View C
Existing View to Southwest at David Way

Figure 3.1-12

KEYMAP

6/21/2019 JN H:\data\a168840\GIS\MXD\2019\Figure3.1-13_ViewC_ProposedSYR.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View C
Proposed 5 Year View to Southwest at David Way

Figure 3.1-13

KEYMAP

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View C
Proposed 10 Year View to Southwest at David Way

Figure 3.1-14

KEYMAP

6/21/2019 JN H:\pdata\16884\GIS\MXD\2019\Figure3.1-15- ViewD_Existing.mxd

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View D
Existing View to Southwest on Bouquet Canyon Road

Figure 3.1-15

KEYMAP

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View D
Proposed 5 Year View to Southwest on Bouquet Canyon Road

Figure 3.1-16

KEYMAP

Michael Baker INTERNATIONAL

Source: Integral Communities, May 2019

View D
Proposed 10 Year View to Southwest on Bouquet Canyon Road

Figure 3.1-17

Existing conditions at viewing location A, located at the southwest corner of the project site, immediately north of the Canyon Center, looking northeast are dominated by the ridgeline located on the western edge of the project site. The ridgeline is currently characterized by nonnative grasses, bare earth, and ornamental shrubs. Bouquet Canyon Road is currently two lanes with limited shoulder space and sidewalk and overhead electrical infrastructure on the west side of the road. With implementation of the proposed project, as depicted in View A proposed, the new segment of Bouquet Canyon Road would be two lanes in each direction, with landscaped parkways on either side. The new road segment would be flanked by ground cover, shrubs, and trees. The southwestern portion of the ridgeline on the west side of the project site would be graded to allow for the proposed Bouquet Canyon Road alignment. The proposed road alignment would provide a new public viewing corridor through the project site. The proposed landscaping along the proposed alignment of Bouquet Canyon Road is consistent with recommendations in the Santa Clarita Beautification Master Plan, which identify Bouquet Canyon Road as a first priority primary corridor and state that well-landscaped parkways along these primary corridors "provide pleasant driving and walking environments while creating a sense of place" (Santa Clarita 2001, p. IV-7). Further, the lack of overhead utility lines on the new alignment of Bouquet Canyon Road is consistent with the Beautification Master Plan, which states that overhead utility lines "detract from the overall aesthetic experience" of traveling on major corridors and such utility lines "should be placed underground to reduce visual clutter" (Santa Clarita 2001, p. I-28).

Existing conditions at viewing location B, located at the intersection of Bouquet Canyon Road and Russ Jay Street, looking east into the project site into what would become Planning Area 1, are dominated by mildly undulating slopes that rise to the ridgeline located on the western edge of the project site, and a mix of low grasses and other ground covers on the flat area along the street frontage. One mature eucalyptus tree is prominent at the left edge of this view. With implementation of the proposed project, the area between the ridgeline and the Bouquet Canyon Road frontage would be recontoured into a gradually ascending slope, landscaped with ground cover, decorative shrubs, and trees that would soften/screen views of the proposed two-level homes. Homes would be on level building pads at the top of the manufactured slope, elevated approximately 30-40 feet above and between 50 and 125 feet away from the road with the existing ridgeline visible from Bouquet Canyon Road, above the rooflines of the homes. The two-story home rooflines would reach a maximum of 35 feet high. The homes would be constructed in a traditional style, with exteriors characterized by stucco, wood siding, and brick, metal and tile accents, and a combination of asphalt and red tile roofs, so as to be consistent with the Community Character and Design Guidelines for residential development in the Saugus Community (Santa Clarita 2009) (see **Project Description, Figure 2-6** for an architectural rendering of the single-family detached homes). The homes in Planning Area 1 would feature a combination of front-loading garages, variations in roof levels, and articulation on the street-facing façades with porches, windows, and variation in building materials. All of these features are encouraged in the Community Character and Design Guidelines for single-family residential development.

Viewing location C, located at the intersection of Bouquet Canyon Road and David Way, is looking south onto the project site at the western end of what would become Planning Area 4. This view is characterized by low grassland in the flat foreground area, a dense mix of shrubs and trees along the creek in the middle ground, and the hillsides and ridgeline on-site dominating the visual landscape in the background. With implementation of the proposed project, the Bouquet Canyon Road frontage would be flanked by decorative ground cover and ornamental shrubs and trees. Homes would be two levels and would feature

gabled rooflines, variations in roof levels, articulation on the front façade with through window molding, covered entries, and variation in building materials. The homes would be constructed as two-story rowhomes in three-plex, four-plex, five-plex, six-plex, and seven-plex clusters. The homes would be constructed in a traditional style, with stucco and wood siding exteriors, asphalt tile roofs with Craftsman design elements along the roofline, and natural material (stone and wood) accents (see **Project Description, Figure 2-9** for architectural renderings of the two-story rowhomes). The rooflines of the homes would reach a maximum of 35 feet high. Such designs are consistent with the Community Character and Design Guidelines for residential development in the Saugus Community (Santa Clarita 2009). The homes in this visualization are located in what would be become Planning Area 4, which includes attached, single-family homes located north of Bouquet Creek and south of Bouquet Canyon Road. One cluster of six attached homes, visible in this view simulation, would be oriented to face Bouquet Canyon Road, with attached garages behind the homes. Ten additional clusters of between three and seven attached homes would be oriented perpendicular to Bouquet Canyon Road. The homes in Planning Area 4 would be set back approximately 25 to 40 feet from Bouquet Canyon Road. A short span of the ridgeline on the west side of the project site would remain visible to motorists at the intersection of Bouquet Canyon Road and David Way, above the roofline of the two-level homes.

Viewing location D is located at the northeast corner of the project site, along Bouquet Canyon Road, looking southwest onto the project site. This view is characterized by tree clusters, overhead power lines, and the street surface in the foreground, with a mosaic of vegetation forms in the middle ground, and the slopes and ridgeline of the site's most prominent landform in the background. With implementation of the proposed project, the new segment of Bouquet Canyon Road would become a dominant visual feature in the fore- and middle grounds, with landscape and building elements of the developed site prominent to the right of the roadway surface and portions of the on-site hillsides and ridgeline remaining highly visible in the background. The limited views of the creek area would be replaced by the roadway surface, which would bridge across the creek, and the buildings and new landscape elements within future Planning Areas 2 and 3.

Homes within the eastern edge of Planning Areas 2 and 3 would be distantly visible from this location, partially obstructed from view by new landscaping elements to be planted as part of the project. These homes would also be visually buffered for westbound travelers by the reconstructed and revegetated creek corridor that would extend between Planning Areas 3 and 4, through the entire width of the project site. The homes in Planning Area 2 would be single-family detached constructed in a Mediterranean style, with light-colored, stucco exteriors, tile roofs, and stone and wood accents (see **Project Description, Figure 2-7** for architectural renderings of the proposed homes). Homes in Planning Area 3 would be multi-family, backyard towns constructed in California ranch and Craftsman styles, with light-colored, stucco exteriors, asphalt shingle roofs, and stone and wood accents (see **Project Description, Figure 2-8** for architectural renderings of the proposed homes). Homes in both planning areas would be two stories, with a maximum height of 35 feet and would be consistent with the Community Character and Design Guidelines for residential development in the Saugus Community (Santa Clarita 2009). Motorists traveling southwest on the new alignment of Bouquet Canyon Road would have unobstructed views of the ridgeline south of the project site.

While the project would result in extensive alterations of the natural landscape and existing open character of the project site, the proposed structures would utilize materials and design elements consistent with the Community Character and Design Guidelines (Santa Clarita 2009) for the Saugus

community. No new homes or other structures would exceed two stories in height and the built environment character of all proposed planning areas would be consistent in scale and massing with surrounding residential neighborhoods. Further, the project provides visual buffers to soften the extent of building massing through site design and site landscaping and maintains views of the site's prominent ridgeline for travelers along Bouquet Canyon Road. Therefore, the project would result in a new community image of high visual character and quality and would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Mitigation Measures

None required.

Impact 3.1-d The proposed project would introduce a variety of new outdoor lighting fixtures throughout the development areas, and additional street lighting along the new segment of Bouquet Canyon Road. Compliance with the City's existing outdoor lighting restrictions would prevent off-site light spillage and glare and would ensure that the project's lighting sources would not adversely affect day or nighttime views in the area, resulting in less than significant impacts requiring no mitigation.

Discussion

As discussed above, the project site is currently undeveloped, containing no artificial lighting sources, and is surrounded by low-scale, suburban development with a variety of low-intensity outdoor night lighting sources. The project would have lighting fixtures similar to those found in surrounding residential neighborhoods, such as ground-level landscape accent lighting and walkway lighting, security lights on home exteriors and within the private recreation centers, and pole-mounted fixtures to illuminate internal streets to provide visibility for motorists and pedestrians.

The proposed project would comply with the City of Santa Clarita's outdoor lighting standards (Section 17.51.050, Outdoor Lighting Standards), which require all lights be directed downward and be shielded so as to avoid upward lighting of the night sky and off-site glare. Further homes would not be constructed of glare-producing materials. As such, the proposed project lighting would be contained within the project site and would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. All new streetlights along public rights of way must be designed in accordance with the City's street lighting standards, which require shielding and orientation of the lighting to illuminate only the immediate air space of the street surface, to meet standards for safe nighttime visibility for motorists and pedestrians. Compliance with these standards will ensure that the new streetlights would not result in adverse effects of light spillage or glare.

Mitigation Measures

None required.

This page intentionally left blank.

3.2 AIR QUALITY

3.2 AIR QUALITY

This section addresses the air emissions generated by the construction and operation of the project and the potential impacts to air quality. The analysis also addresses the consistency of the project with the air pollution reduction strategies set forth within the South Coast Air Quality Management District's (SCAQMD) *2016 Air Quality Management Plan* (2016 AQMP). The analysis of project-generated air emissions focuses on whether the project would cause an exceedance of an ambient air quality standard or SCAQMD significance thresholds.

For the purposes of air emissions associated with mobile sources, traffic information contained in the *Bouquet Canyon Residential EIR Traffic Impact Analysis* (Traffic Impact Analysis), prepared by Stantec and dated March 2020 was used in this analysis (see **Appendix L**). Emissions modeling worksheets are provided in **Appendix B** of this EIR.

3.2.1 EXISTING CONDITIONS

3.2.1.1 SOUTH COAST AIR BASIN

Geography

The City of Santa Clarita (City) is located in the South Coast Air Basin (Basin), a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semiarid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the

Basin is typically nine to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone (O3) observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The site vicinity offers clear skies and sunshine yet is still susceptible to air inversions. These inversions trap a layer of stagnant air near the ground, where it is then further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

The City experiences average high temperatures of up to 95°F during the month of August, and average low temperatures of 64°F during the month of January. The City experiences approximately 14.08 inches of precipitation per year, with the most precipitation occurring in the month of February (Weather Channel 2019).

3.2.1.2 LOCAL AMBIENT AIR QUALITY

The SCAQMD monitors air quality at 37 monitoring stations throughout the Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within a SRA are expected to have similar climatology and ambient air pollutant concentrations. The project site is located in the Santa Clarita Valley SRA (SRA 13). The monitoring station representative of SRA 13 is the Santa Clarita-Placerita station, which is located approximately 5.33 miles southwest of the site. The air pollutants measured at the Santa Clarita-Placerita station site include O3, carbon monoxide (CO), particulate matter 10 microns in diameter or less (PM10), and nitrogen dioxide (NO2). Particulate matter 2.5 microns in diameter or less (PM2.5) is not measured at the Santa Clarita-Placerita station. The nearest station to the project site measuring PM2.5 is the Reseda station, which is located approximately 17.7 miles southwest of the project site (within SRA 13). The air quality data monitored at the Santa Clarita-Placerita and Reseda stations from 2016 to 2018 are presented in **Table 3.2-1, Measured Air Quality Levels**.

Table 3.2-1
MEASURED AIR QUALITY LEVELS

Pollutant	Primary Standard		Year	Maximum Concentration1	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) [2] (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2016 2017 2018	1.278 ppm 1.268 1.011	0/0 0/0 0/0
Ozone (O_3) [2] (1-Hour)	0.09 ppm for 1 hour	N/A	2016 2017 2018	0.130 ppm 0.151 0.132	29/2 45/5 21/3
Ozone (O_3) [2] (8-Hour)	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2016 2017 2018	0.116 ppm 0.129 0.107	59/57 76/73 53/52
Nitrogen Dioxide (NO_x) [2]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2016 2017 2018	0.046 ppm 0.058 0.059	0/0 0/0 0/0
Particulate Matter (PM_{10}) [2, 4, 5]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2016 2017 2018	96.1 µg/m3 66.5 49.4	1/0 2/0 0/0
Fine Particulate Matter ($PM_{2.5}$) [3, 4]	No Separate State Standard	35 µg/m^3 for 24 hours	2016 2017 2018	41.5 µg/m3 61.3 63.7	*/0 */0 */1

Table Notes:
ppm = parts per million
µg/m^3 = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable
** = insufficient data available to determine the value*
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Santa Clarita-Placerita Monitoring Station located at 22224 Placerita Canyon Road, Santa Clarita, California 91321.
3. Measurements taken at the Reseda Monitoring Station located at 18330 Gault Street, Reseda, California 91702.
4. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Sources:
California Air Resources Board, ADAM Air Quality Data Statistics, http://www.arb.ca.gov/adam/, accessed on April 12,2019.
California Air Resources Board, AQMIS2: Air Quality Data, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed on April 12, 2019.

Criteria pollutants are pollutants regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and effects are identified below:

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide.

Ozone (O3). Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight to form; therefore, VOCs and NO_X are ozone precursors. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_2). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO_2 can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States

Supreme Court reversed this decision and upheld the EPA's new standards. On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the Statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X and lead. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

Reactive Organic Gases (ROG). Similar to VOC, ROG are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC interchangeably.

3.2.1.3 SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools, and parks.

The following receptors were identified as sensitive receptors in vicinity of the site:

- The proposed site is surrounded by adjacent residential receptors to the north, south, and west.
- The Camp Joseph Scott and Camp Kenyon Scudder juvenile detention centers, located approximately 0.03-mile to the east.
- The closest child-care center is Teddy Bear University Preschool, located approximately 0.10-mile to the south, on Bouquet Canyon Road.
- The closest assisted living facility is Care & Touch Health Care Services, located approximately 0.07-mile to the north, on David Way.
- The closest hospital is the Kaiser Permanente Canyon Country Medical Offices, located approximately 2.48 miles southwest of the proposed project, on Carl Boyer Drive.

3.2.2 REGULATORY AND PLANNING FRAMEWORK

3.2.2.1 FEDERAL

U.S. Environmental Protection Agency

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare; refer to **Table 3.2-2, National and California Ambient Air Quality Standards.**

3.2.2.2 STATE

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 3.2-2, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for the preparation of the State Implementation Plan for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment.

Table 3.2-2
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Air Basin Attainment Status	Standards[3,4]	Air Basin Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	**Nonattainment**	N/A	N/A[5]
	8 Hours	0.070 ppm (137 μg/m^3)	**Nonattainment**	0.070 ppm (137 μg/m^3)	**Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 μg/m^3	**Nonattainment**	150 μg/m^3	Attainment/Maintenance
	Annual Arithmetic Mean	20 μg/m^3	**Nonattainment**	N/A	N/A
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 μg/m^3	**Nonattainment**
	Annual Arithmetic Mean	12 μg/m^3	**Nonattainment**	12.0 μg/m^3	**Nonattainment**
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment/Maintenance
	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment/Maintenance
Nitrogen Dioxide (NO_2)[5]	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	N/A	53 ppb (100 μg/m^3)	Attainment/Maintenance
	1 Hour	0.18 ppm (339 μg/m^3)	Attainment	100 ppb (188 μg/m^3)	Attainment/Maintenance
Lead (Pb)[7,8]	30 days Average	1.5 μg/m^3	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 μg/m^3	**Nonattainment**
	Rolling 3-Month Average	N/A	N/A	0.15 μg/m^3	**Nonattainment**
Sulfur Dioxide (SO_2)[6]	24 Hours	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (for certain areas)	Unclassified/Attainment
	3 Hours	N/A	N/A	N/A	N/A
	1 Hour	0.25 ppm (655 μg/m^3)	Attainment	75 ppb (196 μg/m^3)	N/A
	Annual Arithmetic Mean	N/A	N/A	0.30 ppm (for certain areas)	Unclassified/Attainment
Visibility-Reducing Particles[9]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70 percent RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m^3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Unclassified		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 μg/m^3)	N/A		

Notes: μg/m3 = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

1. *California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*
2. *National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year*

with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

3. *Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.*
4. *National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.*
5. *To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.*
6. *On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.*
7. *CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*
8. *The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.*
9. *In 1989, CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.*

Source: California Air Resources Board, Ambient Air Quality Standards Chart, May 4, 2016, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed March 14, 2019.

3.2.2.3 REGIONAL

South Coast Air Quality Management District

The SCAQMD is one of 35 air quality management districts that have prepared AQMP's to accomplish a five-percent annual reduction in emissions. On March 3, 2017, the SCAQMD Governing Board approved the 2016 AQMP, which is a regional blueprint for achieving air quality standards and healthful air. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, Regional Transportation Plan/Sustainable Communities Strategy, and updated emission inventory methodologies for various source categories. The 2016 AQMP relies on a multi-level partnership of governmental agencies at the Federal, State, regional, and local level. These agencies (EPA, CARB, local governments, Southern California Association of Governments [SCAG] and the SCAQMD) are the primary agencies that implement the AQMP programs.

The 2016 AQMP incorporates the latest scientific and technical information and regional planning assumptions, including SCAG's latest *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016-2040 RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. The 2016 AQMP includes integrated strategies and measures to meet the NAAQS. To ensure air quality goals are met while maximizing benefits and minimizing adverse impacts to the regional economy, the following policy objectives guided the development of the 2016 AQMP:

- Eliminate reliance on future technologies (FCAA Section 182[e][5]) measures to the maximum extent feasible;
- Calculate and take credit for co-benefits from other planning efforts;
- Develop a strategy with fair-share emission reductions at the Federal, State, and local levels;
- Invest in strategies and technologies meeting multiple objectives regarding air quality, climate change, air toxics exposure, energy, and transportation;
- Identify and secure significant funding for incentives to implement early deployment and commercialization of zero and near-zero technologies;
- Enhance the socioeconomic analysis and pursue the most efficient and cost-effective path to achieve multi-pollutant and multi-deadline targets; and
- Prioritize enforceable regulatory measures as well as non-regulatory, innovative, and "win-win" approaches for emission reductions.

In addition to the 2016 AQMP and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook*. The SCAQMD *CEQA Air Quality Handbook* provides guidance to assist local government agencies and consultants in preparing air quality assessments for environmental documents required by CEQA. With the help of the *CEQA Air Quality Handbook*, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current *CEQA Air Quality Handbook* approved by the SCAQMD Governing Board in 1993.

3.2.2.4 LOCAL

City of Santa Clarita General Plan

Applicable goals and policies related to air quality from the *City of Santa Clarita General Plan* (General Plan) Land Use and Conservation and Open Space Element are listed below.

- Ensure that the design of residential neighborhoods considers and includes measures to reduce impacts from natural or man-made hazards.
    - 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.
- Clean air to protect human health and support healthy ecosystems.
    - Reduce air pollution from mobile sources.
        - 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.
        - Support the use of alternative fuel vehicles.
        - Support alternative travel modes and new technologies, including infrastructure to support alternative fuel vehicles, as they become commercially available.

- Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the CARB, where appropriate.
  - Ensure adequate spacing of sensitive land use 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.
- Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.
  - Coordinate with local, regional, state, and federal agencies to develop and implement regional air quality policies and programs.

3.2.3 THRESHOLDS OF SIGNIFICANCE

In its *CEQA Air Quality Handbook* (November 1993), the SCAQMD has established significance thresholds to assess the impact of project related air pollutant emissions. **Table 3.2-3, SCAQMD Regional Pollutant Emission Thresholds of Significance**, presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality from both a direct and cumulative impact standpoint.

Table 3.2-3
SCAQMD REGIONAL POLLUTANT EMISSION THRESHOLDS OF SIGNIFICANCE

Phase	Pollutant (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operation	55	55	550	150	150	55

Notes: CO = carbon monoxide; VOC = volatile organic compounds; NOX = nitrogen oxides; PM10 = particulate matter smaller than 10 microns; PM2.5 = particulate matter smaller than 2.5 microns

Source: South Coast Air Quality Management District, CEQA Air Quality Handbook, November 1993.

Local Air Quality

Localized Significance Thresholds

Localized Significance Thresholds (LSTs) were developed in response to the SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (revised July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with proposed projects. The SCAQMD provides the LST lookup tables for one, two, and five-acre projects emitting CO, NO_X, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and the distance to the nearest sensitive receptor. The SCAQMD recommends that any project disturbing over five acres during construction should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors.

Localized CO

In addition, a project would result in a local air quality impact if the project results in increased traffic volumes and/or decreases in Level of Service (LOS) that would result in an exceedance of the CO ambient air quality standards of 20 parts per million (ppm) for 1-hour CO concentration levels, and 9 ppm for 8-hour CO concentration levels. If the CO concentrations at potentially impacted intersections with the project are lower than the standards, then there is no significant impact. If future CO concentrations with the project are above the standard, then the project would have a significant local air quality impact.

Cumulative Emissions

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire Basin. SCAQMD created AQMPs, which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the South Coast Basin. The historical improvement in air quality since the 1970s is the direct result of southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs and by utilizing uniform CEQA review throughout the Basin.

Ozone, NO_x, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020. These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_x and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_x emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. The overall trends of PM_{10} and $PM_{2.5}$ in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

Part of the control process of the SCAQMD's duty to greatly improve the air quality in the Basin is the uniform CEQA review procedures required by SCAQMD's *CEQA Handbook*. The single threshold of significance used to assess direct and cumulative project impacts has in fact "worked" as evidenced by the track record of the air quality in the Basin dramatically improving over the course of the past decades. As stated by the SCAQMD, the SCAQMD thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this project.

CEQA Significance Criteria

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project may create a significant adverse environmental impact if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) 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?

c) Expose sensitive receptors to substantial pollutant concentrations?

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

3.2.4 METHODOLOGY

This analysis focuses on the potential change in the air quality environment due to implementation of the project. Air pollutant emissions would result from both construction and operation of the project. Specific methodologies used to evaluate these emissions are discussed below.

Construction

Daily regional and localized emissions during construction were forecasted based on the proposed construction schedule and applying the mobile-source and fugitive dust emissions factors derived from the SCAQMD-recommended California Emissions Estimator Model (CalEEMod) (Version 2016.3.2). Details of the modeling assumptions are provided in Appendix B. The calculations of the emissions generated during project construction activities reflect the type and quantities of construction equipment that would be used during site preparation, grading, trenching, paving, building construction, and architectural coating applications. To determine if a significant air quality impact would occur, the daily regional and localized emissions generated by the proposed project were compared against the SCAQMD significance thresholds.

Operations

Analysis of the project's likely impact on regional and local air quality during project operations takes into consideration four types of sources: area, energy, mobile, and stationary. Similar to construction, SCAQMD's CalEEMod software was used for the evaluation of project emissions during operation. CalEEMod was used to calculate on-road fugitive dust, architectural coatings, landscape equipment, energy use, mobile source, and stationary source emissions. To determine if a significant air quality impact would occur, the net increase in regional operational emissions generated by the project was compared against the SCAQMD significance thresholds.

3.2.5 ANALYSIS

Impact 3.2-a The project would not conflict with or obstruct implementation of the 2016 AQMP and impacts would be less than significant with implementation of mitigation measures **MM 3.2-1** and **MM 3.2-2** during construction.

Discussion

On March 3, 2017, the SCAQMD Governing Board adopted the 2016 AQMP, which incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, 2016-2040 RTP/SCS, and updated emission inventory methodologies for various source categories. According to the SCAQMD's CEQA Air Quality Handbook, two main criteria must be addressed:

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations associated with the CAAQS and NAAQS is used as the basis for evaluating project consistency. As discussed under **Impact 3.2-b** and **Impact 3.2-c**, the project's long-term emissions would be below the localized significance thresholds. Construction emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant with implementation of mitigation measures **MM 3.2-1** and **MM 3.2-2**. Mitigation measure **MM 3.2-1** would require Tier 4-certified off-road construction equipment during project construction and mitigation measure **MM 3.2-2** would further reduce construction emissions by restricting hauling vehicles to no larger than Medium Heavy Duty Trucks (MHDT) during the site preparation and grading phases. Thus, the project would not cause or contribute to localized air quality violations or delay the attainment of air quality standard or interim emissions reductions specified in the AQMP.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the following criterion.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?

Growth projections included in the 2016 AQMP form the basis for the projections of air pollutant emissions and are based on the Santa Clarita General Plan land use designations, and SCAG's 2016-2040 RTP/SCS demographics forecasts. The population, housing, and employment forecasts within the 2016-2040 RTP/SCS, developed by SCAG, are based on local general plans as well as input from local governments. The SCAQMD has incorporated these same demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment) into the 2016 AQMP.

The project site is designated in the General Plan as Urban Residential 2 (UR2),Urban Residential 5 (UR5), Neighborhood Commercial (CN), Open Space (OS) and Public/Institution (PI), with identical corresponding zone district classifications. The UR2 land use designation is intended for

neighborhoods or communities of single-family homes and other residential uses at a maximum density of five dwelling units per one acre. The UR5 land use designation provides for medium- to high-density apartment and condominium complexes in areas easily accessible to transportation, employment, retail, and other urban services. Allowable uses in this designation include multiple family dwellings at a minimum density of 18 dwelling units per one acre and a maximum density of 30 dwelling units per one acre. The CN land use designation provides for small neighborhood commercial districts that serve the short-term needs of residents in the immediate area. Multifamily dwellings may be permitted in this zone with a Conditional Use Permit (CUP). The areas on the project site that are designated as OS and PI zones would be primarily be used for the construction of a new segment of Bouquet Canyon Road, to follow the general alignment identified in the Santa Clarita General Plan Circulation Element. The proposed residential land use mix and densities represent a combination of the UR2 UR5 and CN land use standards. The proposed project is thus considered to be consistent with the General Plan land use policies and zoning standards for the project site. Therefore, the proposed project would be consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the RTP/SCS. Additionally, as the SCAQMD has incorporated these same projections into the 2016 AQMP, it can be concluded that the proposed project would be consistent with the projections included in the 2016 AQMP.

b) Would the project implement all feasible air quality mitigation measures?

The proposed project would comply with all feasible emission reduction measures identified by the SCAQMD as discussed in **Impacts 3.2-b** and **3.2-c**. Additionally, the project would implement mitigation measures **MM 3.2-1** and **MM 3.2-2** to reduce diesel fuel emissions during construction. As a result, the project would result in a less than significant air quality impact during construction with implementation of mitigation measures **MM 3.2-1** and **MM 3.2-2**. Thus, as the proposed project would implement all feasible air quality mitigation measures, the project would meet this 2016 AQMP consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth in the AQMP?

The 2016 AQMP incorporates land use strategies established in the 2016-2040 RTP/SCS. As discussed in **Table 3.8-3, Project Consistency with the 2016-2040 RTP/SCS,** of **Section 3.8, Greenhouse Gas Emissions**, the project would not conflict with the land use planning strategies set forth in the 2016-2040 RTP/SCS. Therefore, the proposed project would not conflict with this 2016 AQMP consistency criterion.

In conclusion, the project satisfies the two primary criteria set forth in the SCAQMD CEQA Handbook for determining consistency with the AQMP and the project would not result in significant impacts involving a conflict with the AQMP.

Mitigation Measures

Refer to mitigation measures **MM 3.2-1** and **MM 3.2-2**, described below in **Impact 3.2-b**.

Level of Impact Significance Following Mitigation

With the implementation of mitigation measures **MM 3.2-1** and **MM 3.2-2**, the project would not result in a potential violation of an air quality standard or worsening of an existing air quality violation, and

would not conflict with or obstruct implementation of 2016 AQMP. and a less than significant impact would result in this regard.

Impact 3.2-b The project would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable Federal or State ambient air quality standard with implementation of mitigation measures **MM 3.2-1** and **MM 3.2-2**. Therefore, impacts would be less than significant with mitigation incorporated.

Discussion

Short-Term Construction Air Emissions

Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment, trucks and the motor vehicles of the construction crew.

The project involves construction activities associated with site preparation, grading, trenching, paving, building construction, and architectural coating applications. The project would be constructed over approximately 60 months, estimated to commence in July 2020. Grading activities would require approximately 2,069,664 cubic yards of earthwork balanced on-site. Exhaust emission factors for typical diesel-powered heavy equipment are based on the CalEEMod program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Emissions for each construction phase have been quantified based upon the phase durations and equipment types. Refer to **Appendix B** for the CalEEMod outputs and results. **Table 3.2-4, Maximum Daily Peak Construction Emissions**, presents the anticipated daily unmitigated and mitigated short-term construction emissions.

Table 3.2-4
MAXIMUM DAILY PEAK CONSTRUCTION EMISSIONS

Emissions Source	Pollutant (pounds/day)[1,2,3]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions						
2020	7.43	185.02	57.19	0.22	20.47	12.01
2021	6.99	176.76	55.01	0.22	14.43	6.21
2022	3.25	22.31	28.31	0.07	4.64	1.81
2023	10.25	21.05	30.89	0.08	5.28	1.96
2024	10.06	19.92	29.98	0.08	5.18	1.87
2025	9.87	18.76	29.10	0.08	5.09	1.78
Maximum Daily Emissions	**10.25**	**185.02**	**57.19**	**0.22**	**20.47**	**12.01**

Emissions Source	Pollutant (pounds/day)[1,2,3]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded Before Mitigation?	***No***	***Yes***	***No***	***No***	***No***	***No***
Mitigated Emissions						
2020	2.78	39.19	59.85	0.09	6.91	3.79
2021	2.54	37.07	57.21	0.09	5.27	1.89
2022	2.14	11.57	29.03	0.07	3.17	1.02
2023	9.25	11.33	31.72	0.08	3.75	1.22
2024	9.14	10.97	30.89	0.08	3.72	1.19
2025	9.03	10.64	30.08	0.08	3.69	1.16
Maximum Daily Emissions	**9.25**	**39.19**	**59.85**	**0.09**	**6.91**	**3.79**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:

1. *Emissions were calculated using CalEEMod version 2016.3.2, as recommended by the SCAQMD.*
2. *The reduction/credits for construction emissions are based on "mitigation" included in CalEEMod and are required by the SCAQMD Rules. The "mitigation" applied in CalEEMod includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.*
3. *Mitigated emissions include implementation of mitigation measures MM 3.2-1 and MM 3.2-2. Mitigation measure MM 3.2-1 would require that all diesel-fueled construction vehicles and equipment meet EPA-certified Tier 4 emissions standards during the site preparation and grading phases of construction. Mitigation measure MM 3.2-2 would restrict hauling vehicles to no larger than MHDT (i.e., gross vehicle weight rating [GVWR] 14,001 – 33,000 pounds) during the site preparation and grading phases. The mitigated emissions results in this table represent the "mitigated" emissions shown in the CalEEMod output sheets titled "Bouquet Canyon Project_MHDT & Tier 4 Mitigation" in Appendix B.*

Refer to Appendix B for assumptions used in this analysis.

Source: Michael Baker International, 2019

Fugitive Dust Emissions

Fugitive dust (PM_{10} and $PM_{2.5}$) from grading and construction is expected to be short-term and would cease following project completion. Most of this material is composed of inert silicates, which are less harmful to health than the complex organic particulates released from combustion sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. The greatest amount of fugitive dust generated is expected to occur during site preparation and grading; refer to Appendix B. Dust generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular concern is the amount of PM_{10} generated as a part of fugitive dust emissions.

CalEEMod was used to calculate PM_{10} and $PM_{2.5}$ fugitive dust emissions as part of the site earthwork activities; refer to **Table 3.2-4**. Maximum particulate matter emissions would occur during the initial stages of construction, when site preparation and grading activities would occur. As detailed in **Table 3.2-4**, unmitigated PM_{10} emissions would range between 4.64 and 20.47 pounds per day and unmitigated $PM_{2.5}$ emissions would range between 1.78 and 12.01 pounds per day, which are less than the respective regional significance thresholds. Further, the project would implement all required SCAQMD dust control techniques (i.e., daily watering), limitations on construction hours, and adhere to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce PM_{10} and $PM_{2.5}$ concentrations. Thus, fugitive dust emissions would be

below the thresholds of 150 and 55 pounds per day for PM_{10} and $PM_{2.5}$, respectively, and impacts related to fugitive dust emissions would be less than significant.

Construction Exhaust Emissions

Exhaust emissions would be generated by the operation of vehicles and equipment on the construction site, such as tractors, dozers, backhoes, cranes, and trucks. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment. Diesel-powered equipment produces lower carbon monoxide and hydrocarbon emissions than gasoline equipment, but produces greater amounts of NO_X, SO_X, and particulates per hour of activity (Sullivan 2004). The transportation of machinery, equipment and materials to and from the site, as well as construction worker trips, would also generate vehicle emissions during construction. As presented in **Table 3.2-4**, unmitigated construction equipment, truck and worker vehicle exhaust emissions would not exceed the emissions thresholds with the exception of NO_X. The NO_x emission exceedances are predominantly attributed to the use of construction equipment during the site preparation and grading phases of construction which represent the most intensive phases of construction. However, mitigated construction emissions accounting for mitigation measures **MM 3.2-1** and **MM 3.2-2** are summarized in **Table 3.2-4**. Mitigation measure **MM 3.2-1** would require that all diesel-fueled construction vehicles and equipment meet EPA-certified Tier 4 emissions standards during the site preparation and grading phases of construction. Tier 4 standards regulate the amount of NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions from nonroad (or off-road) diesel engines. Tier 4 standards require emissions of NO_X, PM_{10}, and $PM_{2.5}$ to be reduced by 90 percent from Tier 1-3 standards. Compared to the previously adopted Tier 1-3 standards, the use of control technologies such as exhaust gas aftertreatment (oxidation catalysts) in addition to advanced engine design allows the more stringent Tier 4 standards to be met (OFR 2019; ICCT 2019). Additionally, mitigation measure **MM 3.2-2** would further reduce construction emissions by restricting hauling vehicles to no larger than MHDT (i.e., gross vehicle weight rating [GVWR] 14,001 – 33,000 pounds) during the site preparation and grading phases of construction. As shown in **Table 3.2-4**, construction exhaust emissions would not exceed SCAQMD thresholds with implementation of mitigation measures **MM 3.2-a** and **MM 3.2-b**. Therefore, impacts would be less than significant with mitigation incorporated.

VOC Emissions

The application of asphalt and surface coatings creates VOC emissions, which are O_3 precursors. As shown in **Table 3.2-4**, short-term construction activities associated with the project would emit a maximum of 10.25 pounds per day of unmitigated VOC emissions, which does not exceed the 75 pounds per day criteria pollutant thresholds for VOCs. As such, construction emissions would be below the thresholds of 75 pounds per day for VOC, and impacts would be less than significant.

Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (dated August 2000), the site is not located in an area where naturally occurring asbestos is likely to be present. Therefore, no impacts are anticipated to result.

Total Daily Construction Emissions

CalEEMod was utilized to model construction emissions for VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in **Table 3.2-4**, unmitigated construction emissions would not exceed SCAQMD thresholds with the exception of NO_X. However, implementation of mitigation measures **MM 3.2-a** and **MM 3.2-b** would reduce construction exhaust NOx emissions to less than significant levels. As such, construction emissions would be less than significant with mitigation incorporated.

Long-Term Operational Air Emissions

Operational emissions generated by both stationary and mobile sources would result from normal daily activities on the site after construction is complete (i.e., increased concentrations of O_3, PM_{10}, and CO). Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance and on-site equipment, and the use of consumer products. Stationary energy emissions would result from energy consumption associated with the project. Mobile emissions would be generated by the motor vehicles traveling to and from the site. Emissions associated with each of these sources were calculated and are discussed below.

Area Source Emissions

Area source emissions include those generated by architectural coatings, consumer products, and landscape maintenance equipment as described below.

- *Architectural Coatings*: As part of project maintenance, architectural coatings on the project buildings would emit emissions from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings.
- *Consumer Products*: Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds, which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants.
- *Landscape Maintenance Equipment*: Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category

would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the site.

Energy Source Emissions

Energy source emissions (i.e. generated at the site of the power generation source) would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. It should be noted that the project would comply with the 2019 Title 24 standards which requires more efficient lighting and rooftop solar panels for new residential projects.

Mobile Source Emissions

Project related operational air quality impacts are derived predominantly from mobile sources. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the project on peak hour traffic volumes and traffic operations in the site vicinity. The operational air quality impacts are derived primarily from vehicle trips generated by the project. According to the Traffic Impact Analysis (refer to Appendix L) the project would generate approximately 3,941 daily vehicle trips.

Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Operational Emissions Summary

The project's long-term operational emissions estimates were calculated using the CalEEMod model; refer to Appendix B. This model predicts ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions from area, energy, and mobile traffic sources associated with the proposed land uses. **Table 3.2-5 Long-Term Operational Air Emissions,** presents the anticipated operational source emissions for the project. As indicated, the operational emissions from the project would not exceed regional thresholds of significance established by the SCAQMD for criteria air emissions. Therefore, a less than significant impact would occur in this regard.

Table 3.2-5
LONG-TERM OPERATIONAL AIR EMISSIONS

Scenario	Emissions (pounds per day)[1,3]					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Project Summer Emissions[2]						
Area Source	10.72	5.81	32.50	0.04	0.61	0.61
Energy Source	0.12	1.03	0.45	0.01	0.08	0.08
Mobile	5.86	25.39	79.24	0.32	28.87	7.88
Total Maximum Daily Emissions	**16.70**	**32.22**	**112.19**	**0.37**	**29.57**	**8.57**
SCAQMD Regional Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Project Winter Emissions[2]						

Scenario	Emissions (pounds per day)[1,3]					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area Source	10.72	5.81	32.50	0.04	0.61	0.61
Energy Source	0.12	1.03	0.45	0.01	0.08	0.08
Mobile	5.67	25.96	74.94	0.31	28.87	7.88
Total Maximum Daily Emissions	**16.52**	**32.80**	**107.88**	**0.35**	**29.57**	**8.57**
SCAQMD Regional Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

1. Emissions were calculated using CalEEMod version 2016.3.2, as recommended by the SCAQMD.

2. The reduction/credits for operational emissions are based on 2019 Title 24 standards which include rooftop solar panel installation.

3. The numbers may be slightly off due to rounding.

Refer to Appendix B for assumptions used in this analysis

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. As expressed in the amicus curiae brief submitted for the Sierra Club v. County of Fresno case (Friant Ranch Case), the local air pollution control district's established and recommended methodology for CEQA air quality analyses of criteria air pollutants applies significance thresholds that were set at emission levels tied to the region's attainment status, based on emission levels at which stationary pollution sources permitted by the air district must offset their emissions (SJVAPCD 2014). Such offset levels allow for growth while keeping the cumulative effects of new sources at a level that will not impede attainment of the NAAQS. The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. The mass emissions significance thresholds used in CEQA air quality analysis are not intended to be indicative of human health impacts that a project may have (SJVAPCD 2014; SCAQMD 2014). Therefore, the project's exceedance of the mass regional emissions threshold (i.e., project construction NO_X exceedance) from project-related activities does not necessarily indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

As discussed earlier and shown in **Table 3.2-2**, the Basin is currently in State and Federal nonattainment status for ozone, $PM_{2.5}$, and PM_{10}. Although ozone would not be directly emitted by construction equipment for the proposed project, the ozone precursors ROG and NO_X would be emitted, as well as, the other criteria pollutants of CO, SO_X, PM_{10} and $PM_{2.5}$. Given that ozone formation occurs through a complex photo-chemical reaction between NO_X and ROG in the atmosphere with the presence of sunlight, the impacts of ozone are typically considered on a basin-wide or regional basis and not on a localized basis.

The health-based ambient air quality standards for ozone are established as concentrations of ozone and not as tonnages of their precursor pollutants (i.e., NO_X and ROG). It is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or particulate matter. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases, and given the state of environmental science modeling in use at this time, it is not practical to determine whether, or the extent to which, a single project's precursor (i.e., NO_X and ROG) emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions. Meteorology, the presence of sunlight, seasonal impacts, and other complex photochemical factors all combine to

determine the ultimate concentration and location of ozone (SJVAPCD 2014; SCAQMD 2014). Running the regional-scale photochemical grid model used for predicting ozone attainment with the emissions from any individual project can be done, but it would not yield reliable information regarding a measurable increase in ozone concentrations sufficient to accurately quantify ozone-related health effects. Similarly, it would also not be feasible to identify a project's impact on the days of nonattainment per year. Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by ROG or NO_X emissions from a local level (an individual project). Notwithstanding this scientific constraint, CEQA air quality analyses have been using project-level mass-emission thresholds for ozone precursors (NO_X and ROG), particulate matter, and other criteria pollutants, and the disconnect between project-level emissions and project-level health impact cannot be bridged at this time. Based on this information, a general description of the adverse health effects resulting from the project-level criteria pollutants, which is discussed previously, is all that can be feasibly provided at this time.

Mitigation Measures

MM 3.2-a All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the EPA-certified Tier 4 emission standards. In addition, all construction equipment shall be outfitted with best available control technologies (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

Timing/Implementation: *Site preparation and grading phases of construction*

Enforcement/Monitoring: *City of Santa Clarita Building & Safety Division*

MM 3.2-b The contractor shall utilize hauling trucks no larger than Medium Heavy Duty Trucks (MHDT) (i.e., gross vehicle weight rating [GVWR] 14,001 – 33,000 pounds) during the site preparation and grading phases of construction.

Timing/Implementation: *Site preparation and grading phases of construction*

Enforcement/Monitoring: *City of Santa Clarita Building & Safety Division*

Level of Impact Significance Following Mitigation

As shown in **Table 3.2-4**, implementation of mitigation measures MM 3.2-1 and MM 3.2-2 would reduce NOx emissions below SCAQMD thresholds. Therefore, impacts would be less than significant with mitigation incorporated.

MM 3.2-c The project would not expose sensitive receptors to substantial pollutant concentrations with implementation of mitigation measure **MM 3.2-a** and **MM 3.2-b**.

Discussion

Local Significance Thresholds (LSTs) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for projects that disturb/grade one, two, or five acres per day emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres in size should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors from area source emissions. For LST analysis purposes, SCAQMD is divided into 38 SRAs, each of which contain specific localized air quality emission thresholds for CO, NO_X, $PM_{2.5}$, and PM_{10} to determine local air quality impacts. The project is located within SRA 13, Santa Clarita Valley.

Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors;" they are also known to be locations where an individual can remain for 24 hours.

To assess the potential for long-term operational and short-term emission impacts, the closest existing sensitive receptor was identified as a representative location for analysis. The closest existing sensitive receptor is a residential use, located on an inholding parcel which is not part of the project site, approximately 30 feet away from the planned construction area; refer to **Section 2.0, Project Description**. Other sensitive receptors in the site vicinity at greater distances than those identified would experience lower air impacts than those identified below due to the additional particle dispersion from distance and the shielding of intervening structures.

Construction Impacts

The SCAQMD guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day. SCAQMD provides LST thresholds for one-, two-, and five-acre site disturbance areas; SCAQMD does not provide LST thresholds for projects over five acres. According to the project engineer, the project would disturb approximately five acres per day during the mass grading phase.[1] Therefore, the LST thresholds for five acres were utilized for the construction LST analysis.

The closest existing sensitive receptor is a single-family home, located on an inholding parcel which is not part of the project site, approximately 30 feet away from the planned construction area. All other existing homes surrounding the project site are at least 70 feet away from the nearest construction areas. These sensitive land uses may be potentially affected by air pollutant emissions generated during on-site construction activities. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Notwithstanding, the SCAQMD Methodology explicitly states: "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the*

[1] Email correspondence with Henry S. Walsh, Senior Vice President, Sikand Engineering Associates, dated October 24, 2019.

nearest receptor should use the LSTs for receptors located at 25 meters." As the nearest sensitive receptor (i.e. single-family home) is located approximately 30 feet from the planned construction area, the LST values for 25 meters (82 feet) were used.

Table 3.2-6, Construction Localized Significance Emissions Summary, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 13. It is noted that the localized emissions presented in **Table 3.2-6** are less than those in **Table 3.2-4** because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from worker trips). As shown in **Table 3.2-6**, air pollutant emissions resulting from project construction would exceed the PM_{10} and $PM_{2.5}$ LST thresholds. However, implementation of mitigation measures MM 3.2-1 and MM 3.2-2 would reduce PM_{10} and $PM_{2.5}$ construction emissions below SCAQMD LSTs and impacts would be less than significant.

Table 3.2-6
CONSTRUCTION LOCALIZED SIGNIFICANCE EMISSIONS SUMMARY

Phase	Emissions (pounds per day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Construction On-Site Emissions (Unmitigated)				
2020[1,5]	184.95	56.38	20.26	11.95
2021[2,5]	176.69	54.27	14.21	6.15
2022[3]	15.62	16.36	0.81	0.76
2023[3]	14.38	16.24	0.70	0.66
2024[3]	13.44	16.17	0.61	0.58
2025[3]	12.47	16.08	0.53	0.50
Maximum Daily Emissions	**184.95**	**56.38**	**20.26**	**11.95**
SCAQMD Significance Threshold[6]	*246*	*1,644*	*12*	*6*
Threshold Exceeded Before Mitigation?	***No***	***No***	***Yes***	***Yes***
Construction On-Site Emissions (Mitigated)[4]				
2020[1,5]	39.12	59.05	6.76	3.74
2021[2,5]	4.99	66.71	5.09	1.83
2022[3]	4.88	17.08	0.18	0.18
2023[3]	4.67	17.07	0.16	0.16
2024[3]	4.49	17.07	0.14	0.14
2025[3]	4.35	17.06	0.13	0.13
Maximum Daily Emissions	**39.12**	**66.71**	**6.76**	**3.74**
SCAQMD Localized Threshold[6]	*246*	*1,644*	*12*	*6*
Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***

Notes:

1. *The grading phase emissions would present the worst-case scenario for NOx and CO in 2020. The site preparation phase emissions would present the worst-case scenario for PM_{10} and $PM_{2.5}$ in 2020.*
2. *The grading phase emissions would present the worst-case scenario for NOx, CO, PM_{10}, and $PM_{2.5}$ in 2021.*
3. *The building construction phase emissions would present the worst-case scenario for NOx, CO, PM_{10}, and $PM_{2.5}$ in 2022 through 2025.*
4. *The reduction/credits for construction emissions applied in CalEEMod are based on the application of dust control techniques as required by SCAQMD Rule 403. The dust control techniques include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stock piles with tarps; water all haul roads three times daily; and limit speeds on unpaved roads to 15 miles per hour. Additionally, mitigated emissions include implementation of mitigation measures MM 3.2-1 and MM 3.2-2. Mitigation measure MM 3.2-1 would require that all diesel-fueled construction vehicles and equipment meet EPA-certified Tier 4 emissions standards during the site preparation and grading phases of construction. Mitigation measure MM 3.2-2 would restrict hauling vehicles to no larger than MHDT (i.e., gross vehicle weight rating [GVWR] 14,001 – 33,000 pounds) during the site preparation and grading phases. The mitigated emissions results in this table represent the "mitigated" emissions shown in the CalEEMod output sheets titled "Bouquet Canyon Project_MHDT & Tier 4 Mitigation" in Appendix B.*

5. *Earthwork would be balanced on-site and occur during the grading phase. Therefore, all soil hauling activities would occur on-site and soil hauling emissions have been included in the grading phase emissions (anticipated to occur during 2020 and 2021).*
6. *The Localized Significance Threshold was determined using Appendix C of the SCAQMD Final Localized Significant Threshold Methodology guidance document for pollutants NOX, CO, PM10, and PM2.5. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately 5 acres; therefore, the threshold for 5-acre was used), a distance of 82-feet (25) meters to the closest sensitive receptor, and the source receptor area (SRA 13).*

Refer to Appendix B for assumptions used in this analysis.

Source: Michael Baker International, 2019

Operational Impacts

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). Occasional truck trash pickup (once per week) would occur at the site. These truck trash pickup activities would be intermittent and would not include extended periods of idling time; therefore, idling emissions from truck deliveries would be minimal. Daily automobile trips to/from the site by project residents and visitors would not result in extended queuing and idling at the site, due to an efficient circulation network that would distribute the vehicles to the various planning areas in several locations, with appropriate stop control devices. Additionally, potential emergency vehicle trips to and from the site would be sporadic and would not idle on-site or along adjacent roadways for long periods of time. Thus, due to the lack of such emissions, no long-term localized significance threshold analysis is needed. Operational LST impacts would be less than significant in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though VMT on U.S. urban and rural roads have increased Nationwide estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions (EPA 2019). Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

According to the SCAQMD *CEQA Air Quality Handbook*, a potential CO hotspot may occur at any location where the background CO concentration already exceeds 9.0 parts per million (ppm), which is the 8-hour California ambient air quality standard. As previously discussed, the site is located in SRA 13, Santa Clarita Valley. Communities within SRAs are expected to have similar climatology and ambient air pollutant concentrations. The monitoring station representative of SRA 13 is the Santa Clarita-Placerita station, which is located approximately 5.33 miles southwest of the site. The highest CO concentration at the Santa Clarita-Placerita station was measured at 1.278 ppm in 2016. As such, the background CO concentration does not exceed 9.0 ppm and a CO hotspot would not occur. Therefore, CO hotspot impacts would be less than significant in this regard.

Mitigation Measures

Refer to mitigation measures **MM 3.2-a** and **MM 3.2-b**, described above in **Impact 3.2-b**.

Level of Impact Significance Following Mitigation

With the implementation of mitigation measures **MM 3.2-a** and **MM 3.2-b**, localized air emissions generated during project construction would result in a less than significant impact.

Impact 3.2-d The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and a less than significant impact would occur.

Discussion

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. As the project proposes a residential development, the project would not include any uses identified by the SCAQMD as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also be required to comply with the SCAQMD Regulation XI, *Rule 1113-Architectural Coating*, which would minimize odor impacts from ROG emissions during architectural coating. Any odor impacts to existing adjacent land uses would be short-term and not substantial. No other types of emissions beyond those analyzed in the preceding pages would be generated by the project. As such, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant in this regard.

Mitigation Measures

No mitigation measures are required.

This page intentionally left blank.

3.3 BIOLOGICAL RESOURCES

3.3 BIOLOGICAL RESOURCES

Pursuant to the environmental scoping process conducted during the initial phase of this EIR (see Initial Study and Notice of Preparation documentation in Appendix A), this section of the Draft EIR evaluates the potential impacts on plant and animal resources that could result from the proposed project. Biological resource impacts are addressed in terms of potential effects that could result from project construction and long-term operation on endangered and protected species; wetland, riparian, and other sensitive habitat; the movement of native or migratory fish and wildlife; and jurisdictional waters defined in Section 404 of the Clean Water Act. Information in this section is based on the Biological Technical Report for the Bouquet Canyon Project, completed in August 2019 by HELIX Environmental Planning, available as Appendix C of this EIR). That report was subject to a professional peer review by staff biologists of Michael Baker International, on behalf of the City of Santa Clarita.

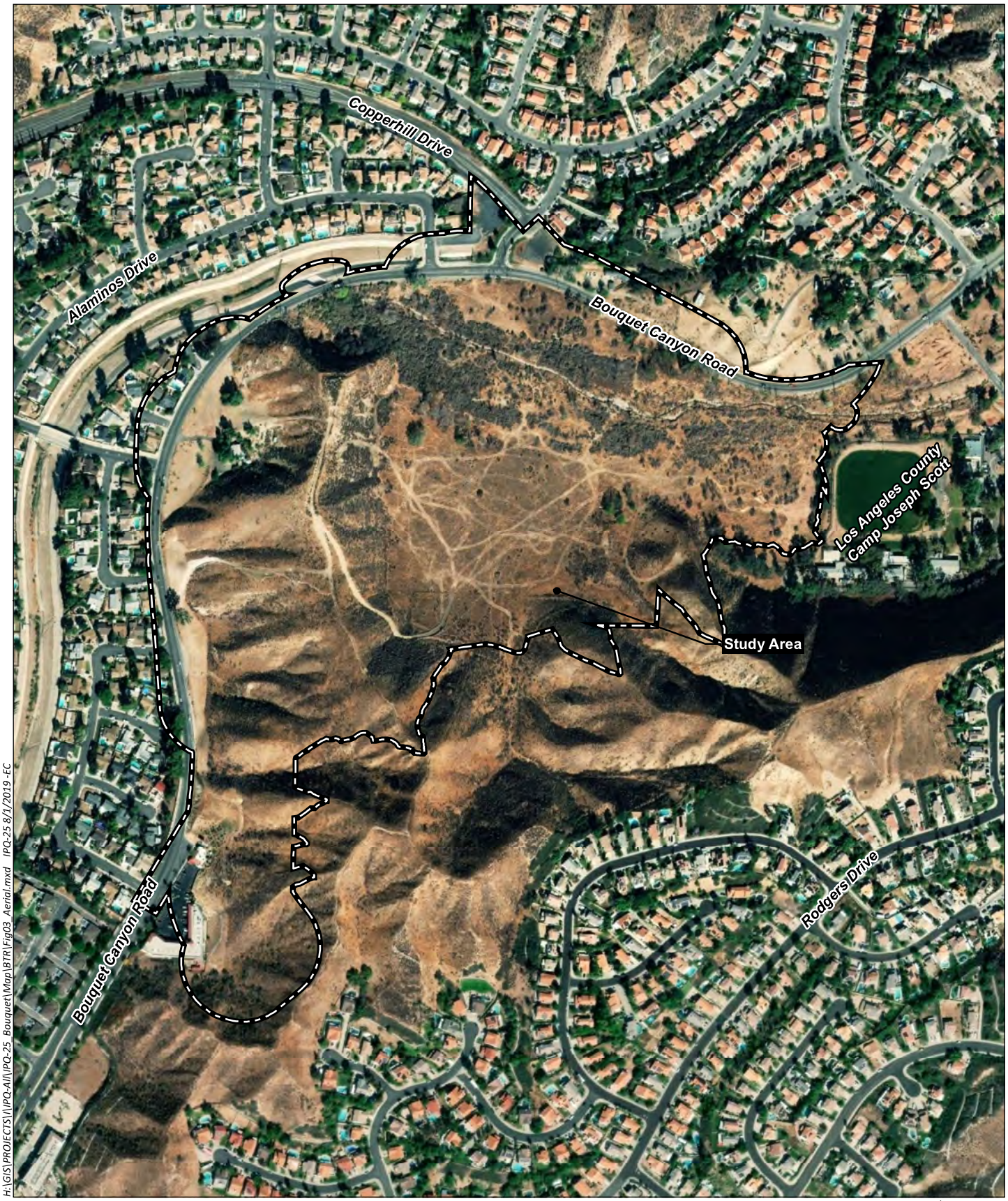
As discussed in the Initial Study prepared for this project, the project would not conflict with provisions of a habitat conservation plan, natural community conservation plan, or other approved local, regional, or state conservation plan. Further, the project would not affect a Significant Ecological Area or Significant Natural Area. Therefore, these topics will not be discussed in this section.

3.3.1 ENVIRONMENTAL SETTING

3.3.1.1 INVESTIGATIVE METHODS

Biological resource evaluations for this project included a review of project plans, a literature review of biological resources occurring on the project site and in the surrounding area, and a field survey encompassing approximately 93 acres. This survey included areas outside of the project site such as areas west and north of Bouquet Canyon Road, and sloped areas south of the project site surrounding and east of the Canyon Center commercial development (see **Figure 3.3-1**). The survey included vegetation mapping and habitat assessment, focused surveys for rare plant and animal species, such as oak trees, burrowing owl, and coastal California gnatcatcher, and a jurisdictional assessment for riparian habitat.

During the field surveys, plant communities were classified in accordance with Holland (1986) and Oberbauer (1996), with additional vegetation community information taken from the *Manual of California Vegetation*, second edition (MCV; Sawyer, Keeler-Wolf, and Evens 2009). Animal communities were classified in accordance with Emmel and Emmel (1973) for butterflies, Center for North American Herpetology (Taggart 2016) for reptiles and amphibians, American Ornithologists' Union (2018) for birds, and Baker et al. (2003) for mammals. Rare plant and sensitive animal statuses are from the Inventory of Rare and Endangered Plants of California (California Native Plant Society [CNPS] 2017, 2018) and the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife (CDFW) 2017, 2018). Rare plant species' habitats and flowering periods are from the *Jepson Manual* (Baldwin et al. 2012), the Inventory of Rare and Endangered Plants of California (CNPS 2018), and California Natural Diversity Database (CDFW 2018). Soil classifications were obtained from the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2017).



H:\GIS\PROJECTS\V\PQ-All\PQ-25 Bouquet\Map\BTR\Fig03_Aerial.mxd IPQ-25 8/1/2019 -EC

Michael Baker INTERNATIONAL

Biological Technical Report Study Area

Source: HELIX Environmental Planning, August 2019

Figure 3.3-1

The literature review of biological resources occurring on the project site and in the surrounding area included a review of regional planning documents, aerial photographs, Web Soil Survey information, and databases with information on sensitive species, such as the Inventory of Rare and Endangered Plants of California, the CNDDB, and critical habitat maps for endangered and threatened species published by the U.S. Fish and Wildlife Service (USFWS). Furthermore, a nine-quadrangle database search was conducted on the CNDDB and CNPS, which included the Agua Dulce, Green Valley, Mint Canyon (which includes the project site), Newhall, Oat Mountain, San Fernando, Sleepy Valley, Sunland, and Warm Springs Mountain quadrangles.

Multiple field surveys were conducted during different seasons to document the existing conditions of the study area and surrounding lands. As part of these field surveys, general biological surveys and habitat assessments were conducted on the project site to map existing vegetation communities and to determine habitat suitability for sensitive plant and animal communities. These field surveys also included focused surveys for rare plant species, oak trees, burrowing owl, and coastal California gnatcatcher, as well as a jurisdictional assessment to determine jurisdictional boundaries of areas regulated by the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and CDFW. Areas of the project site were determined to be waters of the U.S. (under USACE jurisdiction) if there was evidence of regular surface flow, with the boundaries of such areas defined according to a discernible ordinary high water mark (as defined in 33 CFR 329.11), as well as recent guidance documents, USACE rulemakings, and court rulings further defining the process for determining jurisdictional delineation.[1] The RWQCB regulates activities affecting wetland and non-wetland waters of the state pursuant to Section 401 of the Clean Water Act and the State of California Porter-Cologne Water Quality Control Act. Streambeds within the jurisdiction of the CDFW were delineated based on the definition for streambed in Title 14, Section 1.72, a "body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation."

3.3.1.2 EXISTING CONDITIONS

The project site is located in the foothills of the Sierra Pelona Mountains with Bouquet Creek flowing from east to west in the northern portion of the project site. The relatively flat northern portion of the project site is dominated by non-native grassland and the steep hills throughout the southern and western portion of the site are dominated by Riversidean upland sage scrub. Elevations above mean sea level on the project site range between approximately 1,365 feet and 1,600 feet.

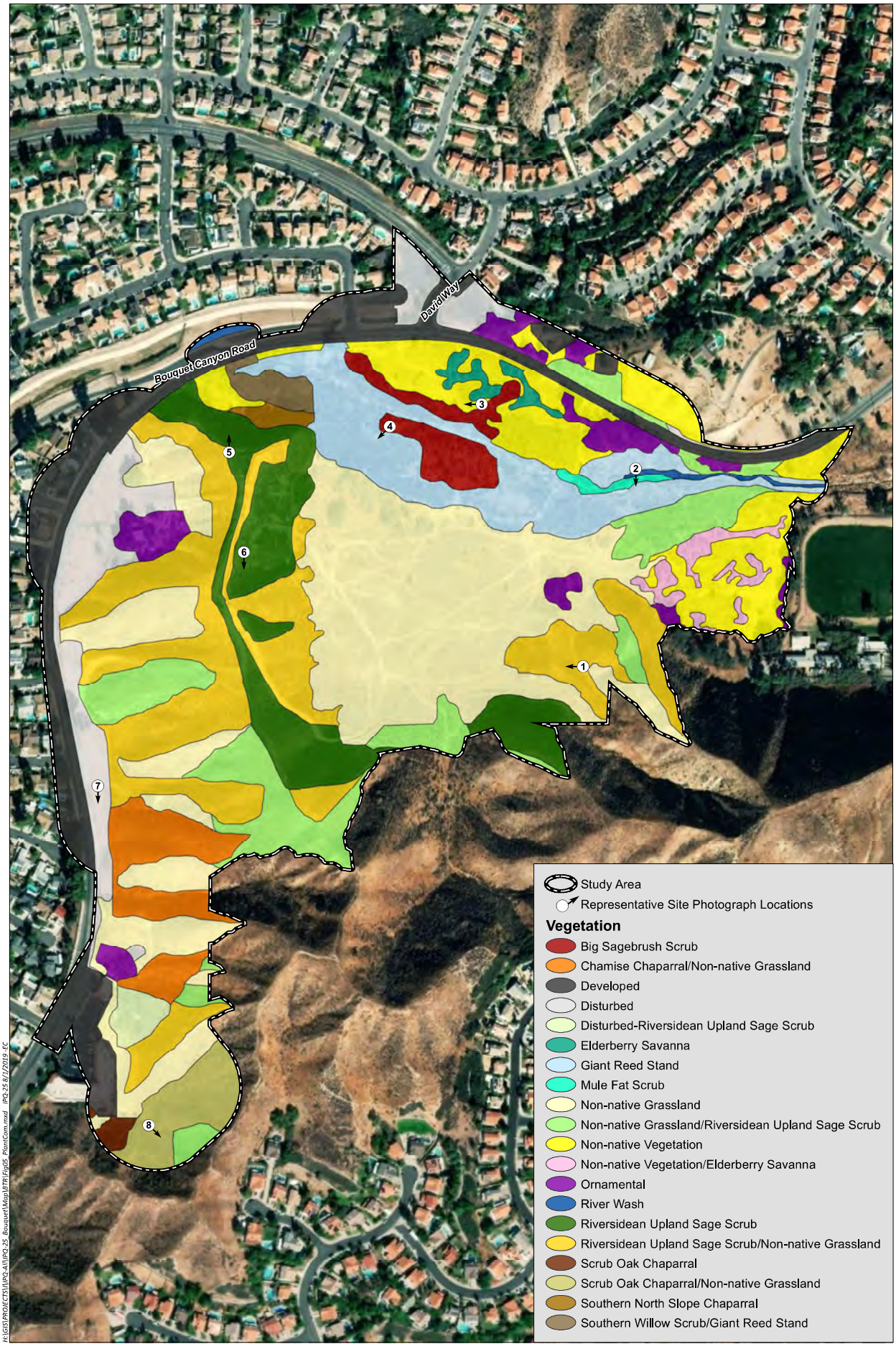
Flora

A total of 20 vegetation communities were mapped on the project site, as displayed in **Table 3.3-1**, and **Figure 3.3-2**, below, with non-native grassland and vegetation, developed and disturbed land, giant reed stand, and Riversidean upland sage scrub comprising the majority of the approximately 93-acre survey area.

[1] 33 CFR 329.11 defines an ordinary high water mark as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas."

Table 3.3-1
VEGETATION COMMUNITIES IDENTIFIED IN BIOLOGICAL SURVEY AREA

Habitat Type	Acres
Big Sagebrush Scrub	1.91
Chamise Chaparral/Non-native Grassland	2.98
Developed	9.37
Disturbed	5.23
Disturbed-Riversidean Upland Sage Scrub	0.62
Elderberry Savanna	0.56
Giant Reed Stand	7.08
Mule Fat Scrub	0.27
Non-native Grassland	22.06
Non-native Grassland/Riversidean Upland Sage Scrub	7.75
Non-native Vegetation	8.06
Non-native Vegetation/Elderberry Savanna	0.97
Ornamental	2.69
Riversidean Upland Sage Scrub	7.06
Riversidean Upland Sage Scrub/Non-native Grassland	13.1
River Wash	0.36
Scrub Oak Chaparral	0.26
Scrub Oak Chaparral/Non-native Grassland	2.01
Southern North Slope Chaparral	0.34
Southern Willow Scrub/Giant Reed Stand	0.7
Total	**93.47**



H:\GIS\PROJECTS\IPQ-25_Bouquet\Map\EIR\Fig05_PlantCom.mxd IPQ-25 8/1/2019 EC

Michael Baker INTERNATIONAL

Source: HELIX Environmental Planning, August 2019

Project Area Vegetative Cover

Figure 3.3-2

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. These areas were observed near the northern and western study area and consist of the existing Bouquet Canyon Road right-of-way. Disturbed habitat includes land cleared of vegetation, such as dirt roads, or actively maintained or heavily disturbed areas that are mostly unvegetated but may support scattered non-native plant species, such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat was observed adjacent to Bouquet Canyon Road along the northern and western study area boundaries and consists of fuel modification areas around existing homes along David Way, as well as areas along the project site's western boundary along Bouquet Canyon Road.

Giant reed stands occur within sandy and gravelly soils that are deposited near stream channels during flood events; these soils can become densely vegetated by giant reed. The plants in this area include native species such as thick-leaved yerba santa, fourwing saltbush, and caterpillar phascelia. This vegetation type was observed in the northern portion of the project site on either side of Bouquet Creek.

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. Species found in this habitat type include oats, brome grasses, and mustards. These non-native species are the predominant plant community on the project site with abundant populations of grasses in the flatter portions of the project site, as well as in the valleys on the western, hilly portions of the project site. Non-native vegetation dominated by ornamental and non-native species of plants is located on land that has been heavily influenced by human activities, including areas adjacent to roads, manufactured slopes, and abandoned lots. Non-native vegetation was observed between Bouquet Canyon Road and Bouquet Creek on the north side of the project site, and the eastern portion of the project site abutting the Los Angeles County land to the east.

Riversidean upland sage scrub typically occupies very dry areas, such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. This community is dominated by subshrubs with leaves that are deciduous during drought, an adaptation that allows the habitat to withstand the prolonged drought period in the summer and fall. Typical stands are fairly open and dominated by species such as California sagebrush, brittlebush, and California buckwheat. Several patches of Riversidean upland sage scrub were observed on the east- and north-facing hillsides in the western portion of the project site. This habitat type is concentrated in some areas and interspersed with non-native grassland in other portions of the project site.

Special Status Flora

Rare plant species are uncommon or limited in that they (1) are only found in the Santa Clarita region; (2) are a local representative of a species or association of species not otherwise found in the region; or (3) are severely depleted within their ranges or within the region. Rare plants include those listed by the California Native Plant Society, federally listed as endangered or threatened, or state-listed as endangered or threatened. According to the literature review conducted as part of the biological resources report, a total of eight rare plant species were identified within the Mint Canyon USGS quadrangle (CNDDB and CNPS). Of these eight species, only four species were determined as having potential of occurring on the project site due to elevation, species range, and available habitat. These four species are Nevin's barberry, slender mariposa lily, slender-horned spineflower, and Piute Mountains navarretia.

Three rare plant surveys were conducted on the project site: one in spring 2018, one in summer 2018, and one in spring 2019. Nevin's barberry, slender-horned spineflower, and Piute Mountains navarretia were not observed during any of the rare plant surveys and are therefore considered absent from the project site. A total of 496 slender mariposa lilies were observed on the north-facing slopes in the eastern and southern portions of the study area during the spring rare plant surveys.

The biological resources study identified two sensitive vegetation communities on the project site, which are considered rare or sensitive by the CDFW. Vegetation communities are given a Global (G) and State (S) ranking on a scale of 1 to 5 by the CDFW, which categorizes communities as common (ranking of 5) or highly periled (ranking of 1). The CDFW considers sensitive communities as those with a ranking between S1 and S3. Sensitive vegetation communities on the project site include elderberry savanna and southern willow scrub/giant reed stand, which encompass approximately 0.56 and 0.70 acres of land, respectively, and which are designated as sensitive per CDFW's Natural Communities list (2018). Both of these vegetation communities are small, isolated patches of habitat and have a non-native understory.

Oak Tree Survey

A total of 64 oak trees were identified within the Biological Technical Report survey area, including two coast live oaks, six scrub oaks, two blue oaks, 53 Tucker oaks, and one valley oak. The majority (57 percent) of the oak trees were given a rating of average or poor during the site surveys, meaning the trees either exhibited an abnormal amount of stress, disease, and pest infestation, or were in an advanced state of declining health. There were no dead oak trees or heritage oak trees identified in the study area.[2]

Fauna

A total of 45 animal species were identified during the project site, including 1 reptile species, 40 bird species, and 4 mammal species.

Special Status Fauna

According to the literature review conducted as part of the Biological Technical Report, a total of 15 sensitive animal species were recorded within the Mint Canyon USGS quadrangle. Of these species, only 10 have the potential of occurring on the project site due to species range and available habitat. Of these species, only four were determined to have a high potential to occur on the project site based on the presence of suitable habitat and recent observations within the immediate vicinity of the project site: the coastal whiptail, coast horned lizard, loggerhead shrike, and San Diego black-tailed jackrabbit.

Focused surveys were conducted for the burrowing owl and coastal California gnatcatcher; however, neither of these animals were found to occur on the project site.

Habitat and Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species presence. Local wildlife corridors allow animals to access food, water, and habitat during their daily routine. Regional corridors allow animals to access food, water, and habitat over a larger scale and typically link two or more habitat areas. As stated in the Biological Technical Report,

[2] A heritage tree is defined as an oak tree measuring 108 inches in diameter at 4.5 feet above the tree's natural grade.

the project site is surrounded by streets and residential development, except for the area east of the project site. Bouquet Creek supports limited native habitat for wildlife, including small patches of mule fat and red willows. The majority of Bouquet Creek within the project site is vegetated with giant reed, which provides limited resources for wildlife. The remainder of the project site supports a number of native upland habitats that provide live-in resources for wildlife, such as big sagebrush scrub, elderberry savanna, Riversidean upland sage scrub, scrub oak chaparral, and southern north slope chaparral. The dominant habitat on the project site, as described above, is non-native grassland, which also provides low-value foraging habitat for some bird species.

The project site is not considered a regional wildlife corridor since it does not directly connect two or more large blocks of habitat that would otherwise be fragmented or isolated from one another. The areas immediately adjacent to the study area are highly urbanized and support limited cover for wildlife moving through the area. Wildlife may access the project site via undeveloped land to the east; however, access from the east is constrained by development northeast, east, and south of the project site, as well as by Bouquet Canyon Road. That said, wildlife access could occur along Bouquet Creek or along the ridgeline to the south of the Los Angeles County, Camp Joseph Scott facility. Development of the project would not impede wildlife access to other undeveloped land in the region since the study area is located at the edge of existing development. Although wildlife likely traverse Bouquet Canyon Creek within and beyond the project site for local movement through the area, the portion of Bouquet Canyon Creek within the project site would not be considered a regional corridor for wildlife since the creek becomes channelized and unvegetated just downstream of the study area, on the opposite side of Bouquet Canyon Road. As stated in the Biological Technical Report, the project site is essentially a “dead end” for wildlife moving through the area since it does not directly connect two or more large blocks of habitat and the northern, southern, and western boundaries of the project site are confined by existing development. Further, the project site is not within any wildlife corridors or linkages identified by the South Coast Missing Linkages Project (South Coast Wildlands 2008). The nearest wildlife movement corridor to the study area identified by the South Coast Missing Linkages Project is the San Gabriel – Castaic Connection, approximately 4.3 miles to the northeast.

While the project site is not considered a regional wildlife movement corridor, the area does support habitat suitable for local wildlife movement, especially that of common mammals adapted to human disturbance, such as raccoon, skunk, cottontail rabbit, and coyote. Further, bird species may fly over surrounding development to nest or forage within the project site. Larger mammals, such as mountain lions and bobcats, are known to occur in the vicinity of the project site, with a bobcat observed during a field survey conducted for this project site. The Biological Technical Report concludes that while the study area is not large enough to solely support live-in habitat for these larger mammals, the study area could be on the edge of their territories and they may occasionally wander onto the project site.

Jurisdictional Waters and Wetlands

The Biological Technical Report identified jurisdictional waters as resources potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act, RWQCB jurisdiction pursuant to Section 401 of the Clean Water Act, and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code. As stated above, areas of the project site were determined to be waters of the U.S. (WUS), under USACE jurisdiction, if there was evidence of regular surface flow, with the boundaries of such areas defined according to a discernible ordinary high water

mark. The RWQCB regulates activities affecting wetland and non-wetland waters of the state pursuant to Section 401 of the Clean Water Act and the State of California Porter-Cologne Water Quality Control Act. Streambeds within the jurisdiction of the CDFW were delineated based on the definition for streams in Title 14, Section 1.72 of the California Code of Regulations, as a "body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation." Areas were determined to be potential USACE WUS wetland if the three criteria (vegetation, soils, and hydrology) established for wetland delineations, as described in the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a), were met.

The only major drainage feature on the project site is Bouquet Creek, which is a tributary to the Santa Clara River, which ultimately drains into the Pacific Ocean approximately 35 miles to the southwest of the project site. Overall, the project site supports approximately 0.65 acre of USACE/RWQCB jurisdictional WUS, and 9.80 acres of CDFW jurisdictional streambed and riparian vegetation.

3.3.2 REGULATORY AND PLANNING FRAMEWORK

3.3.2.1 FEDERAL

Endangered Species Act and Critical Habitat

Administered by the USFWS, the Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Sections 4(d), 7, and 10(a) of the ESA regulate actions that could jeopardize endangered or threatened species. Section 4(d) rules are applied by the USFWS to incentivize proactive conservation efforts with long-term benefits through streamlining ESA compliance efforts, and to target the "take" prohibitions for actions that result in low levels of take but do not contribute to the threats facing a species' continued existence. A Section 7 consultation is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity.

Critical habitat is the geographic area occupied by a threatened or endangered species essential to species conservation that may require special management considerations or protection. Critical habitat also may include specific areas not occupied by the species but that have been determined to be essential for species conservation. The project site does not contain any federal- or state-designated critical habitat. The nearest critical habitat is for spreading navarretia (a rare plant), located 2.25 miles east of the project site.

Clean Water Act

Permitting for projects filling WUS, including wetlands and vernal pools, is overseen by USACE under Section 404 of the Clean Water Act. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed based on the type of action, amount of fill, etc. and typically require substantial time to review and approve by the USACE. Nationwide Permits are preapproved if a project meets appropriate conditions set forth in a Nationwide

Permit. A Clean Water Act Section 401 Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to issuance of any Section 404 permit.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal Migratory Bird Treaty Act, as amended under the Migratory Bird Treaty Reform Act of 2004. In common practice, the Migratory Bird Treaty Act is used to place restrictions on disturbance of active bird nests during the nesting season, which is generally defined as February 15 to August 31 for songbirds. Further, the USFWS commonly places restrictions on disturbances allowed near active raptor nests during the nesting season, which is generally defined as January 15 to August 31.

3.3.2.2 STATE

California Endangered Species Act

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*) are considered State Fully Protected (SFP) species and may not be taken or possessed at any time. The Native Plant Protection Act enacted a process by which plants are listed as rare or endangered and regulates the collection, transport, and commerce of such plants. Plants listed as rare under this act are designated threatened under the California ESA.

California Fish and Game Code (Sections 3503.5 and 1600)

Section 3503.5 of the California Fish and Game Code protects raptors and owls and their active nests, stating that it is unlawful to take, possess, or destroy any birds of prey or to take or destroy the nest or eggs of any such bird without authorization by the CDFW. Section 1600 of the Fish and Game Code states that projects affecting riparian and/or wetland habitats must enter into a Streambed Alteration Agreement with the CDFW.

3.3.2.3 LOCAL

Los Angeles County Fuel Modification Zones

For new development projects located in Very High Fire Hazard Severity Zones, such as the proposed project, the County Fire Department requires fuel modification zones to create a "defensible space." This requires replacing existing native and non-native vegetation with plant species that are non-flammable or much less flammable and establishing a structured landscape designed to resist the spread of wildfire. There are three different zones: Zone A (Setback Zone), Zone B (Irrigated Zone), and Zone C (Native Brush Thinning Zone). Zone A extends 20 feet beyond the edge of any structures. The only allowed vegetation within this zone is green lawns, ground cover not exceeding 6 inches in height, and well-spaced shrubs. The landscape must be irrigated to promote healthy vegetation and fire resistance. Zone B extends from the outermost edge of Zone A to 100 feet from structures. Green lawn, ground cover not exceeding 6 inches in height, and well-spaced shrubs and trees are allowed in this zone. The landscape must be irrigated to promote healthy vegetation and fire resistance.

Zone C extends from the outermost edge of Zone B to 200 feet from proposed structures. Well-spaced native vegetation and ornamental shrubs and trees are allowed. Vegetation must be thinned and species that constitute a fire risk are not allowed (e.g., chamise, sages, California sagebrush, and California buckwheat). Zone C does not require irrigation.

City of Santa Clarita Oak Tree Protection

The City of Santa Clarita has enacted regulatory measures to protect and preserve oak trees within the City's jurisdiction. The City's Oak Tree Preservation regulations (Section 17.51.040 of the Municipal Code) states: "No person shall cut, prune, remove, relocate, endanger, damage, or encroach into the protected zone of any oak tree on any public or private property within the City." The protected zone of the oak tree includes the area within 5 feet of the dripline (canopy extent), but no less than 15 feet from the trunk. Encroachment is defined as intrusion into the protected zone of an oak tree, which includes but is not limited to intrusion by trenching, paving, pruning, dumping, and parking of commercial vehicles. Major encroachment is defined by the City as an area between the outer edge of the trunk and 50 percent of the diameter of the protected zone and minor encroachment is defined as an area between the outermost edge of the protected zone and 50 percent of the diameter of the protected zone. An oak tree permit must be obtained from the City before any oak tree is subject to major encroachment or is removed. Trees subject to the permit include all oak trees in the genus *Quercus* that exceed 6 inches in circumference when measured at 4.5 feet above the tree's natural grade. Heritage oak trees are given special consideration and may be fully protected or subject to requirements stricter than those of a standard protected oak tree. A heritage oak tree is defined as any oak tree measuring 108 inches in circumference measured at 4.5 feet above the tree's natural grade.

To obtain an oak tree permit, an application must be submitted to the City Manager or designated representative ("Director") and a filing fee as established by the City Council must be paid. The conditions of the oak tree permit will require native oak trees at a minimum of 24-inch box size to be planted for each protected oak tree removed and for each tree whose protected zone will be subject to major encroachment. Minor encroachment does not require mitigation, but a number of protection measures are required during construction as outlined in Section VII. Standards for Performance of Permitted Work of the Oak Tree Preservation Guidelines (Santa Clarita 1990). The number of replacement trees required is dependent upon the circumference of the tree to be impacted, which are described in Subsection B of the Oak Tree Preservation Ordinance. For those trees with multiple stems, the average circumference was used to determine the number of replacement trees.

City of Santa Clarita General Plan

Applicable goals, objectives, and policies from the City of Santa Clarita General Plan Land Use and Conservation and Open Space Elements are listed below

Land Use Element (Santa Clarita 2011a): Environmentally Responsible Development

- Goal LU 7: Environmental responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.
    - Objective LU 7.6: Protect natural habitats through site design where reasonable and feasible.

- Policy LU 7.6.3: Protect wildlife corridors through site design and appropriate land use designations, including mapped corridors and other corridors that may be identified through biological surveys.
- Policy LU 7.6.4: Encourage site designs that protect oak trees, hillsides, and biological resources through creative solutions.

Conservation and Open Space Element (Santa Clarita 2011b): Biological Resources

- Goal CO 3: Conservation of biological resource and ecosystems, including sensitive habitats and species.
  - Objective CO 3.1: In review of development plans and projects, encourage conservation of existing natural areas and restoration of damaged natural vegetation to provide for habitat and biodiversity.
    - Policy CO 3.1.3: On previously undeveloped sites ("greenfields"), identify biological resources and incorporate habitat preservation measures in to the site plan, where appropriate.
    - Policy CO 3.1.9: During construction, ensure preservation of habitat and trees designated to be protected through the use of fencing and other means as appropriate, so as to prevent damage by grading, soil compaction, pollution, erosion or other adverse construction impacts.
  - Objective CO 3.2: Identify and protect areas which have exceptional biological resource value due to a specific type of vegetation, habitat, ecosystem, or location.
    - Policy CO 3.2.1: Protect wetlands from development impacts, with the goal of achieving no net loss (or functional reduction) of jurisdictional wetlands within the planning area.
    - Policy CO 3.2.3: Ensure protection of any endangered or threatened species or habitat, in conformance with State and federal laws.

3.3.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, the project would result in a significant impact if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or reginal plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

3.3.4 METHODOLOGY

Investigative, research, and analytical methods applied in the assessment of biological resources impacts are described in Section 3.3.1, earlier in this chapter.

3.3.5 ANALYSIS

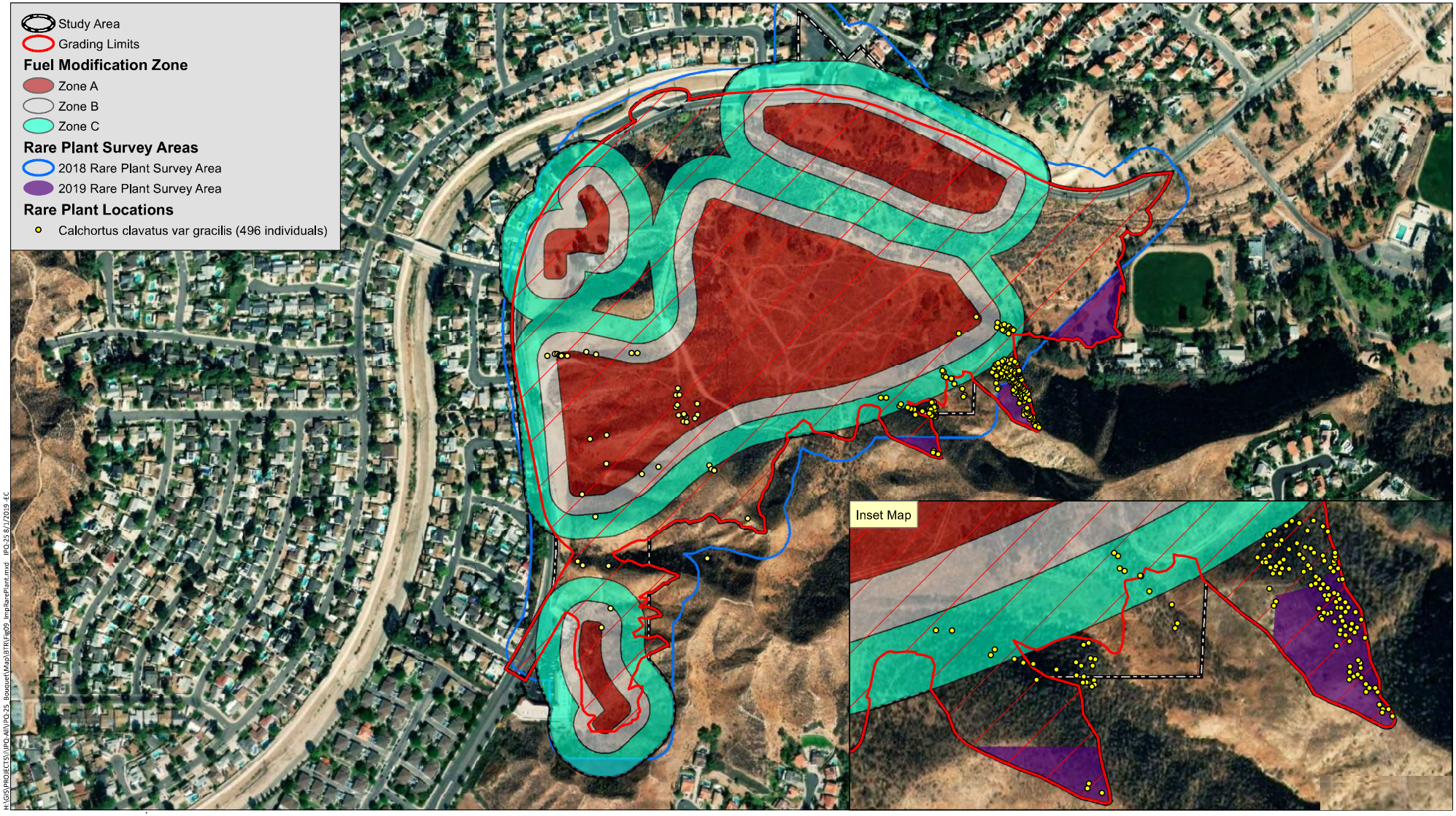
Impact 3.3-a The project would remove habitat that supports rare plant species (such as slender mariposa lilies) and sensitive animal species (10 sensitive animal species that could potentially occur on the project site). However, with implementation of mitigation measures **MM 3.3-1** and **MM 3.3-2**, the proposed project would have a less than significant adverse effect, either directly or indirectly, on candidate, sensitive, or special-status species identified locally or regionally, or by the CDFW or USFWS.

Discussion

As stated above, a total of four of the eight rare plant species recorded within the Mint Canyon USGS quadrangle were not considered to have a potential of occurring within the project site, based on species range, site elevation, and/or lack of suitable habitat. The remaining four species—Nevin's barberry, Piute Mountains navarretia, slender-horned spineflower, and slender mariposa lily—were considered to have a potential to occur on the study area primarily based on the presence of chaparral and coastal scrub habitats. Rare plant surveys were conducted in spring 2018, summer 2018, and spring 2019. Nevin's barberry, Piute Mountains navarretia, and slender-horned spineflower were not observed in the study area during the rare plant surveys and are presumed absent from the project site. A total of 496 slender mariposa lilies were observed on the north-facing slopes on the southern and eastern portions of the project site. Grading and fuel modification associated with the proposed residential development would impact approximately 142 slender mariposa lilies. Construction of the new section of Bouquet Canyon Road would impact approximately 320 slender mariposa lilies. The remaining 34 individuals would be avoided by the proposed project.

The slender mariposa lily is considered rare by the CDFW throughout its range and the population has declined significantly over the last century. While it is considered rare, it is not federally or state-listed as endangered or threatened.[3] Project-related impacts to slender mariposa lily would be significant; however, with implementation of preservation activities identified in mitigation measure **MM 3.3-1**, such as payment into a mitigation bank, preservation of land supporting slender mariposa lilies, or plant collection and relocation efforts, the project impacts would be reduced to less than significant.

[3] The CNPS Rare Plant Ranking assigns a ranking of 1B.2 to the slender mariposa lily. The CNPS states that "all of the plants constituting California Rare Plant Rank 1B meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125; (c) and/or §15380."



H:\GIS\PROJECTS\1\PO_A\1\PO-25_Bouquet\Map\BTR\Fig09_ImpRarePlant.mxd IPO-25-8/1/2019 -EC

Michael Baker INTERNATIONAL

Source: HELIX Environmental Planning, August 2019

Impacts to Rare Plants

Figure 3.3-3

Of the 15 sensitive animal species recorded within the vicinity of the study area, five species (the Quino checkerspot butterfly, two-striped gartersnake, unarmored threespine stickleback, vernal pool fairy shrimp, and western spadefoot) were considered to have no potential to occur in the study area due to lack of suitable habitat and/or the study area is located outside of the species' known geographical range. Therefore, the project would not result in substantial adverse impacts to these five species. Unarmored threespine stickleback have been historically documented in Bouquet Creek; however, populations have drastically declined in recent decades. Following the introduction of partially armored stickleback on the lower Santa Ana River in the 1970s, the population of threespine stickleback in this area supported unarmored and partially armored varieties. A recent genetic study of sticklebacks in Bouquet Creek in 2015 found that the genotype and phenotype of sticklebacks in Bouquet Creek resemble a low-plate population (i.e., partially armored stickleback) as opposed to unarmored populations observed in adjacent streams (e.g., San Francisquito Canyon, Santa Ana River near Valencia, and Soledad Canyon) (Richmond et al. 2015). This study also found that although sticklebacks sampled near the juncture of Bouquet Creek and Texas Canyon Creek were the most similar to the unarmored populations, plates have steadily increased since at least the 1980s. Although unarmored threespine stickleback have historically been documented upstream of the study area, many stickleback in Bouquet Canyon Creek have a low plate count due to introduction of partially armored stickleback upstream. In addition, the reach of Bouquet Creek that occurs within the project site does not support suitable live-in habitat for stickleback populations. Downstream movement of stickleback through Bouquet Creek into the Santa Clara River is not likely due to channel alteration at the base of Bouquet Canyon (i.e., upstream of the project site). Upstream movement of stickleback from the Santa Clara River through the Bouquet Creek on the project site is restricted as a result of the channelization of Bouquet Creek just downstream of the project site. Existing drop structures would prohibit stickleback movement upstream into the project site. Because Bouquet Creek is ephemeral in nature, it only supports flowing water for a short period of time following rainfall. As such, the creek does not support dense vegetation, algal mats, or areas of ponding that would provide habitat for unarmored threespine stickleback. Further, the project would not directly or indirectly affect downstream water quality or surface water flows as the project would prevent sedimentation and potential impacts to water quality downstream in the Santa Clara River, where unarmored threespine stickleback populations do exist, through construction and post-construction mitigation activities outlined in the stormwater pollution prevention plan and water quality management plan and through project design features such as debris and biofiltration basins (discussed further in Section 3.9, Hydrology). As such, the unarmored threespine stickleback was determined to have no potential to occur on the project site.

Of the remaining ten species that have potential to occur on the project site, three species have a low potential to occur, one species has moderate potential to occur, four species have a high potential to occur, and two species are presumed absent from the study area.

Species with a low potential to occur are California glossy snake, Townsend's big-eared bat, and southern grasshopper mouse. These species have a low potential of occurring due to low quality habitat, limited acreage of habitat, and the lack of recent observations within the immediate vicinity of the project site. Although suitable habitat is present on the project site, these species have not been recorded within a 5- to 10-mile radius of the project site in over 50 years, indicating that regionally significant populations of these species are not present. Therefore, the project site is not expected to support large populations of California glossy snake or southern grasshopper mouse. Further, in the unlikely event that grading and

fuel modification activities would result in loss of a few individuals, such a loss would not be expected to reduce regional population numbers. There is no suitable roosting habitat on the project site for Townsend's big-eared bat. This species could use the project site for foraging habitat since it uses a variety of habitats for such activities; however, there is a low potential of this occurring, since this species prefers mesic habitats. Therefore, impacts to these species would be less than significant and no mitigation measures are required.

The species with a moderate potential to occur is the California legless lizard. This species has a moderate potential of occurring due to presence of low-quality habitat and recent observations in the immediate vicinity of the project site. Although the study area supports suitable sandy wash habitat within Bouquet Creek, the habitat is considered low quality since the banks are infested with giant reed, leaving few open areas for the lizard to burrow and no leaf litter for protection. Therefore, since the project site contains low-quality habitat, the site is not expected to support a large population of California legless lizard. In the unlikely event that grading and fuel modification activities would result in the loss of a few individuals, such a loss would not significantly reduce regional population numbers. Therefore, impacts to this species would be less than significant and no mitigation measures are required.

Species with a high potential of occurring in the project site are coastal whiptail, coast horned lizard, loggerhead shrike, and San Diego black-tailed jackrabbit. These species have a high potential of occurring due to the presence of suitable habitat and recent observations within the immediate vicinity of the project site. None of these species were observed during the field surveys conducted on the study area. Coastal whiptail, coast horned lizard, loggerhead shrike, and San Diego black-tailed jackrabbit are highly mobile and if any of these species do occur on site during construction, they are expected to disperse to undeveloped land to the east of the proposed project. These species are not federally or state-listed as threatened or endangered. Loggerhead shrike eggs and young are protected under the Migratory Bird Treaty Act, which is discussed further under **Impact 3.3-d** and mitigation measure **MM 3.3-4**, below. If the project would result in displacement or loss of a few individuals, it would not be expected to significantly reduce regional population numbers. Therefore, impacts to these species would be less than significant and no mitigation measures are proposed.

Finally, focused surveys were conducted for burrowing owl and coastal California gnatcatcher, both of which are federally threatened; however, no individuals were found on the project site. As such, direct or indirect impacts on these two species are not anticipated. Nonetheless, since the project site does provide some suitable habitat for burrowing owl, a take avoidance survey is required prior to ground disturbance in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (2012). Therefore, with mitigation measure **MM 3.3-2**, impacts to burrowing owls would be avoided.

Mitigation Measures

MM 3.3-1 Preserve or Replace Slender Mariposa Lilies

Mitigation for project impacts to the slender mariposa-lily (*Calochortus clavatus var. gracilis*) shall include one or more of the following, implemented in consultation with the City and CDFW prior to construction:

Prior to construction, a mitigation plan shall be developed that describes methods to mitigate for impacts to slender mariposa lily at a 1:1 ratio. The mitigation plan shall

include a description of the mitigation site, seed/bulb collection and planting methods, maintenance and monitoring requirements, and performance standards to measure the success of the mitigation. Slender mariposa lily bulbs shall be collected at the end of the growing season and prior to ground disturbance, or seeds shall be obtained from a native plant nursery if available. The seeds/bulbs shall be planted within an appropriate on-site or off-site mitigation area, which will be conserved as open space in perpetuity.

Payment into a mitigation bank and/or in-lieu fee program that has mitigation available for the rare plant species.

Preservation of land that contains the rare plant species.

Timing/Implementation: *Plan check and prior to grading*

Enforcement/Monitoring: *City of Santa Clarita, Planning Division*

MM 3.3-2 **Burrowing Owl Avoidance**

In compliance with the CDFW Staff Report on Burrowing Owl Mitigation (2012), a take avoidance survey shall be conducted on the study area within 14 days prior to ground disturbance to determine presence of burrowing owl. If the take avoidance survey is negative and burrowing owl is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required. If burrowing owl is observed during the take avoidance survey, active burrows shall be avoided by the project in accordance with the CDFW's Staff Report. The CDFW shall be immediately informed of any burrowing owl observations. A Burrowing Owl Protection and Relocation Plan shall be prepared by a qualified biologist, which must be sent for approval by CDFW prior to initiating ground disturbance. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. Relocation shall only occur September 1 through January 31, outside of the nesting season.

Timing/Implementation: *Prior to ground disturbance*

Enforcement/Monitoring: *City of Santa Clarita, Building and Planning Divisions*

Impact 3.3-b The proposed project would result in permanent impacts to 28.68 acres of native plant-dominated habitat and 55.55 acres of habitat dominated by non-native species and previously disturbed areas. The elderberry savanna and southern willow scrub/giant reed stand habitats on the project site are considered sensitive natural communities by CDFW (totaling 1.26 acres) and would be permanently impacted by the proposed project. However, both habitats are considered low quality due to their size and the presence of invasive species. Although southern willow scrub/giant reed stand is considered low-quality habitat, the project would offset permanent impacts to 0.70 acres through compensatory mitigation for jurisdictional streambed impacts as outlined in mitigation measure **MM 3.3-3**. Therefore, with implementation of appropriate mitigation measures, the proposed project would have a less than

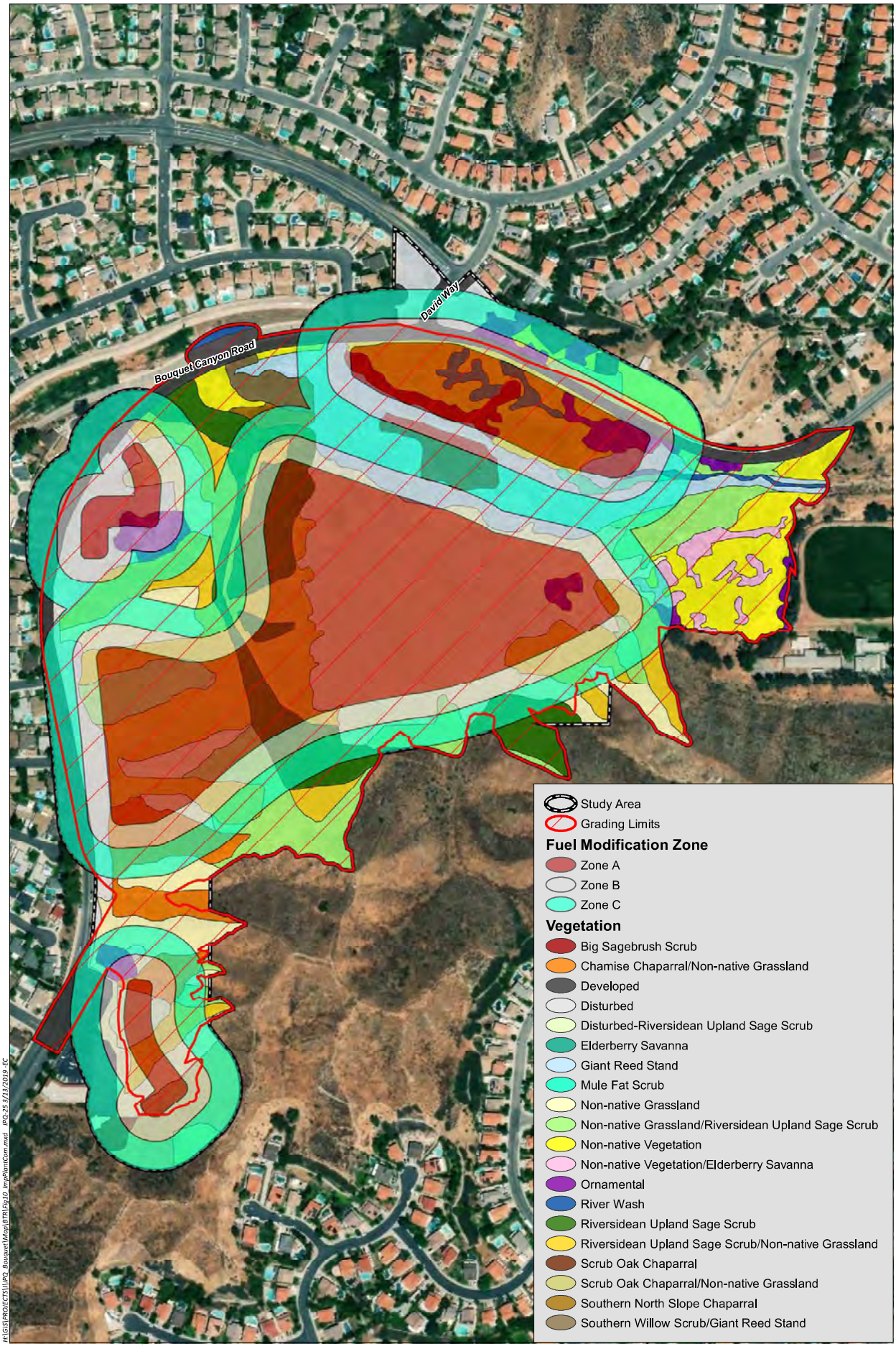
significant adverse effect on riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or the USFWS.

Discussion

As stated above, the project site is primarily dominated by non-native species habitat and sparsely vegetated, disturbed areas. The project site does support native habitat types, such as Riversidean upland sage scrub, big sagebrush scrub, chamise chaparral, scrub oak chaparral, southern willow scrub/giant reed stand, southern north slope chaparral, and elderberry savanna. Some of these native habitats are interspersed with non-native grassland. The full acreage of existing habitats and the permanent impacts associated with the proposed project's grading and fuel modification zones are displayed in **Table 3.3-2** below. The Biological Technical Report states that permanent impacts to vegetation associated with the project would be 28.68 acres of native-dominated habitat and 55.55 acres of habitat dominated by non-native species and previously disturbed areas. Habitat types impacted by fuel modification zones are displayed in **Figure 3.3-4**.

Table 3.3-2
IMPACTS TO VEGETATION COMMUNITIES

Habitat Type	Existing (acres)	Permanent Impact (acres)
Big Sagebrush Scrub	1.91	1.91
Chamise Chaparral/Non-native Grassland	2.98	2.77
Developed	9.37	4.5
Disturbed	5.32	3.83
Disturbed-Riversidean Upland Sage Scrub	0.62	0.54
Elderberry Savanna	0.56	0.56
Giant Reed Stand	7.08	7.08
Mule Fat Scrub	0.27	0.27
Non-native Grassland	22.06	21.76
Non-native Grassland/Riversidean Upland Sage Scrub	7.75	7.34
Non-native Vegetation	8.06	7.06
Non-native Vegetation/Elderberry Savanna	0.97	0.97
Ornamental	2.69	2.11
Riversidean Upland Sage Scrub	7.06	6.9
Riversidean Upland Sage Scrub/Non-native Grassland	13.1	12.96
River Wash	0.36	0.36
Scrub Oak Chaparral	0.26	0.26
Scrub Oak Chaparral/Non-native Grassland	2.01	2.01
Southern North Slope Chaparral	0.34	0.34
Southern Willow Scrub/Giant Reed Stand	0.7	0.7
Total	**93.47**	**84.23**



H:\GIS\PROJECTS\IRQ_Bouquet\Map\BTR\Fig10_ImpPlantCom.mxd IPQ-25 3/13/2019 EC

Michael Baker INTERNATIONAL

Source: HELIX Environmental Planning, August 2019

Impacts to Vegetation Communities

Figure 3.3-4

The elderberry savanna and southern willow scrub/giant reed stand habitats are considered sensitive natural communities by the CDFW (totaling 1.26 acres). As shown in **Table 3.3-2**, both habitats would be permanently impacted by the proposed project. The sensitive natural community designation is generally reserved for high-quality habitats, such as those that lack invasive species, do not show signs of human-caused disturbance, and show signs of reproduction (i.e., sprouts and seedlings present). Mitigation for impacts to elderberry savanna is not proposed since the habitat is considered low quality. The elderberry savanna is small and isolated from other native habitat, with the exception of a small patch of big sagebrush scrub. The understory is dominated by non-native short-pod mustard, which is likely due to historical disturbance from ranching activities, fuel modification over the years, and its proximity to Bouquet Canyon Road. No sprouts or seedlings were noted during field surveys. Based on the low-quality characteristics of the elderberry scrub, impacts to these species would be less than significant and no mitigation is required. The southern willow scrub/giant reed stand on the project site appears to be associated with relict floodplain conditions that no longer exist on the site; however, for the purpose of the jurisdictional waters evaluation, this habitat is presumed to be regulated by the CDFW. Although southern willow scrub/giant reed stand is considered low-quality habitat due to the prevalence of giant reed, the project would offset permanent impacts to 0.70 acres through compensatory mitigation for jurisdictional streambed impacts as outlined in mitigation measure **MM 3.3-3**, below.

Bouquet Creek flows through the northern portion of the project site and is considered a jurisdictional streambed pursuant to Section 1602 of the California Fish and Game Code as regulated by the CDFW. It supports a riparian community consisting of giant reed scrub, mule fat scrub, and river wash habitats. The project would result in permanent impacts to 9.33 acres and temporary impacts to 0.47 acres of CDFW jurisdictional streambed and associated vegetation. Permanent impacts would be necessary to construct the proposed residential development areas and the new segment of Bouquet Canyon Road, complete slope grading, implement required fuel modification, and construct a new flood control channel to the south of Bouquet Creek. The majority of the central channel within CDFW jurisdiction would be returned to pre-project contours following completion of construction. Most of the permanent impacts to streambed associated vegetation would be to giant reed, which is rated highly invasive by the California Invasive Plant Council. Only small areas of native-dominated habitat would be permanently impacted, including southern willow scrub/giant reed stand and mule fat scrub. The remaining permanent impacts would be to mostly unvegetated river wash. Temporary impacts include those proposed Bouquet Creek for bridge installation at the upstream (east) end of Bouquet Creek. Impacts to those portions of the creek classified as a California Streambed would require a Section 1602 Stream Alteration Agreement from the CDFW, which is described in mitigation measure **MM 3.3-3**, below. Compensatory mitigation for permanent streambed impacts will be required as part of subsequent Section 1602 permitting requirements. Therefore, implementation of mitigation measure **MM 3.3-3** would reduce project-related impacts on riparian habitat to a less than significant level.

Mitigation Measures

MM 3.3-3 Secure CDFW Streambed Alteration Agreement

Prior to the City's issuance of a grading permit, the applicant shall demonstrate that a Streambed Alteration Agreement has been issued by the CDFW. Temporary impact areas under CDFW jurisdiction shall be returned to pre-project topographic contours once the project has been completed. Permanent impacts to areas under CDFW

jurisdiction for southern willow scrub/giant reed stand (0.70 acres) shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of CDFW jurisdictional streambed at ratio of no less than 1:1. Given that the remaining portion of Bouquet Canyon Creek is dominated by invasive giant reed stands, which is of extremely low biological function and value and contributes to downstream infestation of giant reed, the remaining permanent impacts to CDFW jurisdiction (8.63 acres) shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of CDFW jurisdictional streambed at a ratio of no less than 0.5:1. Best management practices (BMPs) to minimize and avoid impacts to CDFW jurisdiction during and after construction will be addressed as part in the Streambed Alteration Agreement.

Minimization and avoidance measures may include, but are not limited to, the following:

- Construction-related equipment will be stored in developed areas, outside of drainages. No equipment maintenance will be done within or adjacent to the drainage.
- Mud, silt, spoil sites, raw cement, asphalt, or other pollutants from construction activities will not be placed within or adjacent to the drainage.
- Open trenches or other excavated areas will be properly secured at the end of the day to avoid entrapment of animals, or an escape ramp will be provided.
- To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site.
- Construction personnel shall strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel.
- Exclusion fencing shall be installed to demarcate the limits of disturbance and shall be maintained until the completion of construction activities.
- To the extent feasible, construction will be conducted outside of the bird nesting season (see mitigation measure 3.3-5, later herein).

Timing/Implementation: Prior to grading permit and during site clearing/grading

Enforcement/Monitoring: City of Santa Clarita, Building and Planning Divisions

Impact 3.3-c The project would result in 0.19 acres of permanent impacts and 0.46 acres of temporary impacts to non-wetland waters of the United States. Permanent impacts would be concentrated on the western and eastern ends of Bouquet Creek within the project footprint. The remaining portion of Bouquet Creek would be temporarily impacted by the construction of a new flood control channel south of the natural Bouquet Creek channel on the project site. Compensatory mitigation is required for

permanent impacts as part of the Clean Water Act Section 404 and 401 permits. As such, with mitigation incorporated, the proposed project would have a less than significant adverse effect on state or federally protected wetlands through direct removal, filing, hydrological interruption, or other means.

Discussion

Bouquet Creek is considered a jurisdictional WUS pursuant to Sections 404 and 401 of the Clean Water Act, because it carries regular seasonal water flows, has a clearly defined bed and bank, and an ordinary high water mark, and supports aquatic vegetation. It is classified as a "non-wetland" resource, because the area shows evidence of regular surface flow (i.e., bed and bank) and the area is characterized by excessively drained sandy loam soil that is not characteristic of wetlands. As shown in Figure 3.3-5, the project would result in permanent impacts to 0.19 acres and temporary impacts to 0.46 acres of non-wetland WUS. Permanent impacts associated with the proposed project include improvements to the outlet for the proposed flood control channel and construction of a park at the downstream (western) end of Bouquet Creek and installation of a culvert at the upstream (eastern) end of Bouquet Creek associated with the proposed realignment of Bouquet Canyon Road. The remainder of the Bouquet Creek central channel would be temporarily impacted to construct a new flood control channel to the south of Bouquet Creek. Temporary impact areas within Bouquet Creek would be restored to pre-project contours following completion of construction.

Michael Baker INTERNATIONAL

Source: HELIX Environmental Planning, August 2019

Impacts to Jurisdictional Features

Figure 3.3-5

Impacts to WUS will require issuance of a Clean Water Act, Section 404 permit from USACE and a Clean Water Act Section 401 permit from RWQCB, as described in mitigation measure **MM 3.3-4**, below.

Mitigation Measures

MM 3.3-4 Provide Evidence of Section 404 and 401 Permits

Prior to the City's issuance of a grading permit, the applicant shall demonstrate that the appropriate regulatory permits have been issued by the USACE and RWQCB. Temporarily impacted WUS shall be returned to pre-project topographic contours once the project has been completed. Compensatory mitigation for permanent impacts to WUS shall be required as part of subsequent permitting requirements. Permanent impacts to WUS shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at a ratio of no less than 1:1. BMPs to minimize and avoid impacts to WUS during and after construction will be addressed as part of the USACE and RWQCB permitting process. Minimization and avoidance measures may include, but are not limited to, the following:

- Construction-related equipment will be stored in developed areas, outside of the drainage. No equipment maintenance will be done within or adjacent to the drainage.
- Source control and treatment control BMPs will be implemented to minimize the potential contaminants that are generated during and after construction. Water quality BMPs will be implemented throughout the project to capture and treat potential contaminants.
- Substances harmful to aquatic life will not be discharged into the drainage. All hazardous substances will be properly handled and stored.
- A Storm Water Pollution Prevention Plan will be prepared to prevent sediment from entering the drainage during construction.
- To avoid attracting predators during construction, the project will be kept clean of debris to the extent possible. All food-related trash items will be enclosed in sealed containers and regularly removed from site.
- Construction personnel will strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel.
- Exclusion fencing will be installed to demarcate the limits of disturbance. The exclusion fencing should be maintained until the completion of construction activities.

Timing/Implementation: Prior to grading permit and during site clearing/grading

Enforcement/Monitoring: City of Santa Clarita, Building and Planning Divisions

Impact 3.3-d The proposed project would result in temporary impacts on the movement of terrestrial and avian wildlife through the project site during construction; however, impacts from activities such as construction and fuel modification would be temporary. Bouquet Creek does provide a migratory fish corridor given existing barriers to wildlife movement upstream and downstream of the project site and the ephemeral nature of the creek. Because the majority of the stream would be recontoured to pre-project conditions following construction and because the project site would not permanently disrupt wildlife movement in the area, impacts on wildlife movement would be less than significant without mitigation. However, the project may disturb or destroy active migratory bird nests and young protected by the Migratory Bird Treaty Act. Therefore, avoidance and minimization measures, as outlined in mitigation measure MM 3.3-5, would be required to reduce impacts on migratory birds to less than significant.

Discussion

The project site is not part of a regional wildlife movement corridor, does not serve as a wildlife nursery site, and is not identified as being part of a local or regional corridor or linkage by the South Coast Missing Linkages report (South Coast Wildlands 2008). The project site does support native upland vegetation and small patches of native riparian vegetation, which provide habitat for local wildlife movement and migratory birds passing through the study area. Some reptiles, small mammals, and occasionally larger mammals may access the project site from undeveloped land to the east via Bouquet Creek or the ridgeline to the south of the Camp Joseph Scott facility. Birds may fly over existing development to access the project site for foraging and/or nesting. Therefore, the study area provides habitat for local wildlife movement, but does not serve as a regional wildlife corridor. Further, wildlife movement through Bouquet Creek downstream of the study area is limited since the stream becomes channelized to the north of Bouquet Canyon Road. As stated above, the project site does not have potential to host unarmored threespine stickleback given barriers to upstream and downstream movement (channelization of the creek downstream of the project site and channel alterations upstream of the project site) and the lack of suitable habitat within Bouquet Creek on the project site (i.e., dense vegetation, algal mats, and areas of ponding).

Although vegetation will be removed from Bouquet Creek due to fuel modification requirements, the majority of the stream would be recontoured to pre-project conditions following construction. Although implementation of the project could result in some disturbance to local wildlife movement from construction noise, which could discourage use of the project site by birds, such impacts would be temporary. As such, the project would have a less than significant impact to wildlife movement and no mitigation measures would be required.

Regarding migratory species, the project site has the potential to support songbird and raptor nests due to the presence of shrubs, ground cover, and trees on the site. Project construction activities could disturb or destroy active migratory bird nests including eggs and young. Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the Migratory Bird Treaty Act and is considered a potentially significant impact. The nesting season is generally defined as February 15 through August 31 for songbirds and January 15 to August 31 for raptors. An avoidance and minimization measure is provided as mitigation measure **MM 3.3-5**, below.

Mitigation Measures

MM 3.3-5 Avoid Disruption of Active Bird Nests during Construction

Schedule construction activities (i.e., earthwork, clearing, and grubbing) outside of the general bird nesting season for migratory birds, if feasible. This season is February 15 through August 31 for songbirds and January 15 through August 31 for raptors.

If construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory birds and raptors, a qualified biologist shall perform a preconstruction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the Migratory Bird Treaty Act and California Fish and Game Code. The preconstruction survey shall be performed no more than seven days prior to the commencement of construction activities. The results of the preconstruction survey shall be documented by the qualified biologist. If construction is inactive for more than seven days, an additional survey shall be conducted.

If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no construction within 300 feet (500 feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, or as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations in order to minimize disturbance to nesting birds.

Timing/Implementation: Prior to site clearing/grading

Enforcement/Monitoring: City of Santa Clarita, Building and Planning Divisions

Impact 3.3-e The project site contains 64 oak trees that are protected by the City of Santa Clarita's Oak Tree Preservation Ordinance, which protects all oak trees of the genus *Quercus* regardless of size from removal, pruning, cutting, or encroachment. The proposed project would remove 26 oak trees, subject 1 oak tree to major encroachment and 2 oak trees to minor encroachment and preserve the remaining 35 oak trees. In order to receive an oak tree permit for the removal or major encroachment of 27 protected oak trees, the City would require approximately 91 replacement oak trees to be planted in the landscaped areas of the project site (which must consist of the coast live oak, valley oak, canyon live oak, or interior live oak species) to offset the loss of oak trees. If planting on-site is not possible, the applicant may donate the replacement oak trees to the City or provide the equivalent monetary value of the replacement trees to the City. With implementation of mitigation measure MM 3.3-6 addressing the removal of oak trees associated with the project, the project would not conflict with any local policies or ordinances protecting biological resources and impacts would be less than significant.

Discussion

The proposed project would result in removal of 26 oak trees, including 4 scrub oaks, 2 blue oaks, and 20 Tucker oaks. In addition, one Tucker oak would be subjected to major encroachment and two Tucker oaks would be subjected to minor encroachment. The remaining 35 oak trees would be completely avoided by the project. The City of Santa Clarita's Oak Tree Preservation Ordinance protects all oak trees of the genus *Quercus* regardless of size from removal, pruning, cutting, or encroachment. The locations of such oak trees are shown on **Figure 3.3-6**.

As stated above, impacts to City-protected oak trees will require issuance of an oak tree permit prior to project construction to mitigate for proposed impacts resulting from project implementation. The conditions of the oak tree permit will require native oak trees at a minimum of 24-inch box size to be planted for each protected oak tree removed and for each tree whose protected zone will be subject to major encroachment. The number of replacement trees required is dependent upon the circumference of the tree to be impacted. These guidelines are described in Subsection B of the City of Santa Clarita's Oak Tree Preservation Ordinance (Santa Clarita 2013). Replacement trees must be placed on the same property, if feasible. If there is no appropriate location on-site, the replacement trees may be donated to the City or the monetary value of the required replacement trees may be paid to the City at the discretion of the Director. For the purposes of determining the number of replacement trees required by the proposed project, trees located within the grading footprint and/or Fuel Modification Zone A were considered impacted while oak trees located within Zones B or C were considered avoided. Fuel modification zones and locations of oak trees in the project study area are displayed on Figure 3.3-6. Based on the impacts to oak trees, 27 oak trees will be removed or subjected to major encroachment and would require replacement trees. In order to receive an oak tree permit for these impacts, it is anticipated the City would require 91 replacement trees to be planted on-site (which must consist of the coast live oak, valley oak, canyon live oak, or interior live oak species) or the equivalent monetary value of the replacement trees to be paid. The remaining 37 trees (35 completely avoided and 2 subject to minor encroachment) require protection measures, including but not limited to those outlined within Standards for Performance of Permitted Work of the Oak Tree Preservation Guidelines (Santa Clarita 1990).

Measures to minimize the negative impacts of construction activities occurring close to existing oak trees would be incorporated into compliance measures required by the City's oak tree permit. For impacted trees, all tree removals shall be conducted in the presence of a qualified arborist approved by the City and replaced in the manner described above. For trees that would be encroached upon, protection measures include a requirement to notify the City and qualified arborist 48 hours prior to beginning work within the protected zone of an oak tree. Further, all work conducted within the protected zone shall be monitored by a qualified arborist and verified by the City and completed only with hand tools. Once work within the protected zones is complete, the qualified arborist shall submit a certification letter to the City within 10 working days demonstrating the work was conducted in accordance with the project's permit.

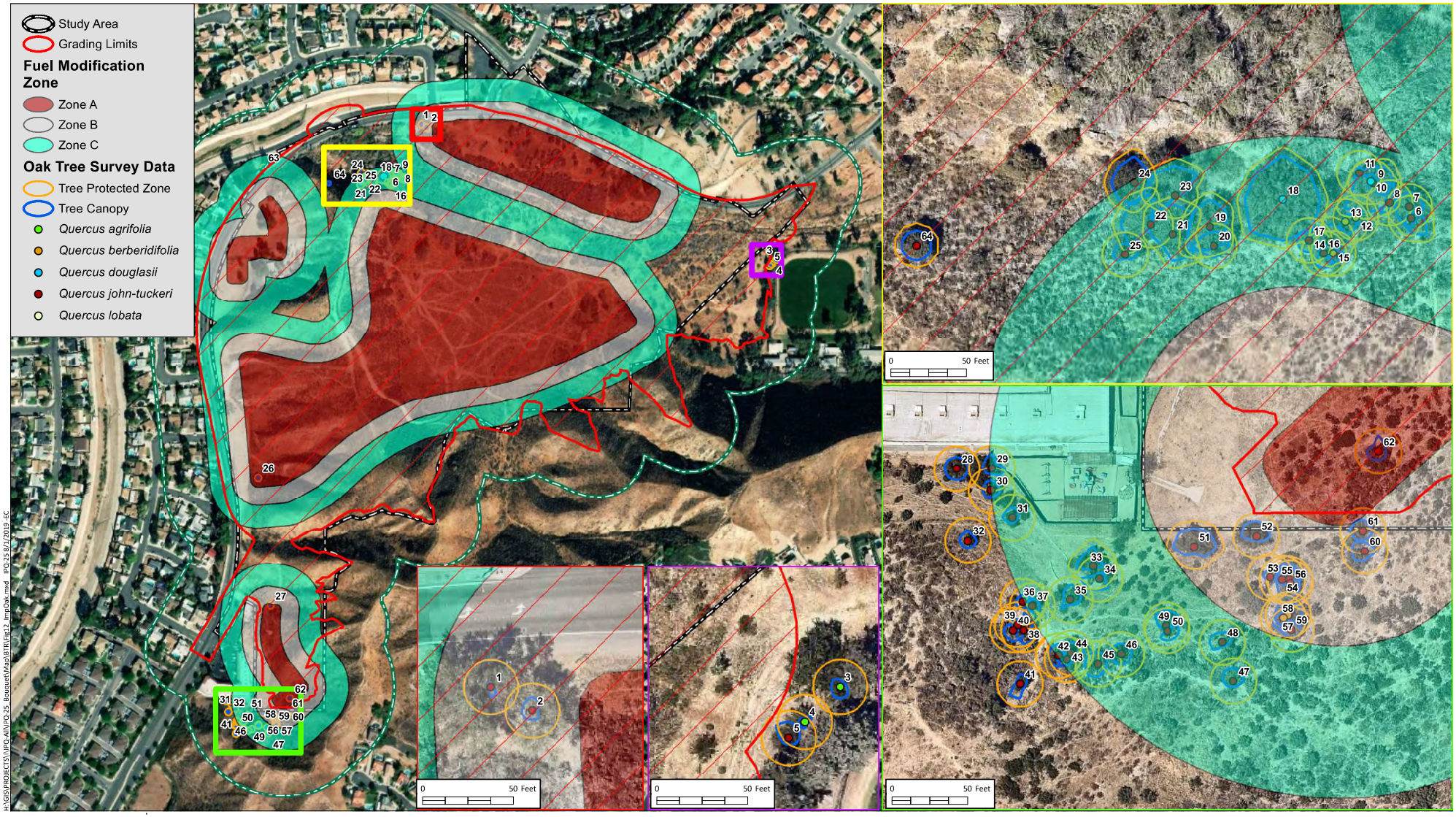
The Oak Tree Preservation Guidelines require a minimum 5-foot chain link fence in concrete footings with posts installed every 8 feet and 2 feet deep to be installed at the outermost edge of the protected zone of each oak tree or oak grove prior to construction activities in the vicinity of oak trees. Trees on steep slopes that will not be impacted by vegetation removal or graded may be exempt from fencing requirements. Fencing shall be inspected and approved by the City prior to construction initiation. Signs shall be placed on the fence in four locations around each tree or every 50 feet around oak groves. Signs

shall be a minimum of 2 feet by 2 feet with the following language: "Warning: This fence is for the protection of this tree and shall not be removed or relocated without written authorization from the City of Santa Clarita Community Development Department." The fence shall remain in place for the duration of construction and shall not be removed until receiving written authorization from the City. Planting within the protected zone is discouraged. If planting within the protected zone, only drought-tolerant species shall be permitted and no spray type irrigation shall be used. A maintenance and care program shall be implemented to ensure continued health and care of oak trees on the proposed development. Other protection measures may be required by the City at the discretion of the Director of Community Development.

While the project would remove 26 protected oak trees and subject an additional protected oak tree to major encroachment, compliance with the City's Oak Tree Preservation Ordinance and Oak Tree Preservation Guidelines would reduce project-related impacts to protected oak trees to a less than significant level.

Mitigation Measures

No mitigation measures are required.



Michael Baker INTERNATIONAL

Source: HELIX Environmental Planning, August 2019

Impacts to Oak Trees

Figure 3.3-6

This page intentionally left blank

3.4 CULTURAL RESOURCES

3.4 CULTURAL RESOURCES

This section of the Draft EIR addresses potential cultural resources impacts that could result from the land alterations proposed by the project. The following discussion addresses the existing cultural resources conditions in the project area, evaluates the project's consistency with applicable goals and policies, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from implementation of the project, as applicable.

The analysis in this section is based on the "Bouquet Canyon Road Project Cultural Resources Survey and Assessment" technical report prepared by HELIX (2019), which is included as **Appendix D** of this Draft EIR.

3.4.1 CONCEPTS AND TERMINOLOGY

The following definitions are common terms used to discuss the regulatory requirements and treatment of cultural resources:

Archaeological resources are subsurface human cultural remains that are over 50 years old. Archaeological resources in the region are generally divided into two temporal categories: prehistoric (12,000+ years ago–1541) and historic-period (1542–50 years ago).

Building describes a structure created principally to shelter any form of human activity, e.g., house, barn, church, hotel, or similar construction. The term may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.

Built environment is defined as buildings, structures, objects, and districts.

Cultural resources include archaeological and built environment resources. Related definitions in the National Register of Historic Places (NRHP) and adopted by the California Office of Historic Preservation are listed below.

Districts possess a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Historical resources as described in CEQA include buildings, sites, structures, objects, or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance and is eligible for listing or is listed in the California Register of Historical Resources (CRHR) or a local register of historical resources. The CRHR includes resources listed in, or formally determined eligible for listing in, the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Historic property is defined by the National Historic Preservation Act (NHPA) as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP, including artifacts, records, and material remains related to such a property.

Object is a term used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.

Site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historical, cultural, or archaeological value regardless of the value of any existing structure.

Structure is a term used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.

3.4.2 EXISTING CONDITIONS

Information presented in this section is condensed from the HELIX (2019) "Bouquet Canyon Road Project Cultural Resources Survey and Assessment" technical report (see **Appendix D**).

3.4.2.1 PREHISTORIC PERIOD

The project is located within an area in which scant research for early human occupation has been conducted; however, it is possible to infer the prehistory of the area by consulting that of neighboring regions in Southern California. The most widely recognized timeline for the prehistory of Southern California was proposed by Wallace (1955) and divides the region's prehistory into four main periods, or "horizons": Early, Milling Stone (Archaic Period), Intermediate, and Late horizons. The best example of Early Prehistoric Period archaeological evidence for Native Americans in Southern California is in the San Dieguito complex of San Diego County, dating to over 9,000 years ago (Warren 1967; Warren, Siegler, and Dittmer 2004). The San Dieguito Tradition is thought by most researchers to have an emphasis on big game hunting and coastal resources (Warren 1967). The material culture of the San Dieguito complex consists primarily of scrapers, scraper planes, choppers, large blades, and large projectile points. In some areas of California, the Early Prehistoric Period is often referred to as the Paleo-Indian period and is associated with the last Ice Age occurring during the Terminal Pleistocene (pre-10,000 years ago) and the Early Holocene, beginning circa 10,000 years ago (Erlandson 1994, 1997).

The Millingstone Horizon, or Archaic Period, dates from 7,000-8,600 to 1,300-3,000 years ago and is generally consistent with the Oak Grove complex of Santa Barbara, the Topanga complex of Los Angeles, and the La Jolla complex of San Diego (Van Horn 1980; Warren et al. 2004). The Millingstone Horizon is also referred to as the Encinitas Tradition (Warren 1968). The Encinitas tradition is generally "recognized by millingstone assemblages in shell middens, often near sloughs and lagoons" (Moratto 1984:147). Basin metates, manos, discoidals, a small number of Pinto series and Elko series points, and flexed burials are also characteristic of the tradition. The Millingstone Horizon gains its name from the dominance of milling stones within site assemblages which were used for processing hard seeds.

Dates for the Intermediate Horizon vary by locale but can generally be dated to between 4,000 years ago and AD 500 (Elsasser 1978). The Intermediate Horizon is consistent with the Hunting Culture of Santa Barbara County and is characterized by the presence of Pinto style points, named after the Pinto Basin in Riverside County, an increased use of the mortar and pestle, and the consumption of fleshier foods such as acorns as opposed to small, hard seeds (Stickel 1978). This change resulted in the adoption of a more sedentary lifestyle as seen in the presence of seasonal campsites (Owen 1995). The Intermediate Horizon "is well represented in the Upper Santa Clara River Valley region, with major site complexes located along the Piru and Castaic drainage systems, Escondido Canyon and at Vasquez Rocks" (City of Santa Clarita 2003:4.12-1).

The Late Prehistoric period in Southern California is characterized by the incursion of Uto-Aztecan - speaking people who occupied large portions of the Great Basin and an area stretching from southern Arizona and northwest and central Mexico into Nevada, Oregon, and Idaho (Miller 1986). The expansion of the Takic group into Southern California is unrefined, but several scholars have hypothesized as to when

and how the so-called "Uto Aztecan wedge" occurred. Sutton (2009) argues that the Takic group expanded into Southern California from the San Joaquin Valley about 3,500 years ago, while Golla (2007) suggests an expansion of Uto-Aztecan speakers into Southern California at approximately 2,000 years ago. While the exact chronology of Takic-speaking groups' immigration to Southern California remains uncertain, the beginning of the Late Prehistoric Period is marked by evidence of a number of new tool technologies and subsistence shifts in the archaeological record and is characterized by higher population densities and intensification of social, political, and technological systems. The changes include the production of pottery and the use of the bow and arrow for hunting instead of atlatl and dart, a reduction of shellfish gathering in some areas, and an increase in the storage of foodstuffs such as acorns, and new traits such as the cremation of the dead (Gallegos 2002; McDonald and Eighmey 2004). The Late Horizon inhabitants of the project vicinity are believed to be the same as those recorded ethnohistorically, namely the Tataviam, who occupied the Santa Clara River Valley beginning in approximately AD 450 (City of Santa Clarita 2011).

3.4.2.2 ETHNOHISTORY

The Santa Clarita Basin is the core territory of the Tatavium people, a distinct linguistic and ethnic group first identified by the Spanish missionary Francisco Garces in 1776 (King and Blackburn 1978). Their territory spanned from the Piru Creek on the west to the Liebre Mountains and the southern edge of Antelope Valley on the north; the eastern extent of their territory has yet to be refined (King and Blackburn 1978; Johnson and Earle 1990; Szabolcsi 2000).

The Tatavium people were hunter-gatherers whose economy focused on small game as well as seeds, berries, and native plants such as yucca. Campsites and habitation areas were focused on permanent reliable water sources in the region, including streams, rivers and lakes (Fernandeño Tatavium Band of Mission Indians 2018; King and Blackburn 1978). Several major Tatavium villages were located in areas surrounding present-day Newhall Ranch. One, *Chaguayanga* (*Tsawayng*), was situated within the Santa Clara River Valley at the confluence with Castaic Creek (Fernandeño Tatavium Band of Mission Indians 2018). Other village sites with known names were located in the San Francisquito, Piru, Camulos, Castaic Reservoir, Piru Creek, and Elizabeth Lake areas (City of Santa Clarita 2011; Johnson and Earle 1990).

Prior to missionization, bands (or tribelets or villages) were formed into single patrilineal lineages. Each lineage included a headman or leader, assistants, and ceremonial leaders. These lineages held land, engaged in collective social and economic activities, and intermarried with other lineage groups, thereby forming a highly complex network of social, religious, and economic ties (Fernandeño Tatavium Band of

Mission Indians 2018). Considerable evidence exists that widespread regional trade occurred between the Tatavium and surrounding cultural groups, including the Chumash, Serrano/Vanyume, Tongva, and western Mojave Desert cultural groups, including the Chemehuevi and Mohave. As a result of early Spanish contact, much of the specific culture history of the Tatavium people was lost, but their material culture was similar to surrounding groups and included elaborate basketry; ornamental items made from bone, shell, and stone; projectile points and tools made from lithic materials; and shell inlaid wooden vessels (ESA 2008). They resided in a Ki'j, made of bundles of grass tied to a framework of sycamore poles that formed a permanent family dwelling (Fernandeño Tatavium Band of Mission Indians 2018). Unlike some of their neighbors, the Tatavium people favored cremation of the dead rather than interment.

3.4.2.3 HISTORY OF THE PROJECT SITE

While Bouquet Canyon was undoubtedly utilized by prehistoric populations and the Spanish, little information is available about the canyon until the Mexican period, when it became known as Cañada de Los Muertos (Deadman Canyon). During the time of Ygnacio del Valle's occupation of the Rancho San Francisco during the Mexican Period a band of horses was stolen, and the bandits were pursued into the canyon "from which at least one rustler had not emerged alive" (Parks 1929). On the 1875 survey plat for the Rancho San Francisco, the 1877 survey plats for Township 4 North and Range 15 and 16 West, and the 1900 Fernando 1:62,500-scale topographic map, the name Cañada de Los Muertos and Deadman Canyon are indicated. However, by the 1930 reprint of the San Fernando topographic map, the name is changed to Bouquet Canyon, reflecting the ranching efforts of Francisco Chari.

François "Francisco" Chari was a Frenchman who established a ranch in the canyon in the mid- or late-1800s. One account of Chari states that he purchased several hundred acres of the Rancho San Francisco from Jacopa Feliz and José Salazár in 1843 and established the El Rancho del Buque (Ship Ranch) to settle down "to raise cattle and children" (Reynolds 1998). Another account, as told to Marion Parks by José Jesus Lopez of Rancho El Tejon in the early 1900s, has Francisco Chari encouraged by Chico López to purchase land in the canyon in the 1870s (Parks 1929). López owned a ranch in the region and used the canyon to pasture his horses; after the passage of the Homestead Act in 1862 and the construction of the Southern Pacific Railroad through the area in 1876, he told Chari to "take up some land before the settlers come in and claim everything" (Parks 1929: 196). Before settling in California, Chari had been a sailor, and told "endless yarns of adventure on the seas, and tales of his buque, or ship" around the campfire and eventually the canyon became known as El Rancho del Buque (Parks 1929: 196). Later, buque was misinterpreted, or misspelled, by mapmakers and changed to "Bouquet" on maps of the region.

Chico López's ranch was located on the north end of Bouquet Canyon, in Leona Valley; the southern end, near where the San Francisquito and Bouquet canyons empty into the Santa Clara River Valley, was settled by Martin Ruiz. Ruiz and his sons established several adobe homes in the vicinity, possibly including the "Martin Ruiz Adobe" that is located adjacent to and potentially within the project site east of Bouquet Canyon Road (Parks 1929). However, it is unclear when, and by whom, this adobe was originally built. Images of the adobe on file with the Los Angeles Public Library state in the description that the adobe was built in 1865, and a 1929 newspaper article indicates that in approximately 1870 the adobe was nearly new (The San Fernando [Calif.] Sun, 1929). However, A.B. Perkins and Jerry Reynolds, historians associated with the Santa Clarita Valley Historical Society, claim that the adobe was constructed by Chari in 1845 and was later sold to Ruiz (Santa Clarita Valley Historical Society 2018a). A newspaper article from 1990 written by Reynolds asserts that Chari contracted Ruiz to construct the adobe in 1845, with Ruiz acquiring the property a few years later (Reynolds 1990). This same article also claims that 'Deadman Canyon' was a briefly used name for the canyon and came from 1898, when a Dave Chormicle was hanged from an oak tree for stealing cattle or horses; however, as indicated on the survey plats from 1875 and 1877, the reference to the canyon as Cañada de Los Muertos was much earlier than this.

In 1874, Ruiz sold the adobe and part of his ranch lands to Gianbubista ("Gianbatista" or "Juan Batista") Suraco, an Italian who had come to California in 1859 at the age of 20 (Parks 1929). For approximately 40 years, Suraco lived and raised a family in the adobe with his wife, Dominga Garla (Santa Clarita Valley Historical Society 2018a). In 1882, Suraco was granted a land patent under the Homestead Act for 160

acres that included the adobe. Suraco passed away in 1915 and, according to his death certificate, was buried in Bouquet Canyon (Santa Clarita Valley Historical Society 2018b).

One of Suraco's sons, Joseph Antonio "Tony" Suraco, married in 1917 and also lived and raised a family on the adobe property (Santa Clarita Valley Historical Society 2018a). However, the adobe had fallen into disrepair, with winter floods weakening its walls, and Tony Suraco and his family resided in a wood frame house located to the north of the adobe (Parks 1929; Santa Clarita Valley Historical Society 2018a). The house may have been constructed as early as the 1890s (Reynolds 1990).

The Suraco ranch was purchased by the Benz family in the early 1940s; Charles Benz, who was born in 1935, grew up on the alfalfa and hog farm started in the project site in the 1940s, and later married Barbara A. Suraco, Tony Suraco's granddaughter. According to Benz, what was left of the adobe ruins was graded in the 1940s, and the wood frame house to the north was demolished in approximately 1990 after that portion of the ranch had been sold (Santa Clarita Valley Historical Society 2018b).

3.4.3 CULTURAL RESOURCES IDENTIFICATION EFFORTS

South Central Coastal Information Records Search

HELIX staff conducted a record search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) at California State University Fullerton on June 12, 2018. The records search covered a 1-mile radius around the project and included archaeological and historical resources, locations and citations for previous cultural resources studies, and a review of the state Office of Historic Preservation historic properties directory. The records search results identified 24 previous cultural resource studies completed within the records search limits, none of which occurred within the project site. See Table 1 in **Appendix D**.

The SCCIC has a record of nine previously recorded cultural resources within a 1-mile radius of the project, none of which have been recorded within the project site; see Table2 in **Appendix D**. In general, the cultural resources recorded within the records search limits included trash deposits and refuse scatters, structural features, a transmission line, ranch site, the remains of a historic hog farm, and one prehistoric site.

Literature Review

HELIX reviewed historic topographic maps from 1900-1974, aerial imagery from 1947-1977, and the Bureau of Land Management General Land Office 1875 and 1877 plat maps. The purpose of this research was to identify historic resources and land uses in the area. See **Appendix D** for a detailed review of each source.

Native American Consultation

HELIX contacted the Native American Heritage Commission (NAHC) on May 31, 2018, for a sacred lands file search and list of Native American contacts for the project area. The NAHC indicated in a response dated June 22, 2018, that the search of the sacred lands file was completed for the project area with negative results. Letters were sent on June 29, 2018 to Native American representatives and interested parties identified by the NAHC. No responses have been received to date.

A Native American monitor from the Fernandeño Tatavium Band of Mission Indians accompanied the survey crew during the fieldwork, and upon coordination for the survey, Jairo Avila responded in an email dated June 22, 2018, that their records show the presence of cultural places within the vicinity of the project site.

Survey Methodology

A pedestrian survey of the project site and off-site improvement areas was conducted on June 29, 2018, and November 14, 2018, respectively, by HELIX and a Native American monitor from the Fernandeño Tatavium Band of Mission Indians. During the pedestrian survey, the project site was walked in 10 meters (m) transects. Slopes greater than 25 degrees were visually assessed but were not surveyed. The top of the ridgeline on the west side of the project site was surveyed; however, the ridgeline was very narrow and systematic transects were not feasible.

Visibility was poor throughout the study area. Flood plain sands have been deposited over the entirety of the valley area within the project site, and the ridgelines and slopes are highly eroded. Visibility throughout the project site was less than 10 percent in the low areas and down to zero percent along the creek banks. The slopes allowed for up to 30 to 40 percent visibility; however, most of the slopes were not surveyed due to the slope angles measuring more than 25 degrees.

Chari/Suraco Cemetery and Ruiz Cemetery

The HELIX (2019) study also identified two potential historic-aged cemeteries within the project site. A family cemetery, known as the Chari/Suraco cemetery, reportedly contains "Juan Batista" Suraco, his wife, and several others. Suraco passed away in 1915, and according to his death certificate, was buried in Bouquet Canyon (Santa Clarita Valley Historical Society 2018b). A second cemetery, known as the Ruiz cemetery, contains five burials of typhoid victims located along the ridge within the project site. The City's 2009 Historic Preservation Survey & Planning Analysis (Historic Resources Group 2009) states the following:

> A family graveyard was established on a low hill to the South where Juan, his wife Dominga Carla and others, including some Indians, were buried; five additional graves of Typhoid victims are located on a ridge to the east; the adobe home is gone, marked by a large palm tree; the Suraco cemetery is marked by 4 oleanders (once there were six) and the headstones are no longer extant; shallow depressions suggest perhaps six burials with two or three outside of the oleander line; no evidence of the ridgetop interments has been found.

The HELIX (2019) study continues regarding the Chari/Suraco cemetery:

> In a 2010 interview conducted at the site, [Charles] Benz pointed out the location of a family graveyard on a low hill behind the former adobe where some six members of the Suraco and Chacanaca families (and perhaps other Californios) are buried. He remembered that the graves were marked with crude wooden stakes when he was a child, and he was not allowed to play there (Santa Clarita Valley Historical Society 2018a).

The City's 2009 Historic Preservation Survey & Planning Analysis did not evaluate or apply a significance rating to the Chari/Suraco cemetery or Ruiz cemetery. They were, however, identified as having some evidence of potential historic significance, and were recommended for future survey and planning efforts.

Research has indicated that Chari/Suraco cemetery and Ruiz cemetery may be located within the project site. Although no physical indications of the potential burial locations were identified during the pedestrian survey, there is substantial literary and oral evidence suggesting their presence within the project site.

Resource Evaluations

HELIX identified and evaluated four cultural resources located within the project site. The resources include the remnants of an early twentieth-century schoolhouse known as the New Era School (P-19-004853), a ranch complex and associated features (P-19-004854/CA-LAN-4854), a 1950s residential building (P-19-192514), and the remnants of a turn-of-the-twentieth century residence (P-19-004855). Copies of the California Department of Parks and Recreation (DPR) evaluation forms for the cultural resources are included in **Appendix D**.

As summarized below, the four resources were evaluated for inclusion in the NRHP and CRHR and determined to not meet the criteria for listing in either register, and thus are not considered historical resources, per CEQA.

Resource Number	Description	Eligibility Recommendation
P-19-004853	Concrete foundation; possibly the remnants of the New Era School	Not eligible
P-19-004854 (CA-LAN-4854)	Ranch complex and associated features	Not eligible
P-19-192514	Residential building (circa 1950s) at 28402 Bouquet Canyon Road	Not eligible
P-19-004855	Remnants of a residential structure	Not eligible

Summary of Findings

In summary, four historic-period cultural resources were evaluated and recommended ineligible for listing in the NRHP or CRHR. No historical resources, as defined by CEQA, will be impacted by the project.

The project site was covered by thick vegetation and visibility of the original ground surface was limited throughout the study area. The majority of the project site is located within alluvial soils where there is a potential for buried cultural resources. Also, while no Native American cultural resources have been identified within the project site, there are several important cultural resources in the vicinity as identified by the Fernandeño Tatavium Band of Mission Indians.

Lastly, evidence suggests two historic-aged cemeteries, known as the Chari/Suraco cemetery and Ruiz cemetery, are located within the project site. It is noted that no physical indication of the potential burial locations were identified during the pedestrian survey other than an area fenced off with a wire fence thought to be the location of the Chari/Suraco cemetery. The Ruiz cemetery is believed to be located along the ridge within the project site.

3.4.4 REGULATORY AND PLANNING FRAMEWORK

3.4.4.4 STATE

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code (PRC) Section 21084.1, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. Section 21083.2 requires agencies to determine whether proposed projects would have impacts on unique archaeological resources.

The term *historical resource* is defined in PRC Section 21084.1. The State CEQA Guidelines Section 15064.5 describes how significant impacts on historical and archaeological resources are determined. Under Section 15064.5(a), historical resources include the following:

1) A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1).
2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1), including the following:
    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b) Is associated with the lives of persons important in our past;
    c) 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
    d) Has yielded, or may be likely to yield, information important in prehistory or history.
4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Section 5020.1(j) or 5024.1.

Historical resources are usually 50 years old or older and must meet at least one of the above criteria for listing in the CRHR (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may

be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (PRC Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

For historic buildings, CEQA Guidelines Section 15064.5(b)(3) indicates that the impacts of a project that follows the Secretary of the Interior's Standards for either the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall be considered to have been mitigated to less than significant.

As noted above, CEQA also requires lead agencies to consider whether projects will impact *unique archaeological resources.* PRC Section 21083.2(g) states:

> "Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> 1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
> 2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> 3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Treatment options under Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Section 7050.5(b) of the California Health and Safety Code

Section 7050.5(b) of the California Health and Safety Code specifies protocol when human remains are discovered, as follows:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

CEQA Guidelines Section 15064.5(e) requires that excavation activities stop whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the NAHC must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the commission. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the provisions pertaining to accidental discovery of human remains, the CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5(f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

3.4.4.5 LOCAL

City of Santa Clarita Unified Development Code

Chapter 17.64 of the City of Santa Clarita's Unified Development Code (UDC), Historic Preservation, seeks preservation and protection of "public and private historic, cultural, and natural resources which are of special historic or aesthetic character or interest, or relocating such resources where necessary for their preservation and for their use, education, and view by the general public".

As stated, "a building, structure, or object may be designated by the Commission as a historic resource if it possesses sufficient character-defining features and integrity, and meets at least one (1) of the following criteria:

1) Is associated with events that have made a significant contribution to the historical, archaeological, cultural, social, economic, aesthetic, engineering, or architectural development of the City, State or Nation; or
2) Is associated with persons significant in the history of the City, State or Nation; or
3) Embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
4) Has a unique location, singular physical characteristic(s), or is a landscape, view or vista representing an established and familiar visual feature of a neighborhood, community, or the City; or
5) Has yielded, or has the potential to yield, information important to the history or prehistory of the City, State, or Nation.

City of Santa Clarita General Plan

The Conservation and Open Space Element of the General Plan for the City of Santa Clarita (2011) includes the following goals, objectives, and policies related to cultural resources that would be applicable to the proposed project:

- 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 (Exhibit CO-6), 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 Table CO-1 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.
    - 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 California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands 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.

3.4.5 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant impact if it would:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

c) Disturb any human remains, including those interred outside of dedicated cemeteries.

3.4.6 METHODOLOGY

Evaluation of the project's potential to result in a significant impact on cultural resources is based on the resource identification and evaluation efforts presented in the "Bouquet Canyon Road Project Cultural Resources Survey and Assessment" technical report prepared by HELIX Environmental Planning (2019), included as **Appendix D** of this Draft EIR.

This analysis evaluates anticipated changes in the physical environment resulting from the project against the thresholds of significance identified above, to determine if direct and indirect changes from existing conditions would constitute potentially significant effects to known or potential cultural resources. Project changes are described and potential impacts, if any, are identified under each impact discussion. Where impacts would be considered potentially significant, mitigation measures are identified to reduce impacts to a less than significant level.

Guidelines for Implementation of CEQA are codified at Title 14 California Code of Regulations Section 15000 et seq. A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. A substantial adverse change in the significance of a historical resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

3.4.7 ANALYSIS

Impact 3.4-a The project would have no impact on a historical resource, as defined by Section 15064.5 of the CEQA Guidelines.

Discussion

The evaluations conducted by HELIX determined the four historic-period resources identified on-site are ineligible for listing in the California Register and National Register. No historical resources were identified during the course of the study, and therefore, no historical resources, as defined by CEQA Section 15064.5(a), are located within the project site. A finding of **no impact** to historical resources is appropriate for this project.

Impact 3.4-b Although no archaeological resources were identified within the project site during the cultural resources investigations, there have been a number of findings of such resources in the project vicinity, indicating a high potential to discover presently unknown resources during project excavation work. Mitigation measures are proposed to avoid accidental destruction of potentially significant archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines.

Discussion

During the archaeological field survey, the project site was covered by thick vegetation, making much of the original ground surface unobservable and archaeological site identification difficult. However, a majority of the project site is located within alluvial soils, a soil type known to have potential for buried cultural resources throughout the Santa Clarita Valley and generally, wherever these soil types occur, because they include eroded soils which spread and have the potential to cover archaeological sites. While no Native American cultural resources were identified within the project site, consultation with the Fernandeño Tatavium Band of Mission Indians identified several cultural sites and Tatavium Place Names, not identified in the SCCIC search, in the vicinity of the project site, thereby raising the archaeological sensitivity of the site. Lastly, research conducted for the study indicates that two cemeteries known as the Chari/Suraco cemetery and Ruiz cemetery are likely within the project site in or near areas planned for development. Therefore, the project has the potential to significantly impact archaeological resources. The following mitigation measures will lessen impacts to less than significant.

Mitigation Measures

MM 3.4-1 Archaeological and Native American Monitoring Program

The applicant shall retain a Secretary of the Interior Professional Qualified archaeologist and/or Registered Professional Archaeologist to develop a monitoring program for the project site in areas of young alluvium and colluvium. This program shall also address potential discovery of the Ruiz cemetery on the main ridgeline. The monitoring program shall include the archaeological context, rationale for monitoring, Native American participation, monitoring procedures, and what to do with resource/remains discoveries. The monitoring program shall require an archaeologist and Native American monitor from the Fernandeño Tatavium Band of Mission Indians to hold a preconstruction meeting with the grading contractor and both are to be present during initial ground-disturbing activities within the areas of young alluvium and colluvium. Both archaeological and Native American monitors shall have the authority to temporarily halt or redirect grading and other ground-disturbing activities in the event cultural resources are encountered. If potentially significant cultural material is encountered, the monitors shall make recommendations regarding the treatment of the discovery. Impacts to significant archaeological deposits should be avoided if feasible, but if such impacts cannot be avoided, the deposits should be evaluated for eligibility to the California Register of Historical Resources (CRHR). If the deposit is not CRHR-eligible, no further protection of the find is necessary. If the deposits are CRHR-eligible, impacts shall be avoided or mitigated. Acceptable mitigation may consist of but is not necessarily limited to systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility.

Timing/Implementation: *Monitoring program—Developer to submit prior to approval of grading permits. Preconstruction meeting—Contractor to conduct prior to ground disturbance*

Monitoring—during ground disturbance

Enforcement/Monitoring: *City of Santa Clarita, Planning Division*

MM 3.4-2 **Chari/Suraco Cemetery Identification and Avoidance**

Prior to the issuance of a grading permit associated with Planning Area 1, the project developer shall provide the City with evidence of the exact location of the early twentieth century-period Chari/Suraco cemetery, using noninvasive techniques, and shall delineate those areas in the field to provide visual markers to ensure that grading crews avoid that burial site. The Chari/Suraco cemetery shall be included in the permanent open space area to be preserved in the land immediately east of Planning Area 1.

Timing/Implementation: *Determine location of Chari/Suraco cemetery prior to issuance of a grading permit, and install field markers prior to ground disturbance*

Enforcement/Monitoring: *City of Santa Clarita, Planning Division*

Level of Impact Significance Following Mitigation

With the implementation of mitigation measures **MM 3.4-1** and **MM 3.4-2**, project impacts to archaeological resources would be avoided and reduced to less than significant.

Impact 3.4-c To avoid destruction of human remains associated with two known historic-period cemeteries found on-site, avoidance measures and construction monitoring will be required, and impacts would be less than significant.

Discussion

The HELIX (2019) cultural resources technical study summarizes the methods and results of archival research, literature review, and a field survey which identified the likelihood of the historic-aged Chari/Suraco and Ruiz cemeteries located within the project site.

HELIX did not identify any physical remnants of the potential cemeteries (e.g., tombstones); however, there is a location near proposed Planning Area 1 which is identified in **Appendix D** as a likely location of the Chari/Suraco cemetery. The Ruiz cemetery is purportedly located along the ridge planned for a recreational trail. Grading associated with proposed Planning Area 1 could potentially encroach into and damage the Chari/Suraco cemetery. This potentially significant impact would be avoided with mitigation measure **MM 3.4-2**, which would identify any human remains with the use of noninvasive techniques, avoidance of grading, and inclusion in the permanent open space area adjacent to Planning Area 1.

Grading and construction of a recreational trail along the ridgeline could potentially impact the Ruiz cemetery, which might occur in that area. Potentially significant impacts would be avoided through mitigation measure **MM 3.4-1**, which would require monitoring of trail construction on the ridgeline to ensure that work is halted in the event of an accidental discovery of that cemetery to allow inspection and characterization/treatment of any human remains, potential archaeological resources, and Native

American cultural resources. If human remains are identified, the provisions of California Health and Safety Code Section 7050.5(b) would also apply. As a result, project impacts would be less than significant.

Level of Impact Significance Following Mitigation

With the implementation of mitigation measures **MM 3.4-1** and **MM 3.4-2**, project impacts to human remains would be avoided and reduced to less than significant.

This page intentionally left blank.

3.5 ENERGY CONSUMPTION

3.5 ENERGY CONSUMPTION

The purpose of this section is to evaluate potential short- and long-term term energy consumption impacts as a result of the proposed project, with an emphasis on avoiding wasteful and inefficient energy usage and consistency with various state and local regulations enacted to encourage energy efficiency and reduce use of fossil fuel generated energy sources.

3.5.1 EXISTING CONDITIONS

3.5.1.1 ENERGY CONSERVATION AS A CALIFORNIA ISSUE OF CONCERN

In 1975, largely in response to the oil crisis of the 1970s, the California state legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require environmental impact reports (EIRs) to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the California Natural Resources Agency created Appendix F, Energy Conservation, of the state's California Environmental Quality Act Guidelines (CEQA Guidelines). CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy.

In December 2018, the California Natural Resources Agency finalized the updates to the CEQA Guidelines. New CEQA Guidelines Section 15126.2(b) treats "wasteful, inefficient, or unnecessary" energy consumption as a significant environmental impact. As a result, energy thresholds have been incorporated into Appendix G of the CEQA Guidelines; refer to the Thresholds of Significance discussion later in this section.

3.5.1.2 ENVIRONMENTAL SETTING

Electricity/Natural Gas Services

Southern California Edison (SCE) provides electrical services to the Santa Clarita planning area through state-regulated public utility contracts. Over the past 15 years, electricity generation in California has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, generation and transmission of electricity is usually not tied to the location of the fuel source and can be delivered great distances via the electrical grid. In 2018, 46 percent of the power delivered to customers by SCE came from carbon-free resources (renewable energy sources). SCE anticipates that by 2030, 80 percent of the power delivered to customers will be from carbon-free resources (Southern California Edison 2019).

The Southern California Gas Company (SoCalGas) provides natural gas services to the Santa Clarita planning area. Natural gas is a hydrocarbon fuel found in reservoirs beneath the earth's surface and is

composed primarily of methane. It is used for space and water heating, process heating and electricity generation, and as transportation fuel. Use of natural gas to generate electricity is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels like oil and coal. In California and throughout the western United States, many new electrical generation plants that are fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. Nearly 45 percent of the natural gas burned in California was used for electricity generation (California Energy Commission 2019a). While the supply of natural gas in the United States and production has increased greatly, California produces little, and imports 90 percent of its natural gas from basins located in the southwestern United States, Canada and the Rocky Mountains. (California Public Utilities Commission 2019a).

Energy Usage

Energy usage is typically quantified using the British thermal unit (Btu). A Btu is the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. The generating capacity of a unit of electricity is expressed in megawatts (MW). Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (KWh), or gigawatt-hours (GWh). Total energy usage in California was 7,881.3 trillion Btus in 2017 (the most recent year for which this specific data is available), which equates to an average of 199 million Btus per capita (U.S. Energy Information Administration 2019a). Of California's total energy usage, the breakdown by sector is 39.8 percent transportation, 23.7 percent industrial, 18.9 percent commercial, and 17.7 percent residential (U.S. Energy Information Administration 2019a). Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (U.S. Energy Information Administration 2019b). In 2018, taxable gasoline sales (including aviation gasoline) in California accounted for 15,589,042,965 gallons of gasoline (California Department of Tax and Fee Administration 2019).

The electricity consumption attributable to Los Angeles County as a whole from 2008 to 2018 is shown in **Table 3.5-1, Electricity Consumption in Los Angeles County 2008-2018**. As indicated in **Table 3.5-1**, energy consumption in the County remained relatively constant between 2008 and 2018, with no substantial increase.

The natural gas consumption attributable to nonresidential land uses in the County from 2008 to 2018 is shown in **Table 3.5-2, Natural Gas Consumption in Los Angeles County 2008-2018**. Similar to energy consumption, natural gas consumption in Los Angeles County remained relatively constant between 2008 and 2018, with no substantial increase.

Table 3.5-1
ELECTRICITY CONSUMPTION IN LOS ANGELES COUNTY 2008-2018

Year	Electricity Consumption (in millions of kilowatt hours)
2008	72,050
2009	69,921
2010	68,227
2011	68,117
2012	69,163
2013	68,364
2014	69,932
2015	69,529
2016	69,614
2017	68,800
2018	67,856

Source: California Energy Commission, Electricity Consumption by County, http://ecdms.energy.ca.gov/elecbycounty.aspx, accessed August 19, 2019.

Table 3.5-2
NATURAL GAS CONSUMPTION IN LOS ANGELES COUNTY 2008-2018

Year	Natural Gas Consumption (in millions of therms)
2008	3,011
2009	2,955
2010	3,124
2011	3,061
2012	2,993
2013	3,129
2014	2,858
2015	2,823
2016	2,869
2017	2,956
2018	2,921

Source: California Energy Commission, Gas Consumption by County, http://ecdms.energy.ca.gov/gasbycounty.aspx, accessed August 19,2019.

GASOLINE/DIESEL FUELS

Automotive fuel consumption in the County from 2010 to 2019 (with 2020 projections) is shown in **Table 3.5-3, Automotive Fuel Consumption in Los Angeles County 2010-2019**. As shown in **Table 3.5-3**, on-road automotive fuel consumption in the County declined from 2010 to 2014, increased from 2015 to 2017, and has been declining since 2018. Heavy-duty vehicle fuel consumption has steadily risen since 2010.

Table 3.5-3
AUTOMOTIVE FUEL CONSUMPTION IN LOS ANGELES COUNTY 2010-2020

Year	On-Road Automotive Fuel Consumption (Gallons)	Heavy-Duty Vehicle/ Diesel Fuel Consumption (Gallons)
2010	4,117,442,025	445,107,369
2011	4,046,955,750	459,208,265
2012	4,012,068,093	455,587,873
2013	4,023,829,953	482,997,400
2014	4,060,941,103	483,501,695
2015	4,187,232,990	483,293,224
2016	4,292,246,006	516,329,430
2017	4,294,811,614	517,173,294
2018	4,189,699,938	525,148,755
2019	4,073,114,700	529,979,035
2020 (projected)	3,975,480,911	533,800,838

Source: California Air Resources Board, EMFAC2017 v1.0.2., https://www.arb.ca.gov/emfac/2017/, Accessed August 19, 2019.

3.5.2 REGULATORY AND PLANNING FRAMEWORK

The following is a description of state and local regulations and planning programs related to energy consumption that are relevant to the proposed project.

3.5.2.1 STATE

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

In 1978, the CEC established Title 24, California's energy efficiency standards for residential and nonresidential buildings, in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. In 2013, the CEC updated Title 24 standards with more stringent requirements. The 2016 update to the standards established higher efficiency standards to substantially reduce electricity and natural gas consumption. Additional savings result from the application of the standards on building alterations. For example, requirements for cool roofs, lighting, and air distribution ducts are expected to save additional electricity. These savings are cumulative, doubling as years go by. The 2016 standards were approved and went into effect on January 1, 2017. California's energy efficiency standards are updated on an approximate three-year cycle. The 2019 Title 24 standards became effective on January 1, 2020 and will apply to the proposed project. The 2019 Standards would require photovoltaic systems in newly constructed residential buildings and additional lighting standards. With rooftop solar electricity generation, homes built under the 2019 standards would use about 53 percent less energy from the SCE grid than those under the 2016 standards. With the new lighting standards, nonresidential buildings would use 30 percent less energy for lighting than buildings built under the 2016 standards (California Energy Commission 2019d).

California Green Building Standards

The California Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development; Title 24 Parts 6 and 11 together comprise the Building Energy Efficiency Standards. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2019 and is going into effect January 1, 2020. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

California Public Utilities Commission Energy Efficiency Strategic Plan

The California Public Utilities Commission (CPUC) prepared an Energy Efficiency Strategic Plan (Strategic Plan) in September 2008 with the goal of promoting energy efficiency and a reduction in greenhouse gases. In January 2011, a lighting chapter was adopted and added to the Strategic Plan. The Strategic Plan is California's single roadmap to achieving maximum energy savings in the state between 2009 and 2020, and beyond 2020. The Strategic Plan contains the practical strategies and actions to attain significant statewide energy savings, as a result of a year-long collaboration by energy experts, utilities, businesses, consumer groups, and governmental organizations in California, throughout the West, nationally and internationally. The plan includes the four big bold strategies:

1. All new residential construction in California will be zero net energy by 2020.
2. All new commercial construction in California will be zero net energy by 2030.
3. Heating, ventilation and air condition (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate.
4. All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

3.5.2.2 LOCAL

Santa Clarita General Plan Conservation and Open Space Element

- 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 8.1.3: 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.

- 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 8.3.6: 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 8.3.10: Provide incentives and technical assistance for installation of energy-efficient improvements in existing and new buildings.

3.5.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly,

a project will have a significant environmental impact related to water supply and infrastructure if it would:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.5.4 METHODOLOGY

The impact analysis focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips associated with the project as well as the fuel necessary for project construction. The analysis of electricity/natural gas usage is based on California Emissions Estimator Model version 2016.3.2 (CalEEMod) greenhouse gas emissions modeling, which quantifies energy use for occupancy. The results of the CalEEMod modeling are included in Appendix B. Modeling was based primarily on the default settings in the computer program for the County. The amount of operational fuel use was estimated using the California Air Resources Board's Emissions Factor 2017 (EMFAC2017) computer program, which provides projections for typical daily fuel usage in the County. The results of EMFAC2017 modeling and construction fuel estimates are included in Appendix B.

3.5.5 ANALYSIS

Impact 3.5-a The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources and a less than significant impact would occur.

Discussion

Energy consumption associated with the proposed project is summarized in **Table 3.5-4, Project and Countywide Energy Consumption**. As shown in **Table 3.5-4**, the increase in electricity usage due to the project would constitute an approximate 0.0028 percent increase in the typical annual electricity and an approximate 0.0014 percent increase in the typical annual natural gas consumption in the County. The project-related off-road automotive fuel consumption (i.e., fuel consumed during construction) would result in a 0.0321 percent increase, and on-road automotive fuel consumption (i.e., fuel consumed from operational vehicle trips to and from the project site) would result in a 0.0193 percent increase over Countywide automotive fuel consumption.

Table 3.5-4
PROJECT AND COUNTYWIDE ENERGY CONSUMPTION

Energy Type	Project Annual Energy Consumption	Los Angeles County Annual Energy Consumption[1,2]	Percentage Increase Countywide
Electricity Consumption	1,917 MWh	67,569,000 MWh	0.0028%
Natural Gas Consumption	40,632 therms	2,956,000,000 therms	0.0014%
Automotive Fuel Consumption[3,4]			
Project Construction[5]	164,058 gallons	533,800,838 gallons	0.0307%
Project Operations	768,096 gallons	3,975,480,911 gallons	0.0193%

Notes:

1. *The project increases in electricity and natural gas consumption are compared with the total consumption in Los Angeles County in 2019.*
2. *The project increases in automotive fuel consumption are compared with the forecast countywide fuel consumption in 2020.*

3. Construction fuel consumption is based on equipment and load factors from California Emissions Estimator Model (CalEEMod v. 2016.3.2)

4. Countywide fuel consumption is from the California Air Resources Board EMFAC2017 v.1.0.2. model.

5. The estimated construction fuel consumption is based on the project's construction equipment list timing/phasing, and hours of duration for construction equipment, as well as vendor, hauling, and construction worker trips.

Refer to Appendix E for assumptions used in this analysis.

Construction-Related Energy

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels for construction vehicles and other energy-consuming equipment would be used during site preparation, grading, trenching, paving, building construction, and architectural coating. Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. Some incidental energy conservation would occur during construction through compliance with state requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency and California Air Resources Board engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than nonrecycled materials. The incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

As indicated in **Table 3.5-4**, the overall fuel consumption during project construction would be 164,058 gallons, which would result in a nominal increase (0.0307 percent) in fuel use in the County. As such, project construction would have a minimal effect on the local and regional energy supplies. It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or state. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. A less than significant impact would occur in this regard.

Operational Energy

Energy Demand

Transportation Energy Demand

Pursuant to the federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. **Table 3.5-4** provides an estimate of the daily fuel consumed by vehicles traveling to and from the project site. As indicated in **Table 3.5-4**, project operations are estimated to consume approximately 768,096 gallons of fuel per year, which would increase Countywide automotive fuel consumption by 0.0193 percent. The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. The key drivers of transportation-related fuel consumption are job locations/commuting distance and many personal choices on when and where to drive for various purposes. Those factors are outside of the scope of the design of the proposed residential community. Fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Building Energy Demand

The proposed project would be expected to demand approximately 1,917 MWh of electricity per year and approximately 40,632 therms of natural gas per year. The proposed project would be required to comply with 2019 Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, photovoltaic solar panels, and lighting. Implementation of the 2019 Title 24 standards significantly reduces energy usage (53 percent compared to the 2016 standards). Furthermore, the electricity provider, SCE, is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 50 percent of total procurement by 2030. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures that new development projects will not result in the waste of the finite energy resources.

As indicated in **Table 3.5-4**, operational energy consumption would represent an approximate 0.0028 percent increase in electricity consumption over the current Countywide usage. The project would adhere to all federal, state, and local requirements for energy efficiency, including the 2019 Title 24 standards. As such, the project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.

Conclusion

As shown in **Table 3.5-4**, the increase in electricity and automotive fuel consumption over existing conditions is negligible (less than 1 percent). For the reasons described above, the project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly

increase peak and base period electricity demand. Further, the project would not cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance, or preempt future energy development or future energy conservation. A less than significant impact would occur.

Mitigation Measures

No mitigation measures are required.

Impact 3.6-b The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and a less than significant impact would occur.

Discussion

The City currently does not have a plan pertaining to renewable energy or energy efficiency. However, the City does support energy efficiency through various programs such as the Summer Discount Program, Pool Pump and Motor Rebates, and React with Impact (Green Santa Clarita 2019). The applicable state and local plans for renewable energy and energy efficiency include CPUC's Energy Efficiency Strategic Plan, the 2019 Title 24 Code, and the 2019 CALGreen standards. The project would be required to comply with Title 24 and CALGreen standards. Compliance with 2019 Title 24 Code and 2019 CALGreen standards would ensure the project incorporates energy-efficient windows, solar panels, insulation, lighting, and ventilation systems, as well as water-efficient fixtures and electric vehicles charging infrastructure. Compliance with the 2019 Title 24 Code will reduce building energy usage by 53 percent compared to the prior 2016 Title 24 Code. Additionally, per the RPS, the project would utilize electricity provided by SCE that would be composed of 33 percent renewable energy by 2020 and 50 percent renewable energy by 2030. Furthermore, while not required, future residents/homeowners could partake in the City's various energy efficiency programs, which would help reduce energy usage and improve the energy efficiency of the proposed project. Therefore, the proposed project would be consistently associated with renewable energy or energy efficiency plans and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.6 GEOLOGY AND SOILS

3.6 GEOLOGY AND SOILS

Pursuant to the environmental scoping process conducted during the initial phase of this EIR (see Initial Study and Notice of Preparation documentation in **Appendix A**), this section of the Draft EIR describes the existing geologic and soils conditions on the project site and evaluates the potential impacts resulting from seismic hazards and soils constraints. Potential impacts to paleontological resources (i.e., fossil materials) is also discussed.

Information and analyses presented in this section are based on the *Updated Geotechnical EIR-Level Assessment, Bouquet Canyon Project, Tentative Tract Map No. 82126, Southerly Adjacent to Bouquet Canyon Road and Copper Hill Drive, Santa Clarita, California*, prepared by Petra Geosciences, Inc. (Petra). A professional peer review of that report was conducted by R.T. Frankian and Associates, on behalf of the City of Santa Clarita. A copy of the complete geotechnical report is provided in **Appendix E** of this EIR.

3.6.1 EXISTING CONDITIONS

3.6.1.1 TOPOGRAPHIC CONDITIONS

There is a prominent north–south trending ridgeline and steep slopes formation on the western portion of the site, and the broad, flat plain of Bouquet Canyon crosses the central and northeastern portions of the site. The active stream channel of Bouquet Canyon, Bouquet Creek, crosses the northern portion of the site, flowing from east to west. Spur ridges and tributary drainages are located along the southern boundary of the site. Topographically, the central and northern portions of the site are relatively flat with a slight gradient down toward Bouquet Creek. The slopes that descend from the ridgeline in the western portion of the site vary in gradient from approximately 3:1 (horizontal to vertical) to 1.5:1. The overall site topographic relief is on the order of 165 feet, with a low elevation of 1,365 feet above mean sea level and a high point of 1,530 feet above mean sea level. The lowest elevation on-site is located in a flat area along Bouquet Canyon Road, opposite Benz Road. The highest elevation on-site is located on the ridgeline in the western portion of the project site.

3.6.1.2 REGIONAL PHYSIOGRAPHIC SETTING

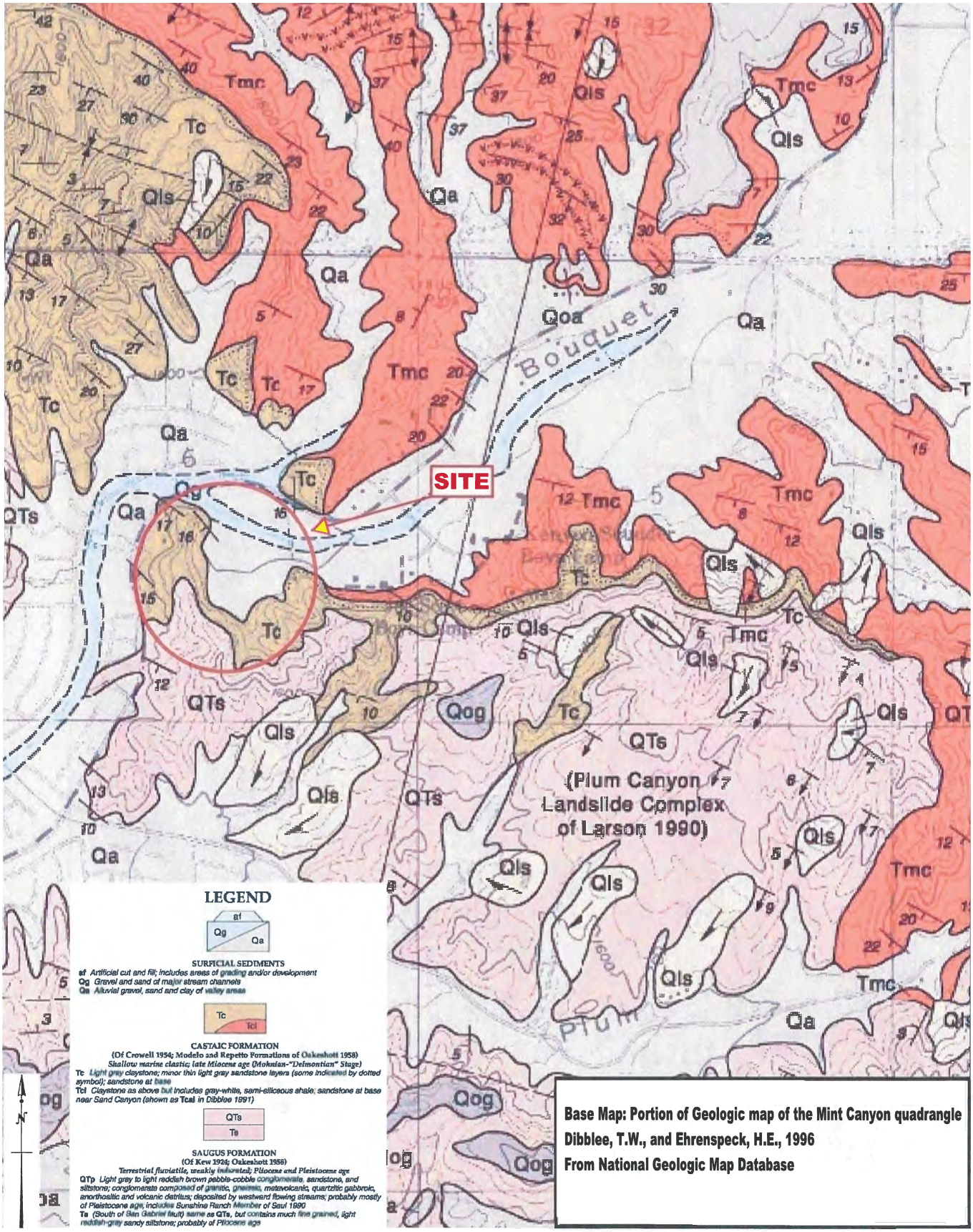
The site is located in the Soledad Basin, which is a northeast trending alluvium-filled valley in the Transverse Ranges Geomorphic Province. The basin is bound on the north, east, and west by mountainous ridgelines that are composed of sedimentary rocks underlain by a crystalline core. The sedimentary rocks are thousands of feet in thickness and have been uplifted and folded into a synform, a formation of sedimentary layers that form a concave shape where the age of the layers is unknown or inverted, whose axis is subparallel to the basin's northeasterly trend. The San Gabriel fault zone forms the southwest boundary of the Soledad Basin and at its closest is about 3.5 miles southwest of the site.

LOCAL GEOLOGY AND SUBSURFACE CONDITIONS

The distribution, thicknesses, and characteristics of near-surface soils in the Santa Clarita area have been previously mapped at multiple scales for purposes of seismic zonation and are available through the National Geologic Map Database. Based on these previously published maps, it can be determined that the local area is underlain by sedimentary bedrock consisting of sandstone, siltstone, and, to a lesser extent, claystone. These rocks are exposed in several locations in the general site locale. The bedrock is mantled by varying thicknesses of soil and alluvial deposits and, to a lesser extent, landslide debris.

To ascertain the existing subsurface conditions, multiple test pits and borings were excavated/advanced across the project site. The Mint Canyon quadrangle from the National Geologic Map Database also provides information on subsurface conditions. **Figure 3.6-1** shows the geologic composition of the project site and the surrounding area. Based on these, bedrock underlies the site and is mantled by soil/alluvial materials in the valley/tributary areas. Soils are generally less than 2 to 3 feet in thickness while alluvium varies in thickness from a few feet to greater than the depths explored (66.5 ± feet). These materials are generally described as silty, fine- to medium-grained sands that are gray to brown, dry to moist, and loose to dense. Varying amounts of clay and gravel were also noted within the sandy portions of the alluvium. Landslide debris/deposits have been mapped on lower portions of natural slopes. These features are relatively minor and localized. Depths ranged from 5 to 10 feet to as much as 21± feet. Landslide material is derived from the bedrock materials and consists of loose/broken sandstone and siltstone layers.

Bedrock on-site consists of the Castaic and Saugus Formations. The Castaic underlies the majority of the site and is exposed on the northern and central portions of the main ridgeline. This unit typically consists of silty to fine-grained sandstone, calcareous sandstone, siltstone, shale, and mudstone. Bedding ranges from well-developed to massive. These rocks are poorly to very well cemented. These materials were deposited in a relatively shallow marine environment as turbidities and inter-channel sediments, and often exhibit fold strata, rip-up clasts, and scour/fill features. The Saugus Formation underlies the southern portion of the site and is exposed on the steeper natural slopes of the main ridgeline. This unit typically consists of fine- to coarse-grained sandstone, pebble to cobble conglomerate, and conglomeratic sandstone. Occasional beds of hardened to well-consolidated reddish brown to greenish gray siltstones and claystones (mudstones) are present. Bedding is moderately to poorly developed to discontinuous or indistinct with some cross-bedding and scour/fill features. These rocks are generally poorly to moderately cemented, with some beds near the lower contact with the underlying Castaic Formation being very well cemented. The Saugus Formation is considered to be a portion of a large ancient alluvial fan complex.



Michael Baker INTERNATIONAL

Source: Dibblee, T.W. and Ehrenspeck, H.E. 1996, in Petra 2019

Areal Geologic Map

Figure 3.6-1

3.6.1.3 LOCAL GROUNDWATER CONDITIONS

The site is located on the periphery of the East Subbasin of the Upper Santa Clara River Groundwater Basin. Information pertaining to the occurrence of groundwater within the local area has primarily been obtained from borehole logs prepared during installation of the water wells throughout the area. In general, groundwater occurs in at least two distinct bodies, in downward succession: 1) a body of semi-perched water that occurs within the lowermost portion of the recent alluvium (referred to as the Alluvial aquifer); and 2) in nearly all deposits of Pleistocene age and some Pliocene rocks (referred to as the Saugus Formation aquifer). Of interest with respect to project site development is the body of semi-perched groundwater occurring within the upper portions of Holocene-age alluvial sediments.

The extent of shallow, semi-perched groundwater in this area is described in general terms in the Seismic Hazard Zone report for the Mint Canyon quadrangle published by the California Division of Mines and Geology (CDMG 1998). Based on information in that report, the subject property is located where shallow groundwater (i.e., groundwater existing at a depth of 40 feet or less below the ground surface) would typically be expected to occur. The Seismic Hazard Zone report indicates that the historical high groundwater depth for the site varies from approximately 40 to 10 feet below the surface. The shallow depths are indicated in isolated areas of the active drainage channel of Bouquet Canyon. The recent field investigation, which included 15 borings within the alluvial sediments, indicates that groundwater levels are significantly lower than reported in the literature. Shallow, near-surface groundwater was not encountered in/near the active drainage channel. Two water levels were measured at depths of 45 and 50 feet below ground surface. These levels indicate that groundwater, when extant, is located at or near the bedrock contact (i.e., at the base of the alluvial section). It should be noted that the depth of groundwater is representative of the date and time that the Petra site investigations were performed, and that this level is likely to fluctuate in response to seasonal changes.

3.6.1.4 TECTONIC CONDITIONS

The California Geological Survey (CGS) defines a fault as a fracture or zone of closely associated fractures in the crust of the earth along which rocks on one side have been displaced relative to those on the other side (CGS 2008). Faults are classified as active, potentially active, or inactive. These classifications are based on the length of time since they experienced activity: active faults have had activity in the last 11,000 years; potentially active faults have had activity between 11,000 and 1.6 million years ago; and inactive faults have not moved in the last 1.6 million years. When movement along a fault causes earth at the surface to be displaced, it is termed surface rupture. Not all earthquakes or fault ruptures cause surface rupture. Additionally, surface ruptures can occur suddenly during an earthquake or occur over a period of time. Sudden surface ruptures are often more damaging.

The geologic structure of Southern California is dominated by northwest-trending faults associated with the San Andreas system. Faults such as the Newport-Inglewood, the Whittier-Elsinore, the San Jacinto, and various segments of the San Andreas fault itself are all major faults associated with this system. They are all known to be seismically active, and most are known to have ruptured the ground surface in historical times. Also within the Southern California region are a number of west-trending, low-angle reverse (thrust) faults that are similarly active. The majority of these faults occur as north-dipping planes which trend along the south-facing flanks of the Transverse Ranges. Among the known active thrust faults in the region are the Cucamonga, Sierra Madre, Santa Monica, and Hollywood faults.

Another category of fault known as the "blind thrust" became recognized as a significant seismic hazard as a result of the 1987 Whittier Narrows earthquake. Blind thrusts are concealed beneath the earth's surface and are defined as dip-slip faults that tend to fold and/or uplift the near-surface sediments during moderate to large magnitude earthquakes (Shaw and Suppe 1996). In 1994, the Northridge earthquake occurred along what researchers have interpreted as a south-dipping thrust ramp beneath the San Fernando Valley. Together, these events caused more than $25 billion in property damage, clearly demonstrating the risks that blind thrusts pose to the greater Los Angeles metropolitan area.

Recent structural models of the Los Angeles basin suggest that deep-seated, blind thrust sheets underlie portions of Orange and Los Angeles Counties. These structures are apparently accommodating north-south compression with slip rates of several millimeters per year. The Puente Hills and Upper Elysian Park blind thrust systems represent two such blind thrusts that are reported in the general vicinity of the site. Structural models and seismicity values for these three blind thrust systems and the Northridge blind thrust have been incorporated into the CGS seismic model, which was updated in April 2003.

3.6.1.5 STRONG GROUND MOTION AND NEARBY SEISMIC SOURCES

During an earthquake, ground motion is produced by two blocks of the earth's crust slipping past each other. To determine how much the ground moved, focal depth, proximity to the fault rupture, fault mechanism, duration of shaking, local structure, source direction of the earthquake, subsurface conditions, and topography are all considered. Ground motion is usually described in terms of the Moment Magnitude scale, which measures an earthquake's strength based on seismic movement.

Published geologic maps and literature indicate that the site lies within 50 kilometers of a number of significant active and potentially active faults that are considered capable of generating strong ground motion at the proposed site. The names, locations, slip rates, and magnitudes of these faults are listed in **Table 3.6-1**.

Table 3.6-1
SIGNIFICANT NEARBY SEISMIC SOURCES

Fault Name	Approximate Distance/Direction From Site	Slip Rate (mm/yr)[1]	Maximum Magnitude[2,3]
San Gabriel	5.75 kilometers southwest	1.0	7.4
Holser, alt 1	7.02 kilometers southwest	0.4	6.8
Holser, alt 2	8.40 kilometers southwest		7.6
Santa Susana, alt 2	11.70 kilometers southwest	5.0	7.1
Northridge Hills	11.79 kilometers southwest		7.7
Northridge	12.38 kilometers southwest	1.5	6.9
Santa Susana, alt 1	14.93 kilometers southwest	5.0	6.9
Sierra Madre Connected	17.36 kilometers southwest	2.0	7.3
Sierra Madre (San Fernando)	17.36 kilometers south	2.0	6.7
Oak Ridge Connected	22.38 kilometers west	3.6	7.4
Oak Ridge (Onshore)	22.38 kilometers west	4.0	7.2

Fault Name	Approximate Distance/Direction From Site	Slip Rate (mm/yr)[1]	Maximum Magnitude[2,3]
Verdugo	22.85 kilometers southwest	0.5	6.9
San Andreas — Mojave	23.65 kilometers northeast	>5.0	8.0
S. San Andreas; SM	23.58 kilometers northeast	29.0	7.3
San Cayetano	25.07 kilometers south	6.0	7.2
Simi – Santa Rosa	25.54 kilometers southwest	1.0	6.9
S. San Andreas; NM	36.63 kilometers northeast	27.0	7.0

Source: Petra Geosciences, Inc. 2019 (Appendix E of this Draft EIR)

Notes:

1. Per CGS 2002 fault data file (Cao et al. 2003).

2. Moment Magnitude (M_W).

3. 2008 USGS fault file (EZ-FRISK 2010).

Based on a review of published geotechnical maps and literature pertaining to regional faulting, the closest known fault considered capable of causing strong ground motion at the subject site is the San Gabriel fault, approximately 3.5 miles southwest. The San Gabriel fault is a right-lateral strike slip fault which trends to the northwest from the San Gabriel Mountains to the Ridge Basin near the Sierra Pelona – San Emigdio Mountains. Published investigations reveal that this fault offsets Holocene stratigraphy. For this reason, this fault is considered active and is included within the boundaries of an Alquist-Priolo earthquake fault zone.

As is the case with much of Southern California, the site is located in a region that is characterized by moderate to high seismic activity. The project site and vicinity have experienced strong ground shaking due to earthquakes on a number of occasions in historical times. Some of the more significant historic seismic events for which detailed ground motion data are available are listed in **Table 3.6-2**, along with the corresponding approximate epicentral distances to the subject site, which are based on various published earthquake databases, including the USGS Earthquake Hazards website.

Table 3.6-2
NOTABLE HISTORICAL EARTHQUAKES (M>5.5) WITHIN 100 KILOMETERS OF PROJECT

Date	Location	Magnitude
1994	7km NNE of Simi Valley	5.6
1994	1km ENE of Granada Hills	5.9
1994	1km NNW of Reseda	6.7
1992	12km NW of California City	5.7
1991	13km NNE of Sierra Madre	5.8
1990	6km NNE of Claremont	5.5
1987	2km SSW of Rosemead	5.9
1971	10km SSW of Aqua Dulce	5.8
1971	10km SSW of Aqua Dulce	5.8
1971	10km SSW of Agua Dulce	6.6

Date	Location	Magnitude
1952	l4km NNW of Tehachapi	5.6
1952	19km N of Tehachapi	5.6
1952	22km N of Tehachapi	5.6
1952	6km SSE of Arvin	5.5
1952	13km ENE of Grapevine	5.6
1952	13km WNW of Grapevine	5.8
1952	6km WNW of Grapevine	7.5
1926	Southern California	5.5
1916	Southern California	5.5
1916	Central California	6.0
1899	Southern California	6.4
1894	Southern California	5.9
1893	Santa Barbara Channel	5.5
1855	Greater Los Angeles area	6.0

Source: Petra Geosciences, Inc., 2019 (Appendix E of this Draft EIR)

Notes:

1) *Maximum free-field site accelerations based on published accelerogram data for USGS CSMIP Station No. 707, located approximately 2.8 kilometers southwest of the subject site.*
2) *Maximum site acceleration based on the published accelerogram data for CGS CSMIP Station No. 13079, located approximately 5.6 kilometers north of the subject site.*
3) *Maximum site acceleration based on the published accelerogram data for CGS CSMIP Station No. 13326, located approximately 2 kilometers southwest of the subject site.*
4) *Site acceleration was estimated based on the results of a computerized database search using a software application developed by T.F. Blake (Eqsearch V3.0, 2000). For purposes of the computerized site acceleration estimates, the attenuation relationship developed by Bozorgnia, Campbell, and Niazi (1999) for hard rock sites was considered appropriate.*
5) *Based on Wald et al, 1999.*

3.6.1.6 SURFACE FAULT RUPTURE

Indications of a fault rupture were found in Petra's Boring FA-10, located along the north edge of the proposed new segment of Bouquet Canyon Road, in the eastern part of proposed Planning Area 3. The activity level was not readily determinable and will require further investigation.

3.6.1.7 SEISMICALLY INDUCED GROUND FAILURE

Strong ground motion can cause different types of ground failure. Liquefaction and lateral spreading, settlement, differential materials response, slope failures, sympathetic movement on weak bedding planes or non-causative faults, shattered ridge effects, and ground lurching are some of the many types of ground failure that can result from seismically induced strong ground motion. Petra's investigations determined that liquefaction, lateral spreading, and landslides are of primary concern within the project site. Liquefaction and lateral spreading are caused in ground that is usually water-saturated and made of loose to moderately dense, fine to medium sands. During strong ground motion, the sands temporarily lose strength and behave like a viscous fluid. As the sand settles, the fluid-like substance can flow down gradients, causing lateral spreading, and push water toward the surface in the form of sand boils and sand

volcanoes. The ground can be permanently disrupted due to liquefaction and lateral spreading. Slope failures can cause landslides, rock falls, debris flows, and more.

Portions of the site along the canyon bottom, comprising the northern and central portions of the project site, lie within a designated Liquefaction Hazard Zone. The portion along the ridgeline and areas with steeper slopes, in the western and southern portion of the project site, are within an Earthquake Induced Landslide Hazard Zone (CDMG 1998).

SOIL EROSION

Soil erosion can be caused by both wind and water. Slopes are more susceptible to erosion as are non-cohesive, or sandy, near-surface soils. The project site has several slopes of moderate to significant height. Additionally, the near-surface soils contain sand.

SUBSIDENCE

Subsidence is the settling and compaction of soil with little or no horizontal motion. It is usually caused by the extraction of something from below the surface, like gas, oil, or water. While it can happen quickly, subsidence usually takes place over a long period of time and can cause severe structural impacts like cracks in a building foundation or dislocated pipelines and drains. Petra did not identify any areas of known subsidence within the project site.

EXPANSIVE SOIL

Soil that contains a significant concentration of clay particles is termed expansive soil. This is due to the fact that these clay particles can release or absorb water, causing the particles to shrink or expand, respectively. Expansive soils can cause changes in volume, which have the potential for placing additional stress on buildings and other material placed on the expansive soil.

The site soils are anticipated to be expansive. The estimated Expansion Indices range from less than or equal to 20 for sandy soils to around 100 for soils with fine grains from the Castaic Formation. Soils with Expansion Indices greater than 20 are considered expansive under the California Building Code (CBC).

3.6.1.8 PALEONTOLOGICAL RESOURCES

Section 6301 of the Paleontological Resources Preservation Act defines paleontological resources as "any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth," except for when these materials are associated with archaeological resources or cultural items.

No vertebrate fossils have been found on the project site, but fossils have been recovered from the same sedimentary deposits that occur in the project area. Younger Quaternary alluvium deposits, as found in the northeastern half of the project site, are unlikely to contain vertebrate fossils. However, older sedimentary deposits lay at a relatively shallow depth underneath the younger Quaternary alluvium deposits and might contain vertebrate fossils. Additionally, the Saugus and Castaic Formations in the southwestern portion of the site and the late Miocene Castaic Formation in the northwest might contain vertebrate fossils.

3.6.2 REGULATORY AND PLANNING FRAMEWORK

3.6.2.1 FEDERAL

International Building Code

The International Building Code (IBC) is a model building code developed by the International Code Council and provides the basis for the CBC. The IBC provides minimum standards for building construction to ensure public safety, health, and welfare. Prior to the creation of the IBC, several building codes were used. By the year 2000, the IBC replaced these previous codes. The IBC is updated every three years.

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration (OSHA) Excavation and Trenching Standard (29 CFR, Part 1926(P) et seq.) covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act of 2002 was enacted to codify the generally accepted practice of limiting the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers; these researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

Earthquake Hazards Reduction Act of 1977

The Earthquake Hazards Reduction Act of 1977 (42 USC Section 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 creating effective measures to reduce earthquake hazards; promoting the adoption of earthquake hazard reduction activities by federal, state, and local governments; improving the understanding of earthquakes; increasing the overall understanding of the effects of earthquake on humans and their surroundings; and developing and maintaining systems for advancing these causes.

3.6.2.2 STATE

California Building Code

The design standards in the CBC are largely based upon the IBC. However, the CBC includes more specific design provisions for structures located within seismic zones, due to geological conditions in California. The provisions of the CBC apply to the construction, alteration, movement, replacement, and/or demolition of all buildings and structures or any appurtenances connected or attached to such buildings or structures throughout California.

California Alquist-Priolo Earthquake Fault Zoning Act

As a result of the 1971 San Fernando earthquake, the California state legislature passed the Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code Section 2621 et seq.) in 1972. The act

provides a mechanism for reducing losses from surface fault rupture on a statewide basis. Specifically, the act requires that proposed developments incorporating tracts of four or more dwelling units investigate the potential for ground rupture within designated Alquist-Priolo zones. These zones serve as an official notification of the probability of ground rupture during potential earthquake events. Where such zones are designated, no building may be constructed on the line of fault, and before any construction is allowed, a geologic study must be conducted to determine the location of all active fault lines within the zone. In general, local agencies are required to regulate development proposed within such designated fault zones. No portion of the project site is found within one of these designated zones.

California Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. Passed by the California legislature in 1990, this law was codified in the Public Resources Code as Division 2, Chapter 7.8A and became operative in April 1991. The act resulted in a mapping program that is intended to reflect areas with the potential for liquefaction, landslide, strong earth ground-shaking, or other earthquake and geologic hazards. Please refer to the Existing Conditions section, above, for areas in the project site that have been identified as subject to landslide, liquefaction, and/or strong ground-shaking hazards per this act.

Southern California Catastrophic Earthquake Preparedness Plan

The Southern California Catastrophic Earthquake Preparedness Plan was adopted in 2008. It examines the initial impacts, inventories available resources, prepares to provide for the wounded and homeless, and develops a long-term recovery process in the event of a catastrophic earthquake. The process of long-term regional recovery provides a mechanism for coordinating federal support to state, tribal, regional, and local governments, nongovernmental organizations, and the private sector to encourage recovery from the consequences of catastrophic disasters.

3.6.2.3 LOCAL

City of Santa Clarita Unified Development Code

The City of Santa Clarita Unified Development Code, Chapter 17.86, provides design criteria and construction standards regarding import and export of earth materials, excavation, grading, earthwork construction, fills, ridgeline and hillside development, and slope setbacks. The City has adopted the provisions of Chapter 16, Structural Design and Chapter 18, Soils and Foundations of the CBC, including provisions to address the effects of earthquake ground motions. Compliance with these standards is demonstrated and verified through the City's grading plan review and permit process. The City Engineer may require geological and soil engineering reports, including seismic hazard zone studies, to verify site conditions and the sufficiency of proposed design and construction measures. The City has adopted the County of Los Angeles Department of Public Works Manual for Preparation of Geotechnical Reports, dated July 1, 2013.

Santa Clarita General Plan

Conservation and Open Space Element

- 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.

Land Use Element

- 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 3.3.1: 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.

Safety Element

- Goal S 1: Protection of public safety and property from hazardous geological conditions, including seismic rupture and ground shaking, soil instability, and related hazards.
  - Objective S 1.2: Regulate new development in areas subject to geological hazards to reduce risks to the public from seismic events or geological instability.
    - Policy S 1.2.3: Require soils and geotechnical reports for new construction in areas with potential hazards from faulting, landslides, liquefaction, or subsidence, and incorporate recommendations from these studies into the site design as appropriate.

3.6.3 THRESHOLDS OF SIGNIFICANCE

The California Environmental Quality Guidelines, Appendix G, as amended through December 31, 2019, serves as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant geological impact if it would:

a) Directly or indirectly cause 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.

b) Result in substantial soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.6.4 METHODOLOGY

The analysis of impacts related to geology and soils is based, in part, on the *Updated Geotechnical EIR-Level Assessment, Bouquet Canyon Project, Tentative Tract Map No. 82126, Southerly Adjacent to Bouquet Canyon Road and Copper Hill Drive, Santa Clarita, California*, prepared by Petra Geosciences, Inc., which is available in Appendix E of this Draft EIR. Information, conclusions, and recommendations included in this assessment are based on site-specific data, which includes information obtained from the drilling of borings at the project site followed by laboratory testing of the material obtained therein. The Petra report used resources and followed guidance available from the US Geological Survey, the 2016 CBC, the Earthquake Hazards Zone Maps and the Alquist-Priolo Special Studies Zones Map produced by CGS, the California Division of Mines and Geology's Guidelines for Geologic/Seismic Considerations in EIRs, the City of Santa Clarita's Local Hazard Mitigation Plan (Santa Clarita 2015), and other available resources. The Petra report also used and includes a list of 23 other literature references. R.T. Frankian and Associates performed a professional peer review of the Petra report on behalf of the City of Santa Clarita.

The analysis of paleontological resources is based on a Vertebrate Paleontology Records Check conducted by Dr. Samuel A. McLeod of the Natural History Museum of Los Angeles County. That research is also provided in Appendix E of this Draft EIR.

3.6.5 ANALYSIS

Impact 3.6-a.i: No State-mapped earthquake faults occur within the project site. An indication of a fault rupture was identified during site geotechnical investigations. The project would not induce any movement or further rupture of this feature; however, further analysis is required to determine if it is active and warrants development restrictions. With mitigation, potential impacts to habitable structures would be avoided.

Discussion

As mentioned previously, the project site does not intersect any known active earthquake faults. According to mapping from the CGS, no such fault exists in close proximity to the site; the nearest is the San Gabriel fault, which is 3.5 miles to the southwest of the proposed site.

A fault feature was found along the north edge of the proposed new segment of Bouquet Canyon Road, in the eastern part of proposed Planning Area 3, during Petra's investigation. With the present information, the activity level of this feature cannot be determined and will require further investigation prior to approval of a precise development plan. If this fault is potentially active, there could be some damage to nearby structures if there were a seismically triggered fault rupture during the life of the completed project. For interim planning purposes, the general locale surrounding this boring has been designated as a Restricted Use Area that prohibits construction of any habitable structures. The City's Building Code regulations (Section 18.02.040) prohibit construction of any building or structure over or upon or within 50 feet of a trace of a known active earthquake fault

While the proposed grading plan would disturb the area containing the fault feature, that activity would not trigger a fault rupture because the changes in effective stress from grading would be minor in comparison with forces on a fault rupture surface that are generally generated at great depths within the earth. Nonetheless, to ensure that the activity nature of this fault feature and whether some use restrictions are warranted are both properly determined prior to approval of a precise development plan, mitigation measure **MM 3.6-1** will require additional testing of those materials to determine whether some development restrictions would be required.

Mitigation Measures

MM 3.6-1 **Further Testing and Evaluation of the Fault Feature**

Prior to the approval of a precise development plan, additional materials testing, and evaluation of the fault feature discovered in Boring FA-10 shall be conducted. If this is determined to be inactive, no further measures would be required. If it is determined to be active, an appropriate Restricted Use Area shall be defined, and restrictions on construction in that area shall also be defined, which shall be noted on the tentative and final subdivision maps.

Timing/Implementation: *Prior to approval of a Development Review and Tentative Tract Map*

Enforcement/Monitoring: *City of Santa Clarita, Planning Division*

Level of Impact Significance Following Mitigation:

Potential impacts related to a fault rupture would be avoided.

Impact 3.6-a.ii: The project would not cause potential substantial adverse effects involving strong seismic ground shaking. Compliance with the seismic design criteria required by the Santa Clarita Municipal Code would reduce potential seismically induced ground shaking impacts to less than significant.

Discussion

The project site is located in seismically active Southern California. The type and magnitude of seismic hazards that may affect the site are dependent on both the distance to causative faults and the intensity and duration of the seismic event. Although the probability of primary surface rupture is considered very low, ground-shaking hazards posed by earthquakes occurring along regional active faults do exist and will

be considered in the design and construction of the proposed structures within the project site. The project would not exacerbate potential ground shaking. The origin of potential seismic ground shaking would be miles off-site at one of several regional faults. Additionally, the proposed site alterations and development would have no effect on regional faults or the intensity of seismic ground shaking that could occur during the lifetime of the project. As the nearest fault, the San Gabriel fault, is located approximately 3.5 miles to the southwest, it would be considered the causative fault and would be expected to generate the most significant ground motions at the site.

The project must be designed to reduce the impacts due to strong seismic ground shaking, in compliance with the recommendations in the site-specific geotechnical report, the CBC, and the Santa Clarita Building Code. Provided that the structures proposed within the site are designed and constructed in accordance with the current edition of the CBC and the Building Code of the City of Santa Clarita, and as specified in the site-specific geotechnical report, the impacts posed by seismically induced strong ground shaking at the site would be reduced to a less than significant level.

Impact 3.6-a.iii: The project would remove and replace unstable materials that could result in substantial adverse effects involving seismic-related ground failure, including liquefaction. Compliance with the provisions of the Santa Clarita Municipal Code and the recommendations in the project geotechnical report would sufficiently mitigate on-site liquefaction hazards.

Discussion

Secondary ground failure that can occur as a consequence of severe ground shaking includes landsliding, ground subsidence, ground lurching, shallow ground rupture, lateral spreading, liquefaction, and soil strength loss. The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from the causative fault, topography, and soil and groundwater conditions, in addition to other factors.

Of the seismically induced ground failure modes listed above, the geotechnical investigations conducted for the proposed project determined that liquefaction and landsliding are the primary concerns on-site. Landslide conditions are discussed under **Impact 3.6-a.iv**, below. The portion of the site that lies along the canyon bottom, consisting of the northern and central portions of the project site, lies within a designated Liquefaction Hazard Zone (CDMG 1998). This is due to the water table being closer to the surface and the soil type consisting of loose to moderately dense, fine to medium sands. Due to the potential for liquefaction, a liquefaction analysis was performed. This analysis found that the potential detrimental effects of liquefaction can be reduced to less than significant through various strategies, including grading/earthwork that removes and replaces potentially liquefiable soils with non-liquefiable fill soils; in situ ground improvement methods that reduce liquefaction potential; designing structural foundations in recognition of potential liquefaction-induced settlement; or a mixture of these strategies. The City's Building Code requires mitigation of liquefaction hazards in new development projects, pursuant to findings and recommendations of site-specific geotechnical reports. Incorporation of the appropriate mitigation measures would be confirmed during the City's plan check process and mitigation measures would be included in construction specifications prior to issuance of grading permits. This standard regulatory compliance process would reduce potential impacts associated with liquefiable soils to less than significant.

Impact 3.6-a.iv: The project's grading plan would remediate existing landslide conditions, and compliance with the provisions of the Santa Clarita Building Code would ensure that the earthwork and slope stability measures are sufficient to reduce potential landslide hazards to less than significant.

Discussion

Portions of the site slope areas are located within a State of California designated seismically induced landslide hazard zone. These slope areas are located along the ridgeline in the western and southern portions of the project site. Also, subsurface exploration revealed adversely oriented bedding conditions for westerly facing slopes and some relatively shallow existing landslides within the site. The existing landslides have been mapped on the lower portions of natural slopes in the project area. The debris from these landslides ranges from 5 feet deep to around 21 feet deep.

Slope areas with landslide conditions represent a serious risk of ground failure in the event of seismic shaking, especially the portions of these slope areas with adversely oriented bedding conditions. The City's Building Code requires mitigation of landslide areas in all new developments, guided by the findings and recommendations of the site-specific geotechnical report, along with the applicable design criteria set forth in the CBC. As recommended in the geotechnical report, remedial grading is to be performed in slope areas where adversely oriented bedding planes exist. The remedial grading would remove the adversely oriented bedrock and replace it with engineered fill materials. Proposed cut grading would likely remove some, if not all, of the existing landslide materials. If the landslide materials are not removed by cut grading, then they would be overexcavated and replaced with engineered fill materials.

Provided that remedial and design grading within the site are performed in accordance with the site-specific recommendations provided by the project geotechnical professional, and as verified by the City in its plan check and grading permit process, the potential for gross or surficial slope instability due to landslide conditions will be reduced to a less than significant level.

Impact 3.6-b Site clearance and grading activities would expose soils to potential erosion due to rainstorms or winds. Compliance with existing regulatory standards would provide sufficient measures to prevent significant erosion impacts. The developed site would reduce erosion potential and provide effective erosion controls over the long term, such that there would not be significant erosion impacts.

Discussion

Construction

The project site is currently undeveloped but covered with vegetation, which reduces the potential for top soil to be subject to erosion during high winds or rain. During construction of the project, earthwork would occur that would remove vegetation, exposing top soil to the effects of wind and water erosion. Additionally, excavation would expose subsurface soils to the effects of wind and water erosion. Erosion leads to soil particles being carried off-site where they can affect water quality, cause sedimentation (the buildup of soil in waterways) and reduce the soil stability on-site.

Due to the size of the project site, exceeding 1 acre, the project would be required to obtain a National Pollutant Discharge Elimination System (NPDES) General Construction Permit from the Los Angeles

Regional Water Quality Control Board. The General Construction Permit requires construction sites that disturb 1 or more acres of land to implement stormwater controls and to develop a stormwater pollution prevention plan. These controls are designed to minimize the amount of sediment and other pollutants associated with construction sites from being discharged in stormwater runoff. For more information, refer to **Section 3.9 Hydrology and Water Quality** of this Draft EIR. An erosion control plan must be submitted with the project's grading plan. This control plan must include an appropriate range of control measures, such as the preservation of existing vegetation where possible, using mulch as ground cover, hydroseeding, soil binders, and wind erosion control. Further, the City requires a wet weather erosion control plan if grading would occur during the rainy season of October 1 through April 14 (LACDWP 2010).

Compliance with both the City's existing standards to provide erosion control and with the General Construction Permit requirements relative to sediment and erosion control would reduce potential impacts to less than significant.

Developed Site Impacts

The proposed site improvements include impervious surfaces from building structures, paved roads and other paved surfaces, and extensive landscaping (including landscaping of manufactured slopes). These improvements would eliminate erosion potential within areas covered by impervious surfaces and significantly reduce the potential for erosion in landscaped areas. The landscaped areas will stabilize the underlying soil materials, providing anchoring during rain or high winds.

In addition to these improvements, a proposed on-site storm drainage system would effectively capture and convey runoff into water quality basins and into the proposed engineered channel between Planning Areas 3 and 4.

The portion of Bouquet Creek that traverses the northern portion of the project site would be restored to existing contours as described in **Section 3.9 Hydrology and Water Quality** of this Draft EIR. This restoration will include revegetation that will be designed to minimize the erosion potential along the creek and would reduce the potential for erosion compared to existing conditions. Additionally, the proposed drainage improvements include an engineered channel parallel to Bouquet Creek, which is intended to capture site runoff during higher intensity storms. This channel would also use structural and vegetative measures to minimize erosion.

The developed site would significantly reduce erosion potential compared to existing conditions and would include effective measures to prevent significant erosion in the future. The potential impacts from wind and water erosion would be reduced to a less than significant level.

Impact 3.6-c The project is located on land with a geologic unit or soil that is unstable and could potentially result in on-site landslide, subsidence, or liquefaction. Compliance with the provisions of the Santa Clarita Building Code and the mitigation measures identified in the project geotechnical report would sufficiently alleviate the unstable soil conditions. Impacts would be less than significant.

Discussion

According to the geotechnical report, the project site is located on a geologic unit that is susceptible to liquefaction in the northern and central regions, landslides in the western and southern regions, and settlement due to consolidation of native soils and artificial fill. As discussed under **Impacts 3.6-a.iii** and

3.6-a.iv, above, these potential impacts would be reduced to less than significant levels through regulatory compliance and incorporating recommended design features in the geotechnical report. Impacts due to lateral spreading and collapse as a result of unstable soil conditions were determined in the geotechnical report as being less than significant (Petra 2019). Soil that is susceptible to liquefaction would be removed and engineered fill would replace it to a depth that reduces the potential for liquefaction to acceptable levels. Other design features would further reduce the potential risk of liquefaction, such as in situ ground improvement methods and structural foundations designed to handle liquefaction-induced settlement. Areas susceptible to landslides would have grading performed in accordance with the slope stability study of the geotechnical report to ensure that adequate levels of stability are achieved. Further, remnants of previous landslides would be graded, and landslide debris would be removed and replaced with engineered fill. As such, landslide hazards would be reduced to less than significant. Additionally, the site has a thin soil and artificial fill layer underlain by alluvial soils with the upper few feet being weathered and loose. These are considered by the site-specific geotechnical report to be unsuitable to support buildings and site improvements. To reduce this potential impact to less than significant, excavation, and recompaction with new engineered fills is recommended where structural foundations and site improvements are planned.

After the project is fully built, it is highly unlikely that there would be any substantial changes to site conditions that could destabilize manufactured slopes or remove engineered materials and structural support elements designed to mitigate liquefaction or landslide hazards. With a comprehensive storm drainage system throughout the developed areas, runoff would be captured and conveyed into the on-site engineered channel or off-site into an existing channelized segment of Bouquet Creek to the west. As such, runoff would not affect or undermine the stability of soils supporting homes or other important structures. There would be no long-term impacts that could exacerbate unstable ground areas.

Impact 3.6-d The project would be located on expansive soil, which could create structural damage to proposed structures located in those areas. Compliance with the provisions of the Santa Clarita Building Code and the recommendations in the project geotechnical report would mitigate potential impacts to a level of less than significant.

Discussion

The soils on the project site are anticipated to have Expansion Indices that range from less than or equal to 20 for sandy soils to approximately 100 for soils derived from fine-grained portions of the Castaic Formation. The CBC considers soil with an Expansion Index greater than 20 to be expansive, indicating that the project site is almost entirely located on expansive soil, barring the portions of sandy soil derived from active alluvial deposits that have an Expansion Index less than 20. The change in soil volume due to expansion and contraction can exert enough force to cause damage to structures.

The geotechnical report recommends further testing to evaluate the expansion potential of soils that are present at or near finish grade. It further indicates that building foundations, floor slabs, and exterior improvements are to be designed with consideration of the potential uplift forces that can develop due to expansive soils. Practices that reduce soil moisture content variations are also to be incorporated into the project design. These measures would reduce the potential impacts to a less than significant level.

Impact 3.6-e The project would not involve the use of septic tanks or alternative waste water disposal systems as all wastewater would be discharged to a sanitary sewer system. There would be no impact.

Discussion

All of the wastewater generated by the homes and recreational center facilities would be discharged into a subsurface sanitary sewer network that would be conveyed into the Los Angeles County Sanitation District's wastewater collection and treatment system. The proposed project would not require the use of septic tanks for wastewater disposal; thus no impacts would occur in this regard and no mitigation is required.

Impact 3.6-f Excavation would disturb two geologic formations where important fossil resources have been discovered in the Santa Clarita Valley. Field monitoring by a qualified paleontologist would ensure that significant paleontological resources are not destroyed by excavation work. The project would partially alter a City-designated Significant Ridgeline in the western part of the site; however, this would be a less than significant impact.

Discussion

Paleontological Resource

A vertebrate paleontology records check was conducted for the project site by the Natural History Museum of Los Angeles County. No record exists of vertebrate fossils being discovered on-site. However, fossils have been discovered in nearby locations in the same sedimentary deposits as exist in the project area. In the southwestern portion of the project site, there are exposed areas of the Pliocene Saugus Formation. Vertebrate fossils in this Saugus Formation were found south of the project site, north of the Santa Clara River and south of Plum Canyon. Fossils found in this location include specimens of finch (*Fringillidae*), deer mouse (*Peromyscus hagermanensis*) wood rat (*Neotoma*) pocket gopher (*Thomomys*) pocket mouse (*Heteromyidae*), and squirrel (*Sciuridae*). The Saugus Formation also produced fossils in Saugus near Bouquet Junction. Fossils found in this location included horse (*Equus*) and camel (*Camelidae*).

In the northwestern portion of the project site there are exposures from the Castaic Formation of the late Miocene. Fossil specimens were found in this sedimentary layer north of the proposed project to the east of Haskell Canyon. Fossils found included a rare, nearly complete carapace of a fossil leatherback turtle (*Psephophorus*).

The younger Quaternary alluvium layers that are exposed in the northeastern portion of the project site are unlikely to yield significant paleontological resources. However, during site excavations, the exposure of the Saugus and Castaic Formations that underlie the Quaternary alluvium layers have the potential to yield unique or significant paleontological resources. To avoid a potentially significant impact to any unfound paleontological resources, mitigation measure 3.6-2 will be implemented to require targeted monitoring of excavation work by a qualified paleontologist who can identify fossil materials and provide instructions to avoid and recover those materials. With this measure, significant impacts to paleontological resources would be avoided.

Unique Geologic Feature

The Santa Clarita Valley contains diverse topography and prominent ridgelines. The ridgeline on the western side of the project site is a General Plan-designated significant ridgeline (Santa Clarita 2011, p. CO-7). This ridgeline is approximately 100 to 180 feet above the flat central portion of the project site. As

described in **Section 2.0 Project Description** of this Draft EIR, a portion of this ridgeline would be graded to allow the new segment of Bouquet Canyon Road to be built. There are no other unique geologic features found on-site.

Although the ridgeline is classified as significant in the Santa Clarita General Plan, there are other, more substantial ridgelines surrounding the project site, as discussed in **Section 3.1 Aesthetics**. Because the project would alter a portion but retain a majority of the ridgeline, and because there are other larger and more distinct ridgelines adjacent to the project site, the project would not have a significant impact on a unique geologic feature.

Mitigation Measures

MM 3.6-2 The developer shall retain a qualified paleontologist meeting the Society of Vertebrate Paleontology Standards to develop a monitoring program for the project site in areas where Castaic and Saugus Formation sedimentary layers are exposed or are likely to be exposed during project construction. The qualified paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources and shall be authorized to stop work where potential paleontological resources are discovered to provide an opportunity to examine, recover, and characterize such materials. Additionally, the qualified paleontologist shall conduct construction worker paleontological resources sensitivity training at the project kickoff meeting, prior to ground-disturbing activities. Any significant paleontological resources collected during project-related excavations shall be curated into an accredited repository. The qualified paleontologist shall prepare a final monitoring and mitigation report for submittal to the City that documents the results of the monitoring effort and any discoveries.

Timing/Implementation: *Develop monitoring program prior to grading. Monitor during grading.*

Enforcement/Monitoring: *City of Santa Clarita, Planning Division*

Level of Impact Significance Following Mitigation:

Potential impacts to paleontological resources would be avoided.

This page intentionally left blank.

3.7 GREENHOUSE GAS EMISSIONS

3.7 GREENHOUSE GAS EMISSIONS

This section identifies and quantifies the greenhouse gas (GHG) emissions directly or indirectly associated with the project and analyzes project compliance with applicable plans, policies and regulations aimed at reducing greenhouse gas emissions. Emissions calculations worksheets are provided in **Appendix B**.

For the purposes of GHG emissions associated with mobile sources, traffic information contained in the *Bouquet Canyon Residential EIR Traffic Impact Analysis* (Traffic Impact Analysis), prepared by Stantec and dated March 2020 was used; refer to **Appendix L, *Traffic Impact Analysis***.

3.7.1 EXISTING CONDITIONS

California is a substantial contributor of GHGs, emitting over 420 million metric tons of carbon dioxide equivalent (CO_2eq) per year (CEC 2019).[1] Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the Earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, CH_4, and nitrous oxide (N_2O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of April 2018, the highest monthly average concentration of CO_2 in the atmosphere was recorded at 410 ppm (SCRIPPS 2019).

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of CO_2eq concentrations of about 450 ppm or lower are likely to maintain warming below 2 degrees Celsius (°C), which in turn is assumed to be necessary to avoid dangerous climate change (IPCC 2015). While a localized temperature change of 2°C may not seem serious, it has grave consequences on a global scale because this temperature increase directly impacts the sustainability of water, food supplies, ecosystems, coastal stability, and public health (e.g., heatstroke and lung damage due to increased smog) (IPCC 2015; CDOJ 2019).

3.7.1.1 SCOPE OF ANALYSIS FOR CLIMATE CHANGE

The study area for climate change and the analysis of GHG emissions is broad as climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by

[1] Carbon Dioxide Equivalent (CO2eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their Global Warming Potential.

CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact, which may be caused by the project.

The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that have increase by about 90 percent from 1970 to 2011 (EPA 2019a). The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis for this project relies on guidelines, analyses, policy, and plans for reducing GHG emissions established by the California Air Resources Board (CARB).

3.7.1.2 GLOBAL CLIMATE CHANGE – GREENHOUSE GASES

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[2] The greenhouse effect traps heat in the troposphere through a three-fold process as follows: short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHG in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and carbon dioxide (CO_2). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation.

GHGs and their GWPs include the following:[3]

- *Water Vapor (H_2O)*. Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively. The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, it does not contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a GWP for water vapor.
- *Carbon Dioxide (CO_2)*. Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO_2 emissions from fossil fuel combustion increased by a total of 3.7 percent between 1990 and 2017 (EPA 2019b). Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.
- *Methane (CH_4)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The United States' top three methane sources are landfills, natural gas systems, and enteric fermentation. Methane is the

[2] The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.
[3] All GWPs are given as 100-year GWP. Unless noted otherwise, all GWPs were obtained from the Intergovernmental Panel on Climate Change.

primary component of natural gas, used for space and water heating, steam production, and power generation. The GWP of methane is 25.

- *Nitrous Oxide (N_2O)*. Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 298.
- *Hydrofluorocarbons (HFCs)*. HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of Chlorofluorocarbons (CFCs) and HCFCs gains momentum. The 100-year GWP of HFCs range from 124 for HFC-152 to 14,800 for HFC-23 (EPA 2019b).
- *Perfluorocarbons (PFCs)*. PFCs are compounds consisting of carbon and fluorine, and are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of CO_2, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years). The GWP of PFCs range from 7,390 to 12,200 (EPA 2019c).
- *Sulfur hexafluoride (SF_6)*. SF_6 is a colorless, odorless, nontoxic, nonflammable gas. SF_6 is the most potent GHG that has been evaluated by the IPCC with a GWP of 22,800. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to CO_2 (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively) (EPA 2019c).

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O_3) depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- *Hydrochlorofluorocarbons (HCFCs)*. HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year GWPs of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b (IPCC 2015).
- *1,1,1 trichloroethane*. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 146 times that of CO_2 (IPCC 2015).
- *Chlorofluorocarbons (CFCs)*. CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. Environmental Protection Agency's (EPA) Final Rule (57 Federal Register [FR] 3374) for the phase out of O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect.

CFCs are potent GHGs with 100-year GWPs ranging from 3,800 for CFC 11 to 14,400 for CFC 13 (IPCC 2015).

3.7.2 REGULATORY AND PLANNING FRAMEWORK

3.7.2.1 FEDERAL

To date, no national standards have been established for the nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the Federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

U.S. Environmental Protection Agency Endangerment Finding. The EPA authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF_6]) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

Federal Vehicle Fuel Efficiency Standards. In response to the U.S. Supreme Court ruling discussed above, the George W. Bush Administration issued Executive Order 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated Federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021, and NHTSA intends to set standards for model years 2022 through 2025 in a future rulemaking. On April 2, 2018, the USEPA signed the Mid-term Evaluation Final Determination, which finds that the model year 2022–2025 greenhouse gas standards are not appropriate and should be revised (Federal Register 2018a). This Final Determination serves to initiate a notice to further consider appropriate standards for model year 2022–2025 light duty vehicles. On August 24, 2018, the USEPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California's waiver under the Clean Air Act to establish more stringent standards (EPA 2018a).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 through 2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program applies to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program. However, as discussed above, the USEPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of phase two standards for medium and heavy-duty vehicles may be pursued.

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, the EPA published a final rule (effective December 22, 2015) establishing the carbon pollution emission guidelines for existing stationary sources: electric utility generating units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing standards of performance for GHG emissions from new, modified, and reconstructed stationary sources: electric utility generating units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits. Additionally, in March 2017, President Trump directed the EPA

Administrator to review the Clean Power Plan in order to determine whether it is consistent with current executive policies concerning GHG emissions, climate change, and energy.

Presidential Executive Order 13783. Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth (March 28, 2017), orders all Federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

3.7.2.2 STATE

Various statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32. The development of the 2017 Update has identified the Low Carbon Fuel Standard as a regulatory measure to reduce GHG emissions to meet the 2030 emissions target. In calculating statewide emissions and targets, the 2017 Update has assumed the Low Carbon Fuel Standard be extended to an 18-percent reduction in carbon intensity beyond 2020. ON September 27, 2018, CARB approved a rulemaking package that amended the Low Carbon Fuel Standard to relax the 2020 carbon intensity reduction from 10 percent to 7.5 percent and to require a carbon intensity reduction of 20 percent by 2030.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary also submits biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team, made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of the State's first climate adaptation strategy.

This strategy results in consistent guidance from experts on how to address climate change impacts in the State of California.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. The near-term standards were intended to achieve a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards were intended to achieve a reduction of about 30 percent.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Senate Bill 32 (SB 32). Signed into law on September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

Senate Bill 100 (SB 100). SB 100 (Chapter 312, Statutes of 2018) requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours(kWh) of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, 60 percent by December 31, 2030, and 100 percent by December 31, 2045. The bill would require the CPUC, CEC, state board, and all other state agencies to incorporate that policy into all relevant planning. In addition, SB 100 would require the PUC, Energy Commission, and state board to utilize programs authorized under existing statutes to achieve that policy and, as part of a public process, issue

a joint report to the Legislature by January 1, 2021, and every 4 years thereafter, that includes specified information relating to the implementation of the policy.

CARB Scoping Plan. On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve the California GHG reductions required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California would implement to reduce the projected 2020 "Business as Usual" (BAU) emissions to 1990 levels, as required by AB 32. These strategies are intended to reduce CO_2eq[4] emissions by 174 million metric tons (MT). This reduction of 42 million MT CO_2eq, or almost ten percent from 2002 to 2004 average emissions, would be required despite the population and economic growth forecasted through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. When CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal." The Scoping Plan update did not establish or propose any specific post-2020 goals, but identified such goals in water, waste, natural resources, clean energy, transportation, and land use.

On January 20, 2017, CARB released the proposed Second Update to the Scoping Plan, which identifies the State's post-2020 reduction strategy. The Second Update was approved on December 14, 2017 and reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32 (CARB 2017a). The 2017 Scoping Plan establishes a new emissions limit of 260 million $MTCO_2eq$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030. The 2017 Scoping Plan Update contains the following goals:

1. SB 350
    - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
    - Doubling of energy efficiency savings by 2030.

[4] Carbon Dioxide Equivalent (CO_2eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

2. Low Carbon Fuel Standard (LCFS)
    - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
    - Maintaining existing GHG standards for light- and heavy-duty vehicles.
    - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
    - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
    - Improve freight system efficiency.
    - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
    - Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant (SLCP) Reduction Strategy
    - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
    - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
    - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
    - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
    - CARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements.
8. 20 percent reduction in GHG emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Senate Bill 375. Acknowledging the relationship between land use planning and transportation sector GHG emissions, SB 375 was passed by the State Assembly on August 25, 2008 and signed by the Governor on September 30, 2008. The legislation links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32. Reductions in GHG emissions can be achieved by, for example, locating employment opportunities close to transit. Under SB 375, each Metropolitan Planning Organization (MPO) is required to adopt a Sustainable Communities Strategy (SCS) to encourage compact development that reduces passenger vehicle miles traveled (VMT) and trips so the region can meet a target, created by CARB, for reducing GHG emissions. If the SCS is unable to achieve the regional GHG emissions reduction targets, then the MPO is required to prepare an alternative planning strategy that shows how the GHG

emissions reduction target can be achieved through alternative development patterns, infrastructure, and/or transportation measures.

Pursuant to SB 375, the Southern California Association of Governments (SCAG) adopted the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016–2040 RTP/SCS) on April 7, 2016. The 2016–2040 RTP/SCS reaffirms the land use policies that were incorporated into the 2012–2035 RTP/SCS. These foundational policies, which guided the development of the 2016–2040 RTP/SCS's strategies for land use, include the following:

- Identify regional strategic areas for infill and investment;
- Structure the plan on a three-tiered system of centers development;[5]
- Develop "Complete Communities";
- Develop nodes on a corridor;
- Plan for additional housing and jobs near transit;
- Plan for changing demand in types of housing;
- Continue to protect stable, existing single-family areas;
- Ensure adequate access to open space and preservation of habitat; and
- Incorporate local input and feedback on future growth.

The 2016–2040 RTP/SCS recognizes that transportation investments and future land use patterns are inextricably linked, and continued recognition of this close relationship will help the region make choices that sustain existing resources and expand efficiency, mobility, and accessibility for people across the region. In particular, the 2016–2040 RTP/SCS draws a closer connection between where people live and work, and it offers a blueprint for how Southern California can grow more sustainably. The 2016–2040 RTP/SCS also includes strategies focused on compact infill development and economic growth by building the infrastructure the region needs to promote the smooth flow of goods and easier access to jobs, services, educational facilities, healthcare and more.

The 2016–2040 RTP/SCS states that the SCAG region was home to about 18.3 million people in 2012 and currently includes approximately 5.9 million homes and 7.4 million jobs.[6] By 2040, the integrated growth forecast projects that these figures will increase by 3.8 million people, with nearly 1.5 million more homes and 2.4 million more jobs. High Quality Transit Areas[7] (HQTAs) will account for 3 percent of regional total land but are projected to accommodate 46 percent and 55 percent of future household and employment growth respectively between 2012 and 2040. The 2016–2040 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's HQTAs. HQTAs are a cornerstone of land use planning best practice in the SCAG region because they concentrate roadway repair investments,

[5] Complete language: "Identify strategic centers based on a three-tiered system of existing, planned and potential relative to transportation infrastructure. This strategy more effectively integrates land use planning and transportation investment." A more detailed description of these strategies and policies can be found on pp. 90–92 of the SCAG 2008 Regional Transportation Plan, adopted in May 2008.

[6] 2016-2040 RTP/SCS population growth forecast methodology includes data for years 2012, 2020, 2035 and 2040.

[7] Defined by the 2016–2040 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours

leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.

The 2016–2040 RTP/SCS is expected to reduce per capita transportation GHG emissions by 8 percent by 2020 and 18 percent by 2035. This level of reduction would meet the region's GHG targets set by CARB of 8 percent per capita passenger vehicle GHG emissions by 2020 and exceed the region's GHG target set by CARB of 13 percent per capita passenger vehicle GHG emissions by 2035.[8,9] Furthermore, although there are no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the 2016–2040 RTP/SCS's GHG emission reduction trajectory shows that more aggressive GHG emission reductions are projected for 2040.[10] The 2016–2040 RTP/SCS would result in an estimated 21 percent decrease in per capita GHG emissions by 2040. By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 21-percent decrease in per capita GHG emissions by 2040 (an additional 3-percent reduction in the five years between 2035 [18 percent] and 2040 [21 percent]), the 2016–2040 RTP/SCS is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the state's GHG emission reduction goals.

In March 2018, CARB updated the SCAG SB 375 targets to require an 8-percent reduction per capita passenger vehicle GHG emissions by 2020 and a 19-percent reduction by 2035 in per capita passenger vehicle GHG emissions.[11] As this reduction target was updated after publication of the 2016-2040 RTP/SCS, it is expected that the next iteration of the RTP/SCS will be updated to include this target.

3.7.2.3 LOCAL

Santa Clarita Climate Action Plan. In January 2011, the City began the process of developing the Santa Clarita Climate Action Plan (CAP), with the Final CAP published in August 2012. The CAP, as 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 MTCO2e. 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 percent) followed by residential energy use (18 percent) and commercial/industrial energy use (13 percent). The municipal source emissions make up approximately 2 percent of the total emissions. This emissions profile is typical for a City with the characteristics of Santa Clarita.

[8] Southern California Association of Governments, 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, Executive Summary, p. 8, April 2016.

[9] These GHG reduction targets were established for SCAG by CARB and were effective through September 30, 2018. CARB has created new GHG reduction targets for SCAG, effective October 1, 2018 that will be addressed in the next iteration of the SCAG RTP/SCS (expected in December 2020).

[10] Southern California Association of Governments, Final Program Environmental Impact Report for 2016–2040, RTP/SCS, Figure 3.8.4-1, April 2016.

[11] CARB, SB 375 Regional Greenhouse Gas Emissions Reduction Targets, Final, 2018.

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 percent below the 2005 baseline level. The reduction represents a level that is 17 percent below the 2020 BAU emissions level and is consistent with the overall Statewide Goals of AB 32. The CAP 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.

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.

City of Santa Clarita General Plan. The City's Conservation and Open Space Element of the 2011 Santa Clarita General Plan (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.
    - 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 8.3.4: 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 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not 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 8.3.10: 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.

o 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.

3.7.3 THRESHOLDS OF SIGNIFICANCE

Amendments to CEQA Guidelines Section 15064.4 were adopted to assist lead agencies in determining the significance of the impacts of GHG emissions. Consistent with existing CEQA practice, Section 15064.4 gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. This section recommends certain factors to be considered in the determination of significance (i.e., the extent to which a project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHGs). The amendments do not establish a quantified or performance-based threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), so long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). The California Natural Resources Agency has also clarified that the CEQA Guidelines amendments focus on the effects of GHG emissions as cumulative impacts, and therefore GHG emissions should be analyzed in the context of CEQA's requirements for cumulative impact analyses (see CEQA Guidelines Section 15064(h)(3)).[12] A project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements to avoid or substantially lessen the cumulative problem within the geographic area of the project.[13]

[12] See Generally California Natural Resources Agency, Final Statement of Reasons for Regulatory Action (December 2009), pp. 11-13, 14, 16; see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, secretary for Natural Resources, April 13, 2009. Available at https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/C01.pdf, accessed August 15, 2019.

[13] 14 CCR Section 15064(h)(3).

The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions, nor have the SCAQMD, CARB, or any other state or regional agency adopted a numerical significance threshold for assessing GHG emissions that is applicable to the project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the project's GHG-related impacts on the environment.

Notwithstanding, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the project using recommended air quality models, as described below. The primary purpose of quantifying the project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the project.

CEQA Significance Criteria

The California Environmental Quality Guidelines, Appendix G, as amended through December 31, 2019, serves as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

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

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

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

3.7.4 METHODOLOGY

Consistency with Plans

The project's GHG impacts are evaluated by assessing the project's consistency with applicable local, regional, and statewide GHG reduction plans and strategies. As discussed previously, the City has established a CAP to achieve the GHG emission reduction goals by 2020 as outlined in AB 32. However, as the project would be operational post 2020, the CAP was not utilized for the GHG plan consistency analysis. On a regional level, the SCAG 2016-2040 RTP/SCS contains measures to achieve VMT reductions required under SB 375. On a statewide level, the 2017 Scoping Plan provides measures to achieve SB 32 targets. Thus, if the project complies with these plans, policies, regulations, and requirements, the project would result in a less than significant impact because it would be consistent with the overarching State,

regional, and local plans for GHG reduction. A consistency analysis is provided below and describes the project's compliance with performance-based standards included in the regulations outlined in the applicable portions of the 2016-2040 RTP/SCS and 2017 Scoping Plan.

Quantification of Emissions

In view of the above considerations, this EIR quantifies the project's total annual GHG emissions for informational purposes, taking into account the GHG emission reduction features that would be incorporated into the project's design. The California Emissions Estimator Model version 2016.3.2 (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California, who provided data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) to account for local requirements and conditions. The model is considered by the SCAQMD to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.

3.7.5 ANALYSIS

Impact 3.7-a The project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment and impacts would be less than significant.

Impact 3.7-b The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases and impacts would be less than significant.

The proposed project involves constructing 375 for-sale homes, comprising different types of housing units, along with supporting utility and street infrastructure, recreational amenities and landscaping. Project-related GHG emissions would include emissions from direct and indirect sources. The project would result in direct and indirect emissions of CO_2, N_2O, and CH_4, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct Project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Operational GHG estimations are based on energy emissions from natural gas usage and automobile emissions (passenger cars and trucks). CalEEMod relies upon trip data within the project's Traffic Impact Analysis (refer to Appendix L) and project-specific land use data to calculate emissions. **Table 3.7-1, Projected Annual Greenhouse Gas Emissions**, presents the estimated CO_2, N_2O, and CH_4 emissions of the project. CalEEMod outputs are contained within **Appendix B**.

Direct Project-Related Sources of Greenhouse Gases

Construction Emissions. Construction GHG emissions are typically summed and amortized over the lifetime of a project (assumed to be 30 years), then added to the operational emissions. As shown in **Table 3.7-1**, the project would result in 129.58 metric tons carbon dioxide equivalent per year ($MTCO_2eq$/year) (amortized over 30 years), which represents a total of 3,887.44 $MTCO_2eq$ from

construction activities (129.58 $MTCO_2eq$/year multiplied by 30 years). Please note that these emission levels account for the emission reduction benefits of air quality mitigation measures **MM 3.2-1** and **MM 3.2-2**.

Area Source. Area source emissions were calculated using CalEEMod and project-specific land use data. Project-related area sources include exhaust emissions from landscape maintenance equipment, such as lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the site. As noted in **Table 3.7-1**, the project would result in 85.89 $MTCO_2eq$/year of area source GHG emissions.

Mobile Source. The CalEEMod model relies upon trip data within the Traffic Impact Analysis and project-specific land use data to calculate mobile source emissions. The project-related operational emissions are derived predominantly from mobile sources, i.e. vehicular exhaust. According to the Traffic Impact Analysis, the project would generate approximately 3,941 daily vehicle trips; refer to Appendix L. Based on the project-generated daily vehicle trips, the project would result in approximately 5,248.77 $MTCO_2eq$/year of mobile source-generated GHG emissions; refer to **Table 3.7-1**.

Table 3.7-1
PROJECTED ANNUAL GREENHOUSE GAS EMISSIONS

Source	CO_2	CH_4		N_2O		Total Metric Tons of CO_2eq[2,3]
	Metric Tons/yr[1]	Metric Tons/yr[1]	Metric Tons of CO_2eq[1]	Metric Tons/yr[1]	Metric Tons of CO_2eq[1]	
Direct Emissions						
Construction (amortized over 30 years)	129.10	0.02	0.48	0.00	0.00	129.58
Area Source[4]	85.27	0.01	0.19	0.00	0.43	85.89
Mobile Source	5,242.69	0.24	6.08	0.00	0.00	5,248.77
Total Direct Emissions[2]	5,457.06	0.27	6.75	0.00	0.43	5,464.24
Indirect Emissions						
Energy[4]	647.15	0.03	0.71	0.01	2.68	650.54
Water Demand	132.80	0.82	20.59	0.02	6.17	159.57
Solid Waste Disposal[4]	33.32	1.97	49.23	0.00	0.00	82.56
Total Indirect Emissions[2]	813.28	2.82	70.53	0.03	8.85	892.67
Total Project-Related Emissions[2]	***6,356.91 $MTCO_2eq$/yr***					

Notes:

1. Emissions were calculated using CalEEMod version 2016.3.2, as recommended by the SCAQMD.

2. Totals may be slightly off due to rounding.

3. Carbon dioxide equivalent values calculated using the United States Environmental Protection Agency Website, Greenhouse Gas Equivalencies Calculator, http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed April 8, 2019.

4. The reduction/credits for operational emissions are based on 2019 Title 24 standards which include rooftop solar panel installation.

Refer to Appendix B, Air Quality, Energy and Greenhouse Gas Modeling Worksheets, for detailed model input/output data.

Source: Michael Baker International, 2019

Indirect Project-Related Sources of Greenhouse Gases

Energy Consumption. Energy consumption emissions were calculated using the CalEEMod model and project-specific land use data. Electricity would be provided to the site via Southern California Edison (SCE). The primary use of electricity and natural gas by the project would be for space heating and cooling,

water heating, ventilation, lighting, appliances, and electronics. The project would indirectly result in 650.54 $MTCO_2eq$/year due to energy consumption; refer to **Table 3.7-1**.

Solid Waste. Solid waste resulting from the proposed project would generate CH_4 emissions from waste decomposition and CO_2 emissions from methane combustion. Solid waste associated with operations of the project would result in 82.56 $MTCO_2eq$/year; refer to **Table 3.7-1**.

Water Demand. Water and wastewater generated by the proposed project would result in CO_2, CH_4, and N_2O emissions. These emissions would be a result of the energy used to supply, distribute, and treat the water and wastewater. Emissions from indirect energy impacts due to water demand would result in 159.57 $MTCO_2eq$/year; refer to **Table 3.7-1**.

Conclusion

As shown in **Table 3.7-1**, the total amount of project-related GHG emissions from direct and indirect sources combined would be 6,356.91 $MTCO_2eq$/year.

Plan Consistency

2017 Scoping Plan Consistency

The goal to reduce GHG emissions to 1990 levels by 2020 (Executive Order S-3-05) was codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). In 2008, CARB approved a Scoping Plan as required by AB 32.[14] The Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program. The 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the Scoping Plan (2013). Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions will be adopted as required to achieve Statewide GHG emissions targets.

Table 3.7-2, Project Consistency with the 2017 Scoping Plan, summarizes the project's consistency with the 2017 Scoping Plan. As summarized, the project would not conflict with any of the provisions of the 2017 Scoping Plan and in fact supports four of the action categories through energy efficiency, water conservation, recycling, and landscaping.

[14] Climate Change Proposed Scoping Plan was approved by the California Air Resources Board on December 11, 2008.

Table 3.7-2
PROJECT CONSISTENCY WITH THE 2017 SCOPING PLAN

Sector / Source	Category / Description	Project Consistency Analysis
Area		
SCAQMD Rule 445 (Wood Burning Devices)	Restricts the installation of wood-burning devices in new development.	**Mandatory Compliance.** Approximately 15 percent of California's major anthropogenic sources of black carbon include fireplaces and woodstoves.[1] The project would not include hearths (woodstove and fireplaces), as mandated by this rule.
Energy		
California Renewables Portfolio Standard, Senate Bill 350 (SB 350) and Senate Bill 100 (SB 100)	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020. SB 350 requires 50 percent by 2030. SB 100 requires 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030. It also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	**No Conflict.** The project would utilize energy from Southern California Edison (SCE), which is required to meet the 2020, 2030, 2045, and 2050 performance standards. In 2017, 29 percent of SCE's electricity came from renewable resources.[2] By 2030 SCE plans to achieve 80 percent carbon-free energy.[3]
CCR, Title 24, Building Standards Code	Energy Efficiency Standards for Residential and Nonresidential Buildings.	**Mandatory Compliance.** The project must demonstrate that it will meet the applicable requirements of the 2019 Title 24 Building Energy Efficiency Standards, including installation of rooftop solar panels, and CALGreen Code (see discussion under CALGreen Code Requirements below).
California Green Building Standards (CALGreen) Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	**Mandatory Compliance.** The project construction plans must demonstrate that energy efficiency appliances, including bathroom exhaust fans, and equipment and would meet the applicable energy standards in the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code.
	HVAC Systems will be designed to meet American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards.	**Mandatory Compliance.** The project construction plans must demonstrate that energy efficiency appliances and equipment and would meet the applicable energy standards in ASHRAE 90.1-2013 Appendix G and the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code.

Sector / Source	Category / Description	Project Consistency Analysis
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	**Mandatory Compliance** The project must meet this requirement as part of its compliance with the CALGreen Code.
	Air filtration systems are required to meet a minimum efficiency reporting value (MERV) 8 or higher.	**Mandatory Compliance.** The project must meet the requirement of MERV 13 as part of its compliance with 2019 Title 24 Section 401.2, *Filters*.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	**Mandatory Compliance.** The project must meet this requirement as part of its compliance with the CALGreen Code.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	**Mandatory Compliance.** The project would meet this requirement as part of its compliance the CALGreen Code. Per the 2019 CALGreen Code Residential Mandatory Measure 4.106.4.1, new one- and two-family dwellings and town-houses with attached private garages would be required to install a raceway to accommodate a future electric vehicle charging space (EV space). Additionally, in compliance with 2019 CALGreen Code Residential Mandatory Measure 4.106.4.2, ten percent of the total number of residential parking spaces on a building site, provided for all types of parking facilities, would be EV spaces.
SB 1368, CCR Title 20, Cap-and-Trade Program	The Cap-and-Trade Program places an economy-wide "cap" on major sources of greenhouse gas emissions (i.e. refineries, power plants, industrial facilities and transportation fuels) and minimizes the compliance costs of achieving AB 32 goals. Electricity generators and large industrial facilities emitting 25,000 $MTCO_2e$ or more annually are subject to the Cap-and-Trade Program. Each year the cap is lowered by approximately 3 percent, ensuring that California is reducing greenhouse gases.	**Not Applicable.** As shown in Table 3.7-1, the proposed project would generate approximately 6,356.91 $MTCO_2eq/yr$, which is below the 25,000 $MTCO_2e/yr$ Cap-and-Trade screening level. Further, as a residential project, this program does not apply. As such, the proposed project would not be subject to the requirements of the Cap-and-Trade Program.
Mobile Sources		
Mobile Source Strategy (Cleaner Technology and Fuels)	Reduce GHGs and other pollutants from the transportation sector through transition to zero-emission and low-emission vehicles, cleaner transit systems and reduction of vehicle miles traveled.	**Consistent.** The project would be consistent with this strategy by supporting the use of zero-emission and low-emission vehicles; refer to CALGreen Code discussion above.
AB 1493	Reduces GHG emissions in new passenger vehicles from model year 2012	**Not Applicable.** These regulations apply to automobile manufacturers, not individual

Sector / Source	Category / Description	Project Consistency Analysis
(Pavley Regulations)	through 2016 (Phase I) and model years 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	land uses. Mobile emissions associated with the project in Table 3.7-1 reflect compliance with this regulation. GHG emissions related to vehicular travel by the project would benefit from this regulation because vehicle trips associated with the project would be affected by AB 1493. Mobile source emissions generated by the project would be reduced with implementation of AB 1493 consistent with reduction of GHG emissions under AB 32.
Low Carbon Fuel Standard (Executive Order S-01-07)	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels. This executive order establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020	**Not Applicable.** The LCFS applies to manufacturers of automotive fuels, not to individual land uses. Mobile emissions associated with the project in Table 3.7-1 reflect compliance with this regulation. GHG emissions related to vehicular travel by the project would benefit from this regulation and mobile source emissions generated by the project would be reduced with implementation of the Low Carbon Fuel Standard consistent with reduction of GHG emissions under AB 32.
Advanced Clean Cars Program	In 2012, CARB adopted the Advanced Clean Cars (ACC) program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.	**Not Applicable.** The standards would apply to manufacturers of vehicles used by visitors and employees associated with the project.
Senate Bill (SB) 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for	**Consistent.** The project would comply with the 2016–2040 RTP/SCS, and therefore, the project would be consistent with SB 375. Consistency with the 2016–2040 RTP/SCS is discussed below in Table 3.7-3, *Project Consistency with the 2016-2040 RTP/SCS*.

Sector / Source	Category / Description	Project Consistency Analysis
	the passenger vehicle and light-duty truck sector for 2020 and 2035.	
Water		
CCR, Title 24, Building Standards Code	Title 24 includes water efficiency requirements for new residential and non- residential uses.	**Mandatory Compliance.** See discussion under 2019 Title 24 Building Standards Code and CALGreen Code above.
Senate Bill X7-7:	The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal. This is an implementing measure of the Water Sector of the AB 32 Scoping Plan. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convene, treat, and distribute the water; it also reduces emissions from wastewater treatment.	**Consistent.** See discussion under 2019 Title 24 Building Standards Code and CALGreen Code.
Solid Waste		
California Integrated Waste Management Act (IWMA) of 1989 **and Assembly Bill (AB) 341**	The IWMA mandated that state agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a statewide goal for 75 percent disposal reduction by the year 2020.	**Not Applicable.** These regulations apply to municipal agencies who are responsible for reducing landfill disposal of solid wastes collected in their jurisdictions. GHG emissions related to solid waste generation from the project would benefit from this regulation as it would decrease the overall amount of solid waste disposed of at landfills. The decrease in solid waste would then in return decrease the amount of methane released from the decomposing solid waste. Project-related GHG emissions from solid waste generation provided in Table 3.7-1 includes a 50-percent reduction in solid waste generation source emissions.

Notes:

1. *California Air Resources Board, California's 2017 Climate Change Scoping Plan, Figure 4: California 2013 Anthropogenic Black Carbon Emission Sources, November 2017.*
2. *California Energy Commission, 2017 Power Content Label Southern California Edison, file:///H:/pdata/171776/Admin/Reports/Environmental/Technical%20Studies/AQGHG/Resources/SCE_2017_PCL.pdf, accessed August 14, 2019.*
3. *Southern California Edison, The Clean Power and Electrification Pathway, https://newsroom.edison.com/internal_redirect/cms.ipressroom.com.s3.amazonaws.com/166/files/20187/g17-pathway-to-2030-white-paper.pdf, accessed August 14, 2019.*
4. *California Energy Commission, 2013 California Energy Efficiency Potential and Goals Study, Appendix Volume I, August 15, 2013.*

Source: Michael Baker International, 2019

2016-2040 RTP/SCS

SCAG is expected to achieve CARB's GHG reduction targets for the region (8 percent by 2020 and 13 percent by 2035 for per capita passenger vehicle GHG emissions)[15] through implementation of the 2016-2040 RTP/SCS.[16] Furthermore, although there are no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the 2016-2040 RTP/SCS GHG emission reduction trajectory shows that more aggressive GHG emission reductions are projected for 2040.[17] The 2016-2040 RTP/SCS would result in an estimated 8-percent decrease in per capita passenger vehicle GHG emissions by 2020, 18-percent[18] decrease in per capita passenger vehicle GHG emissions by 2035, and 21-percent decrease in per capita passenger vehicle GHG emissions by 2040. By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 21-percent decrease in per capita passenger vehicle GHG emissions by 2040 (an additional 3-percent reduction in the five years between 2035 [18 percent] and 2040 [21 percent]), the 2016-2040 RTP/SCS is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the State's GHG emission reduction goals.

At the regional level, the 2016-2040 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs resulting from vehicular emissions by passenger vehicles and light duty trucks. In order to assess the project's potential to conflict with the 2016-2040 RTP/SCS, this section also analyzes the project's land use assumptions for consistency with those utilized by SCAG in its Sustainable Communities Strategy. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG's RTP/SCS, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

Table 3.7-3, Project Consistency with the 2016-2040 RTP/SCS, addresses the project's consistency with the Actions and Strategies set forth in the 2016-2040 RTP/SCS.[19] As depicted in **Table 3.7-3**, the project is not representative of the core land use strategies identified in the RTP/SCS to reduce regional VMT through land use and transportation linkages. As discussed in **Section 2, Project Description**, the project is consistent with the City's land use policies and standards as set forth in the Santa Clarita General Plan.

[15] These GHG reduction targets were established for SCAG by CARB and were effective through September 30, 2018. CARB has created new GHG reduction targets for SCAG, effective October 1, 2018 that will be addressed in the next iteration of the SCAG RTP/SCS (expected in December 2020).

[16] SCAG, Final 2016–2040, RTP/SCS, April 2016, p. 15.

[17] SCAG, Final 2016–2040, RTP/SCS, April 2016, p. 153.

[18] In March 2018, CARB adopted updated targets requiring a 19-percent decrease in VMT for the SCAG region by 2035. As the CARB targets were adopted after the 2016-2040 RTP/SCS, it is expected that the updated targets will be incorporated into the next RTP/SCS.

[19] As discussed in the 2016–2040 RTP/SCS, the actions and strategies included in the 2016–2040 RTP/SCS remain unchanged from those adopted in the 2012–2035 RTP/SCS.

Table 3.7-3
PROJECT CONSISTENCY WITH THE 2016-2040 RTP/SCS

Actions and Strategies	Responsible Party(ies)	Project Consistency Analysis
Land Use Strategies		
Focus new growth around transit.	Local jurisdictions	**Not Consistent.** There is no transit center in this part of Santa Clarita, although there is a nearby bus stop at the corner of Alaminos Drive and Hob Court.
Provide more options for short trips through Neighborhood Mobility Areas and Complete Communities.	SCAG, Local jurisdictions	**Not Consistent.** The project is not designed as Neighborhood Mobility Area that would enable short commuting, shopping or entertainment-related trips, but it does provide public trails onsite for recreational hiking and bicycle lanes will be provided along the new segment of Bouquet Canyon Road.
Respond to Changing Housing Needs	Local jurisdictions/private developers	**Consistent.** The proposed mixture of for-sale housing types is intended to address changing demands in the Santa Clarita Valley housing market and to accommodate a variety of household incomes and demographics.
Transportation Strategies		
Manage congestion through programs like the Congestion Management Program, Transportation Demand Management, and Transportation Systems Management strategies.	County Transportation Commissions, Local jurisdictions	**Not Applicable.** This strategy applies to public agencies that govern transportation facilities and transportation programs.
Technological Innovation and 21st Century Transportation		
Promote zero-emissions vehicles.	SCAG, Local jurisdictions	**Not Applicable.** This action/strategy is directed at regional and local agencies, and not at individual development projects. However, per the 2019 CALGreen Code Residential Mandatory Measure 4.106.4.2, the project would designate a minimum of 10 percent of the total multifamily dwelling parking spaces as EV spaces. In addition, the project would be required to install approximately six percent of total parking spaces as EV spaces per the 2019 CALGreen Code Residential Mandatory Measure 4.106.4.3.1.

Sources: Southern California Association of Governments, 2016-2040 RTP/SCS, Chapter 5: The Road to Greater Mobility and Sustainable Growth, April 2016. Michael Baker International, December 2019.

Santa Clarita General Plan

The City's Conservation and Open Space Element of the General Plan has identified goals and objectives aimed at greenhouse gas reduction in private development projects in the City. As shown in **Table 3.7-4, Project Consistency with the Santa Clarita General Plan**, the project would be consistent with the GHG-reduction goals and objectives of the General Plan.

Table 3.7-4
PROJECT CONSISTENCY WITH THE SANTA CLARITA GENERAL PLAN

Goals and Objectives	Project Consistency Analysis
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.	**Consistent.** As discussed in **Table 3.7-2** and **Table 3.7-3**, the project would comply with AB 32 and SB 375. Additionally, as analyzed below, the project would comply with SB 32 which would reduce Statewide GHG emissions to 40 percent below 1990 levels by 2030.
Objective CO 8.3: Encourage the following green building and sustainable development practices on private development projects, to the extent reasonable and feasible.	**Consistent.** As discussed in **Table 3.7-2**, the project would implement green building and sustainable development practices through compliance with 2019 Title 24 standards and CALGreen.

Source: Michael Baker International, 2019

Conclusion

In summary, the consistency analysis provided above demonstrates that the project is consistent with or would not conflict with with the plans, policies, regulations and GHG reduction actions/strategies outlined in the 2017 Scoping Plan, 2016-2040 RTP/SCS, and the Santa Clarita General Plan. Furthermore, because the project is consistent and does not conflict with these plans, policies, and regulations, the project's incremental increase in GHG emissions as described above would not result in a significant impact on the environment. Therefore, project-related impacts with regard to GHG emissions would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.8 HAZARDS AND HAZARDOUS MATERIALS

3.8 HAZARDS AND HAZARDOUS MATERIALS

Pursuant to the preliminary analysis in the Initial Study prepared for the proposed project (see Appendix A), this section of the Draft EIR evaluates the potential impacts related to potential hazards associated with an accidental release of environmental contaminants that might occur during construction and operation of the proposed project, as well as potential impacts related to development within a wildland fire hazard zone. The information in this section is based, in part, on a Phase I Environmental Site Assessment (ESA) dated October 2018 and a soils report dated December 13, 2018 (Results of Limited Soil Sampling, Accessor's Parcel Number 2812-008-022, Santa Clarita, California), which were both prepared by Ramboll U.S. Corporation (Ramboll). The Phase I ESA and the soils report are included in Appendix F of this Draft EIR.

As discussed in the Initial Study, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; or be located within an airport land use plan or within 2 miles of a public airport or public use airport. Further, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, these topics will not be discussed in this section.

3.8.1 ENVIRONMENTAL SETTING

The term "hazardous material" is defined in the California Health and Safety Code (Chapter 6.95, Section 25501[o]) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. A hazardous waste is any hazardous material that is abandoned, discarded, or recycled, as defined in the California Health and Safety Code (Chapter 6.95, Section 25125). Materials and waste are generally considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode, or generate vapors when mixed with water (reactivity).

3.8.1.1 EXISTING PROJECT SITE CONDITIONS

The area surveyed in the Phase I ESA comprises Accessor's Parcel Numbers (APN) 2812-008-003, 2812-008-013, 2812-008-021, 2812-008-022, 2812-008-031, and a portion of APN 2812-038-002, which are all vacant, undeveloped land parcels. The survey area also includes portions of APNs 2812-008-002 and 2812-008-900 that are outside of the proposed project site. APN 2812-008-002 is partially developed with a private residence at 28402 Bouquet Canyon Road. The Joseph Scott Juvenile Detention Center (also known as Camp Joseph Scott) is located on the eastern portion of APN 2812-008-900.

There are no access roads on the project site, with the exception of a gravel road that leads to the private residence. Bouquet Canyon Creek runs east to west across the northern portion of the project site. Uses immediately surrounding the project site include residential developments to the north and west, undeveloped land to the south, a small retail center to the southwest, and the Joseph Scott Juvenile Detention Center to the east.

The project site is in a Fire Zone as designated on the City of Santa Clarita Fire Zone Map (Santa Clarita 2013) and within a Very High Fire Hazard Severity Zone on the California Department of Forestry and Fire Protection Local Responsibility maps (Cal Fire 2011). The project site is in a Very High Fire Hazard Severity Zone due to a combination of hilly terrain, dry weather conditions, and the presence of flammable native vegetation.

3.8.1.2 HISTORICAL USES ON THE PROJECT SITE

According to the Phase I ESA, the central portion of the project site (APN 2812-008-022) was used for agricultural purposes from 1928 through 1981. A portion of APN 2812-008-002 may have been used as an Indian burial ground; however, the exact location is unknown. The private residence on APN 2812-008-002 and the juvenile detention center on APN 2812-008-900, which are not part of the project site, were constructed circa 1954 and 1969, respectively.

3.8.1.3 ENVIRONMENTAL DATABASE SEARCH RESULTS

The project site was not listed in any of the state or federal environmental database searches that were conducted as part of the Phase I ESA. The Phase I ESA also conducted database searches for off-site properties, including the private residence on APN 2812-008-002 and the juvenile detention center on APN 2812-008-900. The private residence, the juvenile detention center, and several other off-site properties were listed in the database searches. However, as noted in the Phase I ESA, the listings by themselves are not indicative of a contamination concern and were not further evaluated.

3.8.1.4 HAZARDOUS MATERIALS AND WASTE GENERATION

Hazardous materials, such as chlorinated solvents, are not used on the project site. In addition, the project site is undeveloped and does not generate hazardous wastes. Based on the site reconnaissance conducted as part of the Phase I ESA, there are no underground or aboveground storage tanks on the project site. Non-hazardous wastes, including a dishwasher, washing machine and dryer, and clothing were observed on portions of the project site. In addition, four rusted 55-gallon metal drums were found along the southern edge of APN 2812-008-002 and a quart-sized container of black oily liquid was discovered in the northern portion of the project site. None of the metal drums had labels and two were empty. No significant staining was observed in the vicinity of the metal drums. There was minor soil staining around the quart-sized container with the black oily liquid. The non-hazardous wastes, metal drums, and quart-sized container were not identified as Recognized Environmental Conditions (RECs) in the Phase I ESA.

According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) website, one abandoned oil/gas well is located in the central portion of the project site on APN 2812-008-022. This well was drilled in July 1967, then abandoned due to poor production. The closure of the well was inspected and approved by DOGGR in 1967 and the well is classified as a plugged and abandoned dry hole. Historically, activities associated with the installation of oil/gas wells utilized petroleum products, lubricants, and hydraulic fluids, which could contain polychlorinated biphenyls (PCBs). However, there were no visual indications of significant leaks or releases observed during the site reconnaissance.

Although it is possible that asbestos-containing materials (ACMs) and lead-based paint are present in the private residence and detention center, neither of the buildings are part of the proposed project.

The project site is located in an area categorized as Zone 2,[1] which has average indoor basement radon levels between 2 and 4 picoCuries per liter (pCi/L). The United States Environmental Protection Agency's (USEPA) continuous exposure limit at which further testing or remedial action is suggested is 4.0 pCi/L for residential properties. Therefore, there is a low potential for elevated levels of radon at the project site.

3.8.1.5 SOIL SAMPLING RESULTS

Soil sampling was conducted by Ramboll on APN 2812-008-022 to evaluate the concentrations of organochlorine pesticides and arsenic associated with the historical use of this parcel for agricultural purposes between 1928 and 1981. The results of the soil sampling indicated that the concentration of pesticides was below the USEPA's regional screening levels (RSLs) for soil in a residential land use scenario. The detected concentration of arsenic exceeded the USEPA RSL for arsenic in a residential land use scenario. However, arsenic is a naturally occurring metal in soils and tends to be present in native California soils at concentrations that exceed applicable regulatory thresholds. Based on the results of the soil sampling, further assessment and/or remediation of the soils on the project site is not warranted.

3.8.2 REGULATORY AND PLANNING FRAMEWORK

3.8.2.1 FEDERAL

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) provides the USEPA the authority to control hazardous waste during the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous wastes by large-quantity generators (1,000 kilograms/month or more). At a minimum, each generator of hazardous wastes must register and obtain a hazardous wastes activity identification number. If hazardous wastes are stored for more than 90 days or treated or disposed at a facility, any treatment, storage, or disposal unit must be permitted, and must have an identification number. RCRA allows individual states to develop their own program for the regulation of hazardous waste, as long as it is at least as stringent as the RCRA. In California, the California EPA (CalEPA) Department of Toxic Substances Control (DTSC) administers and enforces RCRA.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, enacted in 1975, is the principal federal law in the United States regulating the transportation of hazardous materials. Its purpose is to "protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce" under the authority of the United States Secretary of Transportation.

This act was passed to improve the uniformity of existing regulations for transporting hazardous materials and to prevent spills and illegal dumping from endangering the public and the environment. In addition,

[1] The map of radon zones was developed in 1993 by the USEPA to identify areas with potential for elevated indoor radon levels. The map is divided into three zones: Zone 1 (average indoor radon screening levels greater than 4 pCi/L), Zone 2 (average indoor radon screening levels from 2 to 4 pCi/L), and Zone 3 (average indoor radon screening levels less than 2 pCi/L). Mitigation is recommended for residential properties that are in Zone 1. (USEPA 1993)

it requires that drivers be trained in function and commodity specific requirements and vehicles transporting certain quantities of hazardous materials to display placards.

Emergency and Community Right to Know Act

The Emergency and Community Right to Know Act imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment if such materials are accidentally released.

Toxic Substances Control Act

The Toxic Substances Control Act phased out the use of asbestos and ACMs in new building materials. The act identifies requirements for the use, handling, and disposal of ACMs. Additionally, Section 402(a)(1) of the act establishes new disposal standards for lead-based paint.

3.8.2.2 STATE

California Code of Regulations, Title 22, Division 4.5, Environmental Health Standards for Managing Hazardous Waste

Title 22 of the California Code of Regulations includes state hazardous waste regulations enforced by DTSC and local Certified Unified Program Agencies (CUPA). Authority from the state was delegated to local CUPAs to establish a unified hazardous waste and hazardous materials management program for hazardous waste generators, treatment of hazardous waste subject to tiered permitting, facilities with underground storage tanks and aboveground storage tanks, risk management and prevention plans, and hazardous materials management plans and inventory statements required by the Uniform Fire Code.

California Code of Regulations, Title 26: Toxics

The state of California regulates the transportation of hazardous waste originating in the state and passing through the state. The two state agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, CalEPA adopted the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented by the Los Angeles County CUPA, the local agency responsible for the implementation of the Unified Program in Santa Clarita.

California Health and Safety Code

State hazardous waste control laws enforced by DTSC are included in the California Health and Safety Code. These regulations identify standards for the classification, management, and disposal of hazardous waste in California.

3.8.2.3 LOCAL

Los Angeles County Certified Unified Program Agency

The Los Angeles County CUPA is managed by the Los Angeles County Fire Department (LACoFD) Health Hazardous Materials Division and is responsible for the administration of the following:

- Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan
- Hazardous Materials Release Response Plans and Inventory
- California Accidental Release Prevention Program
- Underground Storage Tank Program
- Uniform Fire Code Plans and Inventory Requirements

In addition, in conjunction with the LACoFD, the CUPA administers the Hazardous Waste Generator and Onsite Hazardous Waste Treatment Program.

Los Angeles County Municipal Code, Title 32, Fire Code

The Los Angeles County Municipal Code Title 32 contains regulations consistent with the California Fire Code and nationally recognized accepted practices for safeguarding, to a reasonable degree, life and property from the hazards of fire and explosion; hazardous conditions in the use or occupancy of buildings or premises; and dangerous conditions arising from the storage, handling, and use of hazardous materials and devices.

Additionally, the Fire Code addresses wildland fire prevention items that pertain to the adequate provision of access roads and road widths, the clearance of brush, and the inclusion of defensible space in wildland fire risk areas.

Los Angeles County Fire Hazards Reduction Program

The LACoFD Forestry Division is responsible for overseeing the various components of the Fire Hazard Reduction Program. Notably, the LACoFD Forestry Division oversees Fuel Modification Plan checks with the objective to create the defensible space necessary for effective fire protection in newly constructed and/or remodeled homes within Very High Fire Hazard Severity Zones.

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Safety, Land Use, and Circulation Elements pertaining to hazards and hazardous materials are listed below.

Safety Element: Fire Hazards

- Goal S 3: Protection of public safety and property from fires.
    - Objective S 3.2: Provide for the specialized needs of fire protection services in both urban and wildland interface areas.
        - Policy S 3.2.1: Identify areas of the Santa Clarita Valley that are prone to wildland fire hazards and address these areas in fire safety plans.

- Policy 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 to 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.

Safety Element: 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 4.1.2: Coordinate with other agencies to address contamination of soils 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.

Land Use Element: 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.

City of Santa Clarita 2015 Local Hazards Mitigation Plan

The City of Santa Clarita 2015 Local Hazard Mitigation Plan provides strategies for the City to reduce risk and prevent loss from natural and man-made hazard events. Specific action items address multi-hazard issues, as well as activities for hazardous materials and wildland fires in addition to other natural disasters. The plan goals are to protect life and property, increase public awareness, preserve natural systems, strengthen existing and encourage implementation of partnerships, and maintain and improve emergency services. In addition, the plan contains strategies and action items that pertain to new development in the urban/wildland interface to assist developers in mitigating aggravating conditions in these areas. These may include participation in the Brush Clearance Compliance Program and the Fuel Modification Program, which are focused on the clearing and maintenance of defensible space. In addition, this may also include evaluating evacuation routes and developing adequate routes for fire-fighting vehicles and encouraging fire-resistant roofs and residential sprinkler systems. The enforcement of these strategies and action items occur during plan check and through the inspection process.

3.8.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to hazards and hazardous materials if it would:

a) 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.

b) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

3.8.4 METHODOLOGY

The analysis of hazards and hazardous materials impacts is based on the Phase I ESA that was prepared in accordance with the requirements of ASTM International's *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* E1527 13. The Phase I ESA included a site reconnaissance, interviews, review of federal and state environmental databases, review of standard historical sources, review of physical setting sources, and review of records on the DOGGR website, as well as any information provided by the project applicant. The impact analysis is also based on the results of the soils sampling and a letter from DOGGR.

3.8.5 ANALYSIS

Impact 3.8-a The proposed grading and development plan would maintain sufficient ground cover above an existing abandoned/plugged oil well located along the proposed Bouquet Canyon Road alignment, and sufficient space for access by a well rig and related equipment, in the event that a future leak triggers a need to re-abandon the well to current DOGGR standards. Testing of the well site during project construction will ensure that any leaks are identified at that time and any significant amounts of hydrocarbon substances that may be found are properly disposed of. With this mitigation, the project would not create a significant hazard involving the release of hazardous materials into the environment.

Discussion

As discussed above, the project site is currently undeveloped and vacant. Hazardous materials are not used or stored on the project site. In addition, the project site does not generate any hazardous wastes. A portion of the project site was used for agricultural purposes between 1928 and 1981, which suggests that pesticides and other agricultural chemicals may be present in the soils of this area. The results of the soil sampling conducted to determine the concentration of pesticides and arsenic in the soil indicated that the concentration of pesticides was below the USEPA RSLs for residential uses. Although the concentration of arsenic exceeded the USEPA RSL for residential uses, arsenic is a naturally occurring metal in soils and is typically present in native California soils at concentrations that exceed applicable regulatory thresholds.

The Phase I ESA identified one abandoned oil/gas well located in the central portion of the project site on APN 2812-008-022. The well did not produce as anticipated and the owner at that time completed well

plugging and abandonment in accordance with the DOGGR standards that were in effect at the time. The closure of the well was inspected and approved by DOGGR in 1967 and the well is classified as a plugged and abandoned dry hole. The well was not identified as a REC in the Phase I ESA. Furthermore, no other RECs were identified in the Phase I ESA. A letter dated June 19, 2019, from Patricia A. Abel, Coastal District Deputy of DOGGR, to Hai Nguyen, Associate Planner at the City of Santa Clarita Planning Division, and Scott Covington, the project applicant, disclosed that the well was not plugged and abandoned to current DOGGR standards. Although DOGGR conducted a leak test on December 27, 2018, which indicated that the well was not leaking, there is potential with any abandoned oil well for future leaks that could result in soil and groundwater contamination. Thus, DOGGR recommended that the well be either maintained with access that would not disturb the integrity of the surrounding infrastructure in the event that abandonment is necessary, or else re-abandoned to current standards prior to any permanent construction that would prevent or impede access to the well to remedy potential future problems. Since the well is located along the right-of-way for the proposed Bouquet Canyon Road realignment, and the grading plan for the proposed project would put the top of the well casing within the acceptable 5 to 10 feet below ground level, re-abandonment of the well would not be necessary. The well would be maintained with proper access that would allow a well-servicing rig and any other necessary equipment to reach the well from the proposed realignment of Bouquet Canyon Road. With implementation of mitigation measure MM 3.8-1, which requires the testing of the well for leakage and the soils around the well for the presence of hydrocarbons, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials from the oil/gas well into the environment. Impacts would be less than significant.

Mitigation Measures

MM 3.8-1 Prior to the issuance of a grading permit, the project applicant shall test the oil/gas well located on APN 2812-008-022 for leakage. The soils around the oil/gas well shall also be tested for significant amounts of hydrocarbons. The results of the soils testing shall be submitted to the City of Santa Clarita Planning Division for review. Any soils containing significant amounts of hydrocarbons shall be disposed of in accordance with local, state, and federal laws.

Timing/Implementation: *Prior to issuance of a grading permit*

Enforcement/Monitoring: *City of Santa Clarita Planning Division*

Level of Impact Significance Following Mitigation

Less than significant.

Impact 3.8-b The project will be designed to comply with the Los Angeles County Fire Code standards for development in a Very High Fire Hazard Severity Zone and will implement construction phase mitigation measures to reduce the potential for accidental fires from various construction ignition sources and ensure adequate emergency access. The City's existing emergency response and evacuation procedures are sufficient to manage emergency evacuation circumstances that could occur due to wildland fires in the project area. With these design and mitigation measures, the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires.

Discussion

As stated above, the project site is in a Fire Zone as designated on the City of Santa Clarita Fire Zone Map and within a Very High Fire Hazard Severity Zone on the California Department of Forestry and Fire Protection Local Responsibility maps. Wildland fire hazards are discussed in detail in Section 3.15 of this EIR. As discussed therein, the project would be designed to comply with the Los Angeles County Fire Code standards which require removal of existing flammable vegetation and replacement with fuel management zones that provide non-flammable buffer areas around homes and living spaces, sufficient emergency vehicle access and sufficient emergency escape outlets from the project site, ignition resistant building materials, and adequate water supply and pressure to support fire engine pumping units. Construction mitigation measures will be implemented to require training of construction crews to prevent and respond to accidental fires, to restrict activities that could result in accidental ignitions, to complete installation of fuel management zones and irrigation systems prior to delivery of combustible materials to the site, and to maintain vehicular access for emergency response vehicles at all times. The City's existing Local Hazard Mitigation Plan and emergency response and evacuation management procedures are considered to be effective and would be sufficient to respond to potential threats to the proposed project site and surrounding neighborhoods, in the event of local wildland fires spreading into this area. Given all of these design and mitigation measures and the existing wildland fire emergency response resources and command procedures in place, the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires.

Mitigation Measures

Please refer to Mitigation Measures 3.15-1 through 3.15-3, listed with Impact 3.15c of the Wildfire Section of this Draft EIR.

Level of Impact Significance Following Mitigation

Less than significant.

This page intentionally left blank.

3.9 HYDROLOGY AND WATER QUALITY

3.9 HYDROLOGY AND WATER QUALITY

This section describes the existing surface water and groundwater hydrology and water quality within the project site and vicinity, discusses the regulatory framework involving hydrology and water quality, and assesses project impacts involving water quality, drainage, and flooding. The analysis of project impacts is based on the Hydrology Study and the Urban Stormwater Mitigation Plan (USMP) prepared for the proposed project by Sikand Engineering Associates in January 2020 (see **Appendix G**), and the Geotechnical EIR-Level Assessment prepared for the proposed project by Petro Geosciences, Inc. in October 2019 (see Appendix E).

3.9.1 EXISTING CONDITIONS

3.9.1.1 REGIONAL

Surface Water

The City contains many natural streams and creeks that function as storm drain channels, conveying surface runoff into the Santa Clara River. From its headwaters in the San Gabriel Mountains to its mouth at the Pacific Ocean, the Santa Clara River drains a watershed of 1,643 square miles. Ninety percent of the river's watershed consists of mountainous terrain; the remaining portion is a mix of valley floor, floodplain, and coastal plain. Within the headwater areas of the City, discharge during rainfall events tends to be rapid due to the steep terrain. High intensity rainfalls, in combination with alluvial soils, sparse vegetation, erosion, and steep gradients, can result in significant debris-laden flash floods (Santa Clarita 2010b).

The Santa Clara River and its tributary streams play a major part in moving a large volume of runoff generated from the valley and surrounding foothills and mountains. The drainage system, including natural streams, as well as constructed storm drain infrastructure within the City, is adequate to handle normal precipitation in the region (8 to 22 inches per year). With the rapid urbanization of the Santa Clarita Valley since 1960, stormwater volumes have increased due to increased impervious surface area from parking lots, rooftops, and streets. Flood control facilities have been constructed to mitigate the impacts of development on drainage patterns throughout the City. Some streams have been channelized into soft bottom channels with concrete sides to allow for development in the floodplain of the Santa Clara River (Santa Clarita 2010b).

Flooding

Two areas within the City are known to have periodic flooding problems. These areas are portions of Sand Canyon and Placerita Canyon. During storm events, transmission of storm flows within the street right-of-way may cause localized flooding making some roads impassable (e.g., Sand Canyon Road and Placerita Canyon Road). However, most streets in the City are designed to accommodate stormwater flow.

Along with heavy, prolonged rainfall, flooding within the City could also occur due to the leakage or collapse of nearby dams, the rupture of the Los Angeles Aqueduct, or on a smaller scale, within areas that have been cleared of vegetation by fires or mudslides. However, within the City, the primary flood hazard areas occur in and along natural drainage channels within the 100-year floodplain.

Groundwater

Groundwater is concentrated into natural hydro-geological units called basins. An aquifer is a subsurface area where water collects, concentrates, and can be extracted within a basin. Multiple aquifers may be located within each basin. The two major groundwater basins underlying the City are the Santa Clara River Valley Groundwater Basin (East Subbasin) and the Acton Valley Groundwater Basin. The East Subbasin encompasses the upper Santa Clara River Valley and is comprised of two aquifer systems, the Alluvium (also referred to as the Alluvial Aquifer) and the Saugus Formation. The Alluvial Aquifer generally underlies the Santa Clara River and its tributaries, and the Saugus Formation underlies nearly the entire Upper Santa Clara River area. Groundwater from the East Subbasin generally flows from east to west, following the movement of the Santa Clara River. The East Subbasin is the sole source of local groundwater for urban water supply in the City of Santa Clarita (Santa Clarita 2010b).

Because up to 80 percent of the average annual precipitation occurs between November and March, most groundwater infiltration is in the form of winter-storm flow. However, the East Subbasin is also replenished by deep percolation of agricultural land, urban irrigation, percolation from septic tanks and leach field systems, and treated effluent from water reclamation plants. The Acton Valley Groundwater Basin encompasses about 17 square miles and is bounded by the Sierra Pelona on the north and the San Gabriel Mountains on the south, east, and west. Groundwater in the Acton Valley Groundwater Basin is unconfined and found in alluvium and stream terrace deposits. The regional direction of groundwater flow is in a southwesterly direction toward Soledad Canyon. Replenishment of the Acton Valley Groundwater Basin is through percolation of direct rainfall and infiltration of surface water runoff, agriculture and irrigation, and septic tanks (Santa Clarita 2010b).

Natural or soft bottom drainage channels and wide natural floodways and flood plains maximize the groundwater recharge and help to replenish the aquifers. As an unchannelized river, the Santa Clara River and its tributaries provide opportunities for groundwater recharge. The best available evidence shows that no adverse impacts on basin recharge have occurred due to the existing or projected use of local groundwater supplies (Santa Clarita 2010b).

3.9.1.2 LOCAL

Surface Water

The project site lies within two drainage tributary areas, both of which ultimately discharge into Bouquet Creek. The natural drainage pattern starts from the north and conveys south into Bouquet Creek. The western tributary area drains into an existing 39-inch County-maintained storm drain (PD 852) on the west side of the site, Between Sue Drive and Russ Jay Drive, which, in turn, discharges into the channelized portion Bouquet Creek located just west of that spot (Sikand 2019a). The eastern tributary area drains directly into Bouquet Creek, within the site.

Flooding

The types of seismically induced flooding that may be considered as potential hazards to a particular site normally include flooding due to a tsunami[1], a seiche[2], or failure of a major reservoir or other water

[1] According to the National Oceanic and Atmospheric Administration (NOAA), a tsunami is a series of giant waves caused by earthquakes or undersea volcanic eruptions.

[2] According to the City's 2015 Hazard Mitigation Plan, a seiche is the creation of large waves on a lake or reservoir due to

retention structure upstream of the site. Since the project site is more than 30 miles inland from the Pacific Ocean, there is no probability of flooding from a tsunami at the project site (Petra 2019). Bouquet Reservoir is located approximately nine miles north of the project site. According to the City of Santa Clarita's Hazard Mitigation Plan, a seiche may occur at Bouquet Dam/Reservoir, which could threaten portions of Santa Clarita, including the Bouquet Canyon area that includes the project site, through inundation (Santa Clarita 2015a).

The project site is located within a Federal Emergency Management Agency (FEMA) flood zone (Zone A) and within a Los Angeles County Flood Control District (LACFCD) floodway and flood plain (Sikand 2019a). Flood Zone A is also classified as a high risk area or special flood hazards area having at least one percent annual chance of flooding.

Groundwater

The project site is located on the periphery of the East Subbasin. Information pertaining to the occurrence of groundwater within the local area has primarily been obtained from borehole logs prepared during installation of the water wells throughout the area. In general, groundwater occurs in at least two distinct areas in downward succession. These are (1) a body of semi-perched water that occurs within the lowermost portion of the recent alluvium and (2) in nearly all deposits of Pleistocene age and some Pliocene rocks. Of interest with respect to development of the project site is the body of semi-perched groundwater occurring within the upper portions of Holocene-age alluvial sediments.

The extent of shallow semi-perched groundwater in the project area is described in general terms in the referenced Seismic Hazard Zone Report for the Mint Canyon Quadrangle (DOC 1998). Based on information provided in that report, the project site is located in an area where shallow groundwater (i.e., groundwater existing at a depth of 40 feet or less below the ground surface) would typically be expected to occur. The figures included in the Seismic Hazard Zone report indicate that the historical high groundwater depths in the site vicinity were determined to be less than 25 feet below the surface. The shallow depths are indicated in isolated areas of the active drainage channel of Bouquet Canyon. Field investigation conducted at the project site, which included 15 borings within the alluvial sediments, indicates that groundwater levels are significantly lower than reported in the Seismic Hazard Zone Report for the Mint Canyon Quadrangle. Shallow, near surface groundwater was not encountered in/near the active drainage channel. Two water levels were measured at depths of 45 and 50 feet below ground surface. These levels indicate that groundwater, when extant, is located at or near the bedrock contact (i.e., at the base of the alluvial section). It should be noted that the depth of groundwater is representative of the date and time of when the borings were conducted and that this level is likely to fluctuate in response to seasonal changes (Petra 2019).

No groundwater production wells have been identified within the project site (Ramboll, 2018 and Petra, 2019).

3.9.2 REGULATORY AND PLANNING FRAMEWORK

3.9.2.3 FEDERAL

earthquake shaking. A seiche can be triggered by long period ground motion from distant earthquakes or from ground displacement beneath the body of water. In reservoirs, seiches can generate short-term flooding of downstream areas. In addition, earthquake-induced landsliding can cause-seiche-like waves.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate FEMA to evaluate flood hazards (FEMA 1997). FEMA provides flood insurance rate maps (FIRMs) for local and regional planners to promote sound land use and development practices, by identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as flood insurance studies (FIS). Using information gathered in these studies, FEMA engineers and cartographers delineate special flood hazard areas (SFHA) on FIRMs.

The Flood Disaster Protection Act requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal or federally-related financial assistance, such as mortgage loans from federally-insured lending institutions. Community members within designated areas are able to participate in the National Flood Insurance Program (NFIP) afforded by FEMA.

Clean Water Act

The Clean Water Act (CWA), formerly known as the Water Pollution Control Act, was first introduced in 1948, with major amendments in 1961, 1966, 1970, 1972, 1977, and 1987. The CWA authorizes federal, State, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of State waters and tributaries. Amendments enacted in 1970 created the U.S. Environmental Protection Agency (USEPA), while amendments enacted in 1972 established the National Pollutant Discharge Elimination System (NPDES) permit program, which prohibits discharge of pollutants into the nation's waters without procurement of a NPDES permit from the USEPA. Although federally mandated, the NPDES permit program is generally administered at the State level.

Amendments enacted in 1977 mandated development of a Best Management Practices (BMP) Program at the State level and provided the Water Pollution Control Act with the common name of Clean Water Act, which is universally used today. The CWA was amended in 1987 to require the USEPA to create specific requirements for discharges. In response to the 1987 amendments to the CWA, Phase I of the USEPA NPDES Program required NPDES permits for: (1) Municipal Separate Storm Sewer Systems (MS4) Permit generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs five acres or more of land. As of March 2003, Phase II of the NPDES Program extended the requirements for NPDES permits to numerous small municipal separate storm sewer systems, construction sites of one to five acres, and industrial facilities owned or operated by small municipal separate storm sewer systems, which were previously exempted from permitting.

The USEPA delegated the responsibility of administering portions of the CWA to State and regional agencies, including the State of California. In California, the NPDES stormwater permitting program is administered by the State Water Resources Control Board (SWRCB). The SWRCB was created by the Legislature in 1967. The joint authority of water distribution and water quality protection allows the SWRCB to provide protection for the State's waters, through its nine Regional Water Quality Control Boards (RWQCBs). The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. The RWQCBs develop "basin plans" for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality (USEPA 2002).

Federal Antidegradation Policy

The Federal Antidegradation Policy (40 Code of Federal Regulations 131.12) requires states to develop Statewide antidegradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations (CFR), 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.

3.9.2.4 STATE

Porter-Cologne Water Quality Act (California Water Code)

The Porter-Cologne Water Quality Control Act, also known as Section 7 of the California Water Code (CWC), established the principal legal and regulatory framework for California's water quality control (SWRCB 2019). The CWC authorizes the SWRCB to implement the provisions of the CWA, including the authority to regulate waste disposal and require cleanup of discharges of hazardous materials and other pollutants.

Under the CWC, the State of California is divided into nine RWQCBs, which govern the implementation and enforcement of the CWC and the CWA. The project site is located within Region 4, also known as the Los Angeles Region, and governed by the Los Angeles RWQCB (LARWQCB). The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. Each RWQCB is required to formulate and adopt a Water Quality Control Plan or Basin Plan for its region. The Basin Plan must adhere to the policies set forth in the CWC and established by the SWRCB. In this regard, the LARWQCB developed the Los Angeles Basin Plan in August 29, 2014 for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan). The RWQCB is also given authority to issue waste discharge requirements, enforce actions against stormwater discharge violators, and monitor water quality.

California Antidegradation Policy

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 in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the State, not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained and discharges to that water body shall not unreasonably affect present or anticipated beneficial use of such water resource.

California Toxic Rule

In 2000, the USEPA promulgated the California Toxic Rule, which established water quality criteria for certain toxic substances to be applied to waters in the State based on the USEPA's determination that the numeric criteria are necessary in the State to protect human health and the environment. The California Toxic Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water, such as inland surface waters and enclosed bays and estuaries, that are designated by the LARWQCB as having beneficial uses protective of aquatic life or human health.

NPDES Permit Program

The NPDES permit program was first established under authority of the CWA to control the discharge of pollutants from any point source into the waters of the U.S. As indicated above, in California, the NPDES stormwater permitting program is administered by the SWRCB through its nine RWQCBs. The joint authority of water distribution and water quality protection allows the Board to provide protection for the State's waters, through its nine RWQCBs. The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. The RWQCBs also develop "basin plans" for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality. The LARWQCB issues combined NPDES Permits under the Clean Water Act and Waste Discharge Requirements (under the California Water Code) to point dischargers of waste to surface waters. To ensure protection of water quality, NPDES Permits may contain effluent limitations for pollutants of concern, pollutant monitoring frequencies, reporting requirements, schedules of compliance (when appropriate), operating conditions, BMPs, and administrative requirements. NPDES Permits apply to publicly-owned treatment works discharges, industrial wastewater discharges, and municipal, industrial and construction site stormwater discharges. Further discussion of the LARWQCB stormwater discharge permitting activities is provided below.

Construction General Permit

The SWRCB has issued a Statewide NPDES Construction General Permit for stormwater discharges associated with construction activities (known as the Construction General Permit [SWRCB Order No. 2009-0009-DWQ]). Order No. 2009-0009-DWQ was amended by Order No. 2010-0014-DWQ in November 2010 and by Order No. 2012-0006-DWQ in July 2012 (SWRCB 2018). Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity. Construction activity subject to this permit includes clearing, grading and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The main objectives of the Construction General Permit are to:

1. Reduce erosion
2. Minimize or eliminate sediment in stormwater discharges
3. Prevent materials used at a construction site from contacting stormwater
4. Implement a sampling and analysis program
5. Eliminate unauthorized non-stormwater discharges from construction sites
6. Implement appropriate measures to reduce potential impacts on waterways both during and after construction of projects
7. Establish maintenance commitments on post-construction pollution control measures

California requires all construction activities disturbing more than one acre of land to develop and implement Stormwater Pollution Prevention Plans (SWPPP). The SWPPP documents the selection and implementation of BMPs for a specific construction project, charging owners with stormwater quality

management responsibilities. A construction site subject to the Construction General Permit must prepare and implement a SWPPP that meets the requirements of the Construction General Permit.

Los Angeles County MS4 Permit

The State's Municipal Storm Water Permitting Program regulates storm water discharges from MS4s. Under Phase I of the Program, which started in 1990, the RWQCBs have adopted NPDES storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. Most of these permits were issued to a group of co-permittees encompassing an entire metropolitan area. In 2001, the LARWQCB issued an NPDES Permit and Waste Discharge Requirements (Order No. 01-182) under the Clean Water Act and the Porter-Cologne Act for discharges of urban runoff in public storm drains in Los Angeles County. The Permit was amended on April 14, 2011, pursuant to the peremptory writ of mandate in Los Angeles Superior Court Case No. BS122724, which voided and set aside a 2006 amendment. The permittees are the Los Angeles County incorporated cities (including the City of Los Angeles but excluding the City of Long Beach) and the County (collectively the co-permittees). An important element incorporated into the NPDES MS4 Permit is the requirements associated with development or redevelopment of a site. The NPDES MS4 Permit requires many development projects to incorporate permanent (post-construction) storm water mitigation measures to reduce the quantity and improve the quality of storm water runoff that leaves a site.

To implement the requirements of the NPDES permit, the co-permittees have created development planning guidance and control measures that control and mitigate storm water quality and quantity impacts to receiving waters as a result of new development and redevelopment. The co-permittees are also required to implement other municipal source detection and elimination programs, as well as maintenance measures.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen Code), Part 11 of the California Building Standards Code (Title 24) is 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. The CALGreen Code provides mandatory direction to developers of all new construction of residential and nonresidential structures with regards to all aspect of design and construction, including, but not limited to, site drainage design, stormwater management, and water use efficiency. Required measures are accompanied by a set of voluntary standards designed to encourage developers and cities to aim for a higher standard of development.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) requires the designation of groundwater sustainability agencies (GSAs) by one or more local agencies and the adoption of groundwater sustainability plans (GSPs) for basins designated as medium- or high-priority by the California Department of Water Resources (DWR). SGMA grants new powers to GSAs, including the power to adopt rules, regulations, ordinances, and resolutions; regulate groundwater extractions; and to impose fees and assessments. SGMA also allows the SWRCB to intervene if local agencies will not or do not meet the SGMA requirements.

3.9.2.5 REGIONAL/LOCAL

Los Angeles Regional Water Quality Control Board Basin Plan for the Coastal Watershed of Los Angeles and Ventura Counties

As required by the CWC, the LARWQCB has adopted a plan entitled "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and ground waters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable state and LARWQCB's plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan. The Basin Plan is a resource for the Regional Board and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. The Basin Plan also provides valuable information to the public about local water quality issues (LARWQCB 2014).

Santa Clarita Valley Groundwater Sustainable Agency (SCV-GSA) Groundwater Sustainability Plan

The SCV-GSA is responsible for sustainably managing groundwater in the Santa Clara River Valley East Subbasin. By January 2022, the SCV-GSA will develop a Groundwater Sustainability Plan (GSP) tailored to the resources and needs within the Santa Clarita Valley communities and a goal to achieve sustainable groundwater management within 20 years (SCV-GSA 2020). Consequently, the GSP for the project site has yet to be developed.

County of Los Angeles Hydrology Manual

The County of Los Angeles Hydrology Manual (Hydrology Manual) established the Los Angeles County Department of Public Works' (LACDPW) hydrologic design procedures and serves as a reference and training guide (LACDPW 2006a). The primary purpose of the Hydrology Manual is to explain the steps involved in converting rainfall to runoff flow rates and volumes using LACDPW's standards. The Hydrology Manual contains procedures and standards developed and revised by the County's Water Resources Division based on historic rainfall and runoff data collected within the County. The hydrologic techniques in the Hydrology Manual apply to the design of local storm drains, retention and detention basins, pump stations, and major channel projects. The techniques also apply to storm drain deficiency and flood hazard evaluations. There are numerous instances where a drainage system must provide more than a single level of flood protection. Drainage systems must meet the criteria described in the Hydrology Manual. For example, there may be a natural canyon area tributary to a proposed drainage system that drains an urban area containing a sump. The proposed drainage system must convey the burned and bulked Capital Flood flow from the canyon area, protect the sump from a Capital Flood, and protect the developed area from the Urban Flood.[3] Peak flows from burned watersheds are "bulked" to account for volume changes caused by debris entrainment. Debris basins remove the sediment so that downstream flows are equal to flows

[3] According to the Hydrology Manual, a capital flood is the runoff produced by a 50-year frequency design storm falling on a saturated watershed (soil moisture at field capacity), while an urban flood is the runoff from a 25-year frequency design storm falling on a saturated watershed.

from burned watershed.

County of Los Angeles Sedimentation Manual

The County of Los Angeles Sedimentation Manual (Sedimentation Manual) established LACDPW's sedimentation design criteria (LACDPW 2006b). The procedures and standards contained in the Sedimentation Manual were developed by LACDPW as the need arose to design erosion control structures, sediment retention structures, and channels carrying sediment laden flows. These sedimentation techniques are applicable in the design of local debris basins, storm drains, retention and detention basins, and channel projects within Los Angeles County.

Enhanced Watershed Management Program

The City of Santa Clarita, Los Angeles County, and LACFCD jointly developed an Enhanced Watershed Management Program (EWMP), which allows collaboration among agencies on multi-benefit regional projects to retain both non-stormwater and stormwater runoff, as well as to facilitate flood control and increase water supply. Nearly 90 percent of the Upper Santa Clara River Watershed (USCRW) is open space with approximately 88 percent being undeveloped land and contains one of the last remaining natural rivers in Southern California. The USCRW presents unique challenges for maintaining the balance of population growth, conservation of endangered species habitat, floodplain management, water supply, and wildlife corridors that depend on the Santa Clara River and its floodplain. The EWMP has been developed to protect these beneficial uses of the USCRW receiving waters, while recognizing these unique characteristics.

City of Santa Clarita Stormwater and Urban Runoff Pollution Control (SCMC Chapter 10.04)

Section 10.04.070 (Construction Activity Stormwater Measures) of Chapter 10.04 of the Santa Clarita Municipal Code (SCMC) identifies specific requirements related to water runoff and discharges during construction within the City. These requirements include, but are not limited to, the implementation of a grading and construction activity runoff control program adequate to accomplish all of the following:

- Retain on site the sediments generated on or brought to the project site, using treatment control or structural BMPs;
- Retain construction-related materials and wastes, spills and residues at the project site and prevent discharges to streets, drainage facilities, the MS4, receiving waters, or adjacent properties;
- Contain non-stormwater runoff from equipment and vehicle washing at the project site; and
- Control erosion from slopes and channels through use of effective BMPs, such as limitation of grading during the wet season, inspection of graded areas during rain events; planting and maintenance of vegetation on slopes, if any, and covering any slopes susceptible to erosion.

City of Santa Clarita Floodplain Management Ordinance (SCMC Chapter 10.06)

The City of Santa Clarita participates in the NFIP. The intention of the NFIP is to lessen the financial devastation caused by flooding in communities across the United States. It is a voluntary program based on a mutual agreement between FEMA and the local community. Participation in the program makes

federally backed flood insurance available to City residents and allows them to obtain direct federal relief following declared flood disasters (City of Santa Clarita 2020).

In cooperation with FEMA, the City has adopted a Floodplain Management Ordinance (Chapter 10.06 of the SCMC), which governs development in the City's floodplains. In order to remain an NFIP community, the City must regulate development in its flood hazard areas per the requirements of the Floodplain Management Ordinance along with other various technical documents published by FEMA. In order to accomplish reducing flood losses, the Floodplain Management Ordinance requires the following:

- Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- Require that uses vulnerable to floods, including facilities, which serve such uses, be protected against flood damage at the time of initial construction;
- Control the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel floodwaters;
- Control filling, grading, dredging and other development, which may increase flood damage; and
- Prevent or regulate the construction of flood barriers, which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

City of Santa Clarita Stormwater Mitigation Plan Implementation (SCMC Chapter 17.95)

Chapter 17.95 of the SCMC identifies certain requirements for post-construction stormwater activities for development projects to comply with the NPDES and MS4 permits. This chapter requires that each project develop and implement a mitigation plan to lessen the water quality impacts of development by using smart growth practices and BMPs and integrate low impact development (LID) design principles to mimic pre-development hydrology conditions through infiltration, evapotranspiration, rainfall harvest, and use.

3.9.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to hydrology and water quality if it would:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i. result in substantial erosion or siltation on- or off-site;

   ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; or

iii. 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.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.9.4 METHODOLOGY

The analysis in this section addresses potential impacts on hydrology/drainage and water quality. The analysis is based, in part, on the Hydrology Study and USMP prepared for the project and included in Appendix G of this Draft EIR. The Hydrology Study analyzed the Design and Clear Frequency storm hydrological impacts of the proposed project against its pre-development receiving outlet conditions to comply with the requirements established by the County of Los Angeles and to provide the criteria for the design of the on-site storm drain systems and other drainage devices. The USMP identified the City's Standard Urban Stormwater Mitigation Plan requirements and how the proposed project would satisfy these requirements, including those related to the following:

1. Hydromodification Control Criteria
2. Conserve Natural Areas
3. Minimize Stormwater Pollutants of Concern
4. Protect Slopes and Channels
5. Provide Storm Drain System Stenciling and Signage
6. Properly Design Outdoor Material Storage Areas
7. Properly Design Trash Storage Areas
8. Provide Proof of Ongoing BMP Maintenance
9. Water Quality/Flow Reduction/Resource Management Criteria
10. Provisions Applicable to Individual Priority Project Categories
11. Waiver
12. Limitation of Use of Infiltration BMPs

Surface Water/Flooding

The analysis of hydrology impacts related to surface water runoff includes a calculation of pre-development and post-development runoff rates during a 50-year storm event. Potential impacts to the MS4 system were analyzed by comparing the calculated pre-development runoff rates to the calculated post-development runoff rates to determine the project's potential effect on drainage flows. The project's proposed on-site system for collecting, treating, and reclaiming stormwater is described and reviewed for consistency with applicable regulatory measures for reducing flood impacts.

Water quality impacts were assessed by characterizing the types of pollutants and/or effects on water

quality likely to be associated with construction and operation of the project, project design features to treat contaminants, and expected contaminant flows with project implementation. Project consistency with relevant regulatory permits/requirements, including BMPs and applicable plans, is evaluated to demonstrate how compliance would reduce potential project impacts.

Groundwater

The evaluation of groundwater hydrology impacts is based on studies describing historic groundwater levels and conditions in the area and on the project site.

Water Quality and Sustainable Groundwater Management Plans

The evaluation of project consistency with Water Quality and Sustainable Groundwater Management Plans is based on a summary of the preceding analyses of project impacts on water quality and groundwater resources. The summary identifies the applicable plans, the regulatory mechanisms for meeting the standards in those plans, and the project characteristics that conform to those regulatory standards.

3.9.5 ANALYSIS

Impact 3.9-a Project construction and operation would generate a variety of potential stormwater pollutants; however, through required compliance with existing regulatory standards, the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade the quality or surface water or groundwater.

Discussion

Construction

Construction activities, such as earth moving, maintenance/operation of construction equipment, and handling/storage/disposal of construction and building materials, could contribute to pollutant loading in stormwater runoff from the construction site. In addition, exposed and stockpiled soils could be subject to wind and water conveyance into nearby storm drains during storm events, and on-site water activities for dust suppression purposes could contribute to pollutant loading in runoff from the construction site.

During construction, hazardous materials, such as fuels, paints, solvents, and concrete additives, would be used and would, therefore, require proper management and disposal. Based on its size (i.e., greater than one acre), the project would be subject to the requirements of the NPDES Construction General Permit, which includes the preparation and implementation of a SWPPP. The SWPPP would include BMPs and erosion control measures to prevent pollution in storm water discharge. Typical BMPs that could be used during construction include good-housekeeping practices, such as street sweeping, proper waste disposal, vehicle and equipment maintenance, concrete washout area, materials storage, minimization of hazardous materials, proper handling and storage of hazardous materials; and erosion/sediment control measures, such as silt fences, fiber rolls, gravel bags, storm water inlet protection, and soil stabilization measures. The SWPPP would be subject to review and approval by the City for compliance with the City's Stormwater and Urban Runoff Pollution Control, Section 10.04.070 of the SCMC.

Compliance with all applicable federal, state, and local requirements concerning the handling, storage,

and disposal of hazardous waste would reduce the potential for the release of contaminants into the groundwater and would not cause a violation of regulatory water quality standards related to surface water or groundwater.

Operation

The project site is generally pervious. Pursuant to Section 17.95 of the SCMC, a project-specific USMP must be prepared and implemented during the operational life of the project to address the management of runoff from the proposed residential development. The USMP would identify site design, source control, LID features, and treatment control BMPs and would address site design BMPs; incorporate applicable source control BMPs; incorporate treatment control BMPs; and describe long-term operation and maintenance requirements for the treatment control BMPs.

Pollutants of concern related to the proposed development include, but are not limited to, pathogens, nutrients, pesticides, sediments, trash and debris, oxygen-demanding substances, and oil and grease. Infiltration has a high removal effectiveness for targeted pollutants, which are anticipated to be generated from the building rooftops, private driveways (e.g., vehicle oil and grease), landscaping fertilizers, and trash from litter (Sikand 2019b).

To address these pollutants of concern, the proposed project would provide two infiltration basins, three biofiltration basins, two continuous deflection system (CDS) units for pretreatment, and two Filterra [4]bioretention units.

The infiltration basins would be located at the western end of Planning Area 4 and along the east side of the northern terminus of the new Bouquet Canyon Road, between the new road and the athletic field in the adjacent Los Angeles County Probation Camp Joseph Scott. The infiltration basins proposed on-site would prevent stormwater pollutants from being discharged off-site. To provide pretreatment to reduce trash, sediment, and oil and grease from entering the infiltration basins, the CDS units would be located immediately adjacent to the infiltration basins; the CDS units would remove trash, debris, and course sediments from incoming flows using screening, gravity setting, and centrifugal forces generated by forcing the effluent into a circular motion.

In areas of the project site where infiltration is not technically feasible, biofiltration basins are proposed. The biofiltration basins would be located in the northern piece of Planning Area 1, where the proposed cul-de-sac enters from old Bouquet Canyon Road; immediately north of the new "Y" intersection of old and new Bouquet Canyon Roads; and in the southern portion of the project site in Planning Area 1a to the south of the new "Y" intersection of old and new Bouquet Canyon Roads. The biofiltration basins would treat stormwater through a variety of natural mechanisms as stormwater flows through the vegetation root zone.

To treat stormwater from new Bouquet Canyon Road where it joins old Bouquet Canyon Road near the northern terminus of the new Bouquet Canyon Road and along the western boundary of the project site in Planning Area 1 between Benz Road and Russ Jay street, Filterra units are proposed. Stormwater runoff

[4] Filterra is a brand name for an engineered high-performance bioretention system that has been optimized for high volume/flow treatment and high pollutant removal. Its small footprint allows it to be used on highly developed sites, such as landscaped areas, parking lots, and streetscapes. Filterra is highly adaptable and can be used alone or in combination with other BMPs.

would enter the Filterra system through a curb-inlet opening or pipe and flow through a specially-designed filter media mixture in a landscaped concrete container. The filter media would capture and mobilize pollutants, which would then be decomposed, volatilized, and incorporated into the biomass of the system's micro/macro fauna and flora. Stormwater runoff would then flow through the media and into an underdrain system at the bottom of the container, where the treated water would be discharged.

The combination of the treatment control BMPs identified above would have a high removal effectiveness on the pollutants of concern.

Other project features identified in the USMP include the following:

- Channelization of Bouquet Creek to allow off-site upstream flows to go through the project site for treatment prior to being discharged to Bouquet Creek;
- Storm drain system stenciling and signage; and
- On-going inspection and maintenance of the proposed infiltration and biofiltration basins and CDS and Filterra units.

Therefore, in compliance with the City's Stormwater and Urban Runoff Pollution Control requirements, including implementation of treatment control BMPs, project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. As such, the project would result in a less-than-significant impact related to surface or groundwater quality.

Mitigation Measures

No mitigation measures are required.

Impact 3.9-b The project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Discussion

There is no groundwater production occurring at the project site; therefore, there would be no disruption to any existing groundwater production from the project site. Although the proposed project would require extensive grading due to the steep slopes and the ridgeline that define the topography of the western side of the project site, the proposed project would not include any subterranean levels that would require deep excavation that would potentially encounter groundwater. As described above, when measured by soil borings in October and November 2018, the groundwater table was encountered at a depth of 45 and 50 feet bgs. The structural footings and other underground elements to be constructed for the proposed residential community would not extend to this level. The developed project would receive all of its water from a piped water system, connected to a Santa Clarita Valley Water Agency water transmission main. As such, the project would not require groundwater withdrawal. In addition, the City's Stormwater Mitigation Plan (SCMC Chapter 17.95) requires that each project develop and implement a mitigation plan to lessen the water quality impacts of the project by using smart growth practices and BMPs and integrate LID design principles to mimic pre-development hydrology conditions through infiltration, evapotranspiration, rainfall harvest, and use. Bouquet Creek, within the project site, would be maintained as a natural (unpaved and vegetated) drainage course and would continue to provide

groundwater recharge as it does today. Therefore, while the project would create new impervious surfaces throughout the site, where none exist today, a majority of the site's drainage area (approximately 72%) would consist of pervious surfaces, comprised of vegetated slopes, landscaped community open space areas, private yards, parkways, recreation turf areas, etc., where infiltration would occur during rainstorms. the project would not contribute to depletion of groundwater or interfere with recharge of a managed groundwater supply source. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.9-c.i The project would not substantially alter the existing drainage pattern of the project site or the project vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site.

Discussion

Construction

The proposed project would require extensive grading to accommodate the new residential development, which could affect drainage patterns at the project site during the grading portion of construction. However, all construction activities would be conducted in accordance with SCMC Section 10.04.070 (Construction Activity Stormwater Measures) to ensure the following conditions during project construction:

- Retention of on-site sediments generated on the project site using treatment control or structural BMPs;
- Erosion control from slopes through the use of effective BMPs, such as limitation of grading during the rainy season and covering any slopes susceptible to wind and water erosion during construction.

In addition, as discussed in Impact 3.9-a above, the project would be subject to the requirements of the NPDES Construction General Permit, which includes the preparation and implementation of a SWPPP. The SWPPP would include BMPs and erosion control measures. Typical BMPs that could be used during construction to control siltation and sedimentation include street sweeping, concrete washout area, silt fences, fiber rolls, gravel bags, storm water inlet protection, and soil stabilization measures.

Standard construction phase BMPs, which are required as part of the permitting process, would decrease the potential for significant erosion or siltation from soil disturbance associated with construction of the project. Therefore, project construction would not substantially alter the existing drainage pattern of the project site or area, including through alteration of the course of a river or stream or increase in impervious surfaces in a manner that would result in substantial erosion or siltation on- or off-site. As such, impacts related to drainage patterns and substantial erosion on- or off-site during construction would be less than significant.

Operation

As described in Impact 3.9a above, the project would comply with the City's Stormwater and Urban Runoff Pollution Control requirements to manage stormwater runoff, including installation of stormwater

management and treatment systems. Bouquet Creek, as it traverses the project site, would be retained in its natural contours to convey low flows of upstream surface runoff; thus, there would be no substantial alteration of the current drainage flows through the Creek. In addition, a new engineered channel would be constructed parallel to and on the southern side of the Bouquet Creek alignment within the project site. This channel would be constructed as a trapezoidal-shaped, reinforced concrete structure, which would prevent erosion and siltation during peak storm flows. The new channel would extend from a bridge that would be constructed for the realignment of Bouquet Canyon Road near the northeastern corner of the project site (upstream side) through the project site and would tie into the existing Bouquet Creek channel (near the northern portion of the project site), which has lined sides and grade control structures on the invert. Stormwater discharges from the project site into that channel would not, therefore, contact exposed soils that could result in sedimentation or siltation due to scouring.

There are additional natural areas located on the southern end of the project site, adjacent to the extension of Bouquet Canyon Road. The stormwater in these areas would be collected in debris basins prior to entering the proposed storm drain system. Three debris basins are proposed – one would be located immediately south of the infiltration basin in the northeastern portion of the project site; another would be located immediately south of Planning Area 3 on the southerly side of new Bouquet Canyon Road; and the third would be located immediately adjacent to the biofiltration basin in the southern portion of the project site in Planning Area 1A to the south of the new "Y" intersection of old and new Bouquet Canyon Roads. Additionally, stormwater flows from all developed areas would be collected within the storm drain system, downstream of the debris basin locations (Sikand 2020a). This system would have no contact with exposed soils or erodible surfaces that would generate siltation if exposed to surface water runoff.

Furthermore, the proposed site improvements include impervious surfaces from building structures, paved roads and other paved surfaces, and extensive landscaping (including landscaping of manufactured slopes). These improvements would eliminate erosion potential within areas covered by impervious surfaces and significantly reduce the potential for erosion in landscaped areas. The landscaped areas would stabilize the underlying soil materials, providing anchoring during rain or high winds.

Accordingly, project operation would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on- or off-site and, as such, operational impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.9-c.ii The project would not substantially alter the existing drainage pattern of the project site or the project vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface water runoff, resulting in flooding on- or off-site.

Discussion

An engineered storm drainage system is proposed to collect runoff from the developed site and provide enhanced flood control protection along Bouquet Creek, which would eliminate much of the existing floodplain conditions in that area. The existing Creek segment would be cleared of all vegetation and then

restored to natural contours and revegetated, to maintain conveyance of low flows of upstream runoff. A major component of the proposed drainage system is a new flood control channel to be constructed to contain 100-year and other higher intensity storm flows, adjacent to Bouquet Creek. As noted earlier, this channel would be constructed as a trapezoidal-shaped, reinforced concrete structure. Accordingly, the proposed project involves a request to FEMA for a Letter of Map Revisions (LMOR) to remove the northern portion of the project site north and south of Bouquet Creek from a FEMA Flood Zone A designation. A Conditional Letter of Map Revision (CLOMR) would be processed through and approved by FEMA prior to construction of the proposed creek and channel improvements, and an LOMR would be processed through and approved by FEMA upon completion of the channel improvements to remove the northern portion of the project site immediately adjacent to Bouquet Creek from the FEMA flood hazard area. The County's Floodway Map would also be revised accordingly.

As determined in the Hydrology Study, existing drainage patterns and rates and volumes of runoff would be altered by the proposed grading and site improvements. In compliance with Los Angeles County Guidelines (LACDPW 1986), to which the City conforms, all on-site systems carrying stormwater runoff from developed areas would be designed to accommodate a 25-year storm event, while storm drains under major and secondary highways, open channels (e.g., Bouquet Creek), debris carrying systems, and sumps would be designed to accommodate a 50-year storm event. The proposed project would be designed and constructed consistent with these guidelines. Runoff from the new channel would be conveyed into the existing County-owned Bouquet Creek channel on the north side of old Bouquet Canyon Road, which was designed and built to handle runoff from a fully developed watershed, including the project site (Sikand, 2020c).

Therefore, the project would not substantially alter the existing drainage pattern of the site or area, or substantially increase in the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site. As such, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.9-c.iii The project would not substantially alter the existing drainage pattern of the project site or the project vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute surface water runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Discussion

As discussed in Impacts 3.9a and 3.9c.ii above, the project would comply with the City's Stormwater and Urban Runoff Pollution Control requirements to manage stormwater runoff, including installation of stormwater management and treatment systems throughout the project site. The project would develop an engineered storm drainage system to collect and treat runoff from the developed site and provide enhanced flood control protection along Bouquet Creek, which would eliminate much of the existing floodplain conditions in that area. As determined in the Hydrology Study, the drainage areas and volumes of runoff resulting from the proposed project would change from existing conditions. The post development discharge into PD 852 to the west would not exceed the levels under existing conditions. At project buildout, low-flow runoff from upstream areas would continue to flow through the reconfigured

Bouquet Creek, similar to existing conditions. Runoff from the developed parts of the site during high intensity rainstorms would be controlled by the proposed drainage improvements and conveyed into the new flood control channel, for discharge into the existing Los Angeles County Flood Control District channel on the north side of old Bouquet Canyon Road. The affected segment of this channel was designed to handle peak storm flows of up to 22,800 cfs, from a 60.9 square mile tributary area. Stream gauging data has been recorded there since the 2003-2004 rainy season, with the highest flow since then occurring in 2005, when the measured peak flow was 3,330 cfs. The project's net discharge to this channel in a 100-year storm event would be 205 cfs. The project's drainage system is designed to capture flows from a 105-acre watershed, which represents 0.27% of the total tributary area to the channel. As such, the project's runoff during peak year storms would not significantly impact the capacity of the Bouquet Creek Channel. There would be no other discharges of site runoff into off-site drainage facilities.

In addition, in compliance with the City's Stormwater and Urban Runoff Pollution Control requirements, including implementation of treatment control BMPs, the project would not result in substantial additional sources of polluted runoff.

Therefore, the project would not substantially alter the existing drainage pattern of the site or area, or substantially increase in the rate or amount of surface runoff in a manner that would create or contribute surface water runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. As such, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.9-d The project would not risk release of pollutants due to inundation in a flood hazard, tsunami, or seiche zones.

Discussion

As noted under Existing Conditions, earlier in this chapter, the project site is not located within or adjacent to areas exposed to tsunami events. Although a seiche could occur at Bouquet Dam/Reservoir and the project site is located in a potential inundation area during such an event, given the distance of the Bouquet Dam/Reservoir to the project site; the oversight by the Division of Safety of Dams, including regular inspections; and the Los Angeles Department of Power's[5] emergency response program, the potential for substantial adverse impacts related to inundation at the project site as a result of seiche or dam failure is anticipated to be less than significant.

In addition, although the northern portion of the project site immediately adjacent to Bouquet Creek is mapped by FEMA as lying within a Zone A area, which is a high risk/special flood hazard area, the proposed project would provide enhanced flood control protection along Bouquet Creek, which would eliminate much of the existing floodplain conditions in that area. More specifically, Bouquet Creek would be channelized and designed to contain 100-year and other higher intensity storm flows. As discussed above, the proposed project involves a request to FEMA for an LMOR to remove the northern portion of the project site north and south of Bouquet Creek from a FEMA Flood Zone A designation upon completion of the channel improvements. Accordingly, upon project completion, this area would be located outside

[5] The Los Angeles Department of Water and Power owns and maintains Bouquet Dam/Reservoir.

of the base flood areas established by FEMA for setting flood insurance requirements. The County's Floodway Map would also be revised accordingly.

Therefore, upon project completion, the project site would not subject to events associated with flood zones, and the project site would not be subject to inundation from flood events that would risk release of pollutants off-site. As such, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact 3.9-e The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Discussion

As discussed in the regulatory section above, and elaborated upon in the subsequent impact analyses, the project site falls within the jurisdiction of the LARWQB (Region 4) Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties; and the RWQCB is given authority to issue waste discharge requirements, enforce actions against stormwater discharge violators, and monitor water quality. In California, the NPDES stormwater permitting program is administered by the SWRCB. The County of Los Angeles and the City are two of the Co-Permittees under the Los Angeles County NPDES MS4 Permit, and, as such, are required to implement development planning guidance and control measures regarding water quality impacts from new development.

The Los Angeles County MS4 Permit contains provisions for implementation and enforcement of the City's Urban Stormwater Mitigation Plan. The City supports the requirements of the Los Angeles County MS4 Permit through SCMC Chapters 10.04 and 17.95, which identify requirements for pre- and post-construction stormwater activities, respectively, for development projects to comply with the NPDES and MS4 permits. As discussed in Impacts 3.9a, 3.9c.i, 3.9c-ii, and 3.9c.iii, the project would be subject to the requirements of the NPDES Construction General Permit, which includes the preparation and implementation of a SWPPP. In addition, the project would comply with the requirements of SCMC Section 10.04.070 (Construction Activity Stormwater Measures) and SCMC Chapter 17.95 (Stormwater Mitigation Plan) to ensure impacts to water quality would be less than significant.

In regard to sustainable groundwater management, the SCV-GSA has yet to establish a Groundwater Sustainability Plan. As noted in the discussion regarding Impact 3.9b, construction related excavation would not reach depths where groundwater occurs and the developed site would continue to support groundwater recharge in the preserved Bouquet Creek area and throughout the landscaped parts of the site, which would cover a majority of the ground area. The stormwater quality measures identified above would also avoid pollution of groundwater beneath the project site. Accordingly, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

This page intentionally left blank.

3.10 NOISE

3.10 NOISE

This section defines key terms applied in the assessment of noise levels and noise impacts, characterizes existing noise sources and ambient noise conditions, assesses project-related noise impacts during construction and following full development of the project, determines whether impacts could be significant, and where warranted, identifies measures to avoid or lessen those impacts. Based on the EIR scoping process conducted for this project (as documented in Appendix A), it was determined that the EIR would focus on noise impacts involving exceedance of adopted noise level standards, exposure to excessive groundborne vibration or noise levels, any substantial permanent increases in ambient noise levels, and any substantial temporary or periodic increase in ambient noise levels. No impacts related exposure to aircraft noise were identified; therefore, this section does not address such impacts. Analysis of impact significance is based on the standards identified in the City of Santa Clarita General Plan (General Plan) and the City Municipal Code (SCMC).

Roadway noise impacts resulting from the project's additional vehicular traffic were determined based on traffic data contained in the *Bouquet Canyon Residential EIR Traffic Impact Analysis – Draft* (Traffic Impact Analysis), prepared by Stantec and dated March 2020; refer to **Appendix J**. Noise monitoring data and roadway noise contour calculations are provided in **Appendix H**.

3.10.1 FUNDAMENTALS OF NOISE ASSESSMENT

3.10.1.1 NOISE SCALES AND DEFINITIONS

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated in **Figure 3.10-1**.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period of time; refer to **Table 3.10-1, Noise Descriptors**.

Table 3.10-1
NOISE DESCRIPTORS

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. CNEL is the average sound level taken over a 24-hour period with adjustments made during evening and nighttime hours. These adjustments are +5 dBA for the evening, 7:00 p.m. to 10:00 p.m., and +10 dBA for the night, 10:00 p.m. to 7:00 a.m.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the L_{eq}'s for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.) by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01}, L_{10}, L_{50}, L_{90}, respectively) of the time during the measurement period.

Source: Cyril M. Harris, Handbook of Noise Control, 1979.

3.10.1.2 HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. However, many factors influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude toward the source and those associated with it, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses range from "not annoyed" to "highly annoyed."

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-induced hearing loss
- Interference with communication
- Effects of noise on sleep

- Effects on performance and behavior
- Extra-auditory health effects
- Annoyance

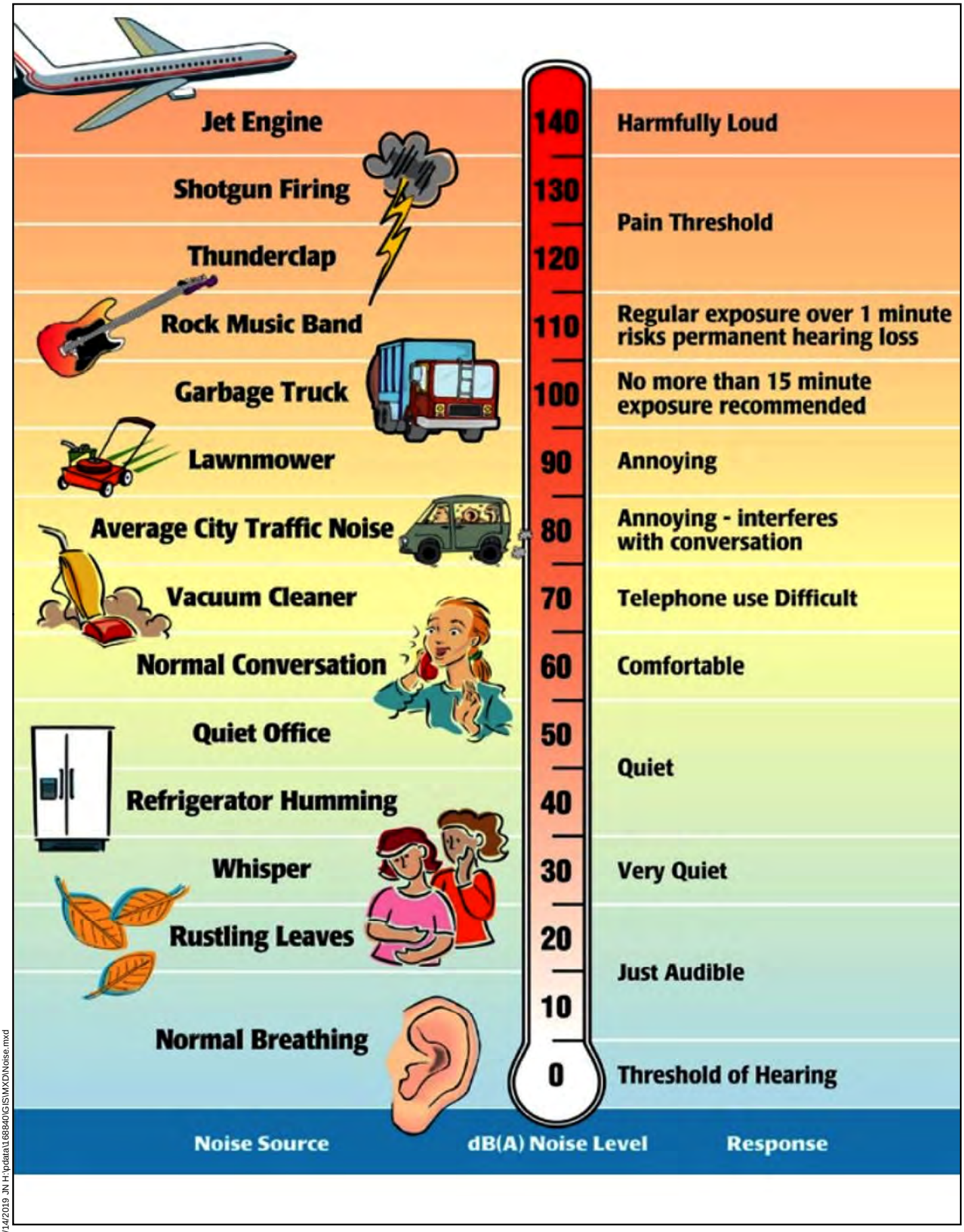
According to the United States Public Health Service, nearly 10 million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for negative effects on performance to occur.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels are consistently above 60 dBA CNEL, approximately 9 percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10 dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.



6/14/2019 JN H:\pdata\168840\GIS\MXD\Noise.mxd

BOUQUET CANYON PROJECT
ENVIRONMENTAL IMPACT REPORT

Michael Baker INTERNATIONAL

NOT TO SCALE

Common Environmental Noise Levels

SOURCE: ENVIRONMENTAL PROTECTION AGENCY, INFORMATION ON LEVELS OF ENVIRONMENTAL NOISE REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY (EPA/ONAC 550/9-74-004), MARCH 1974

Figure 3.10-1

3.10.1.3 GROUNDBORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration, generated by man-made activities, attenuates (decreases) rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

3.10.2 EXISTING CONDITIONS

3.10.2.1 SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack thereof, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. The site vicinity is predominantly composed of commercial and residential uses. The following receptors were identified as sensitive receptors in vicinity of the site:

- The proposed site is surrounded by adjacent residential receptors to the north, south, and west.
- The closest schools are Camp Joseph Scott and Camp Kenyon Scudder, located approximately 0.03 miles to the east.
- The closest childcare center is Teddy Bear University Preschool, located approximately 0.10 miles to the south, on Bouquet Canyon Road.
- The closest assisted living facility is Care & Touch Health Care Services, located approximately 0.07 miles to the north, on David Way.
- The closest hospital is the Kaiser Permanente Canyon Country Medical Offices, located approximately 2.48 miles southwest of the proposed project, on Carl Boyer Drive.

3.10.2.2 AMBIENT NOISE MEASUREMENTS

To quantify existing ambient noise levels in the site vicinity, Michael Baker International (Michael Baker) conducted noise measurements on May 22, 2019; refer to **Figure 3.10-2** and **Table 3.10-2**. The noise

measurement sites were representative of typical existing noise exposure within and immediately adjacent to the site. Short-term measurements were taken at each site between 10:00 a.m. and 11:30 a.m.

Table 3.10-2
NOISE MEASUREMENTS

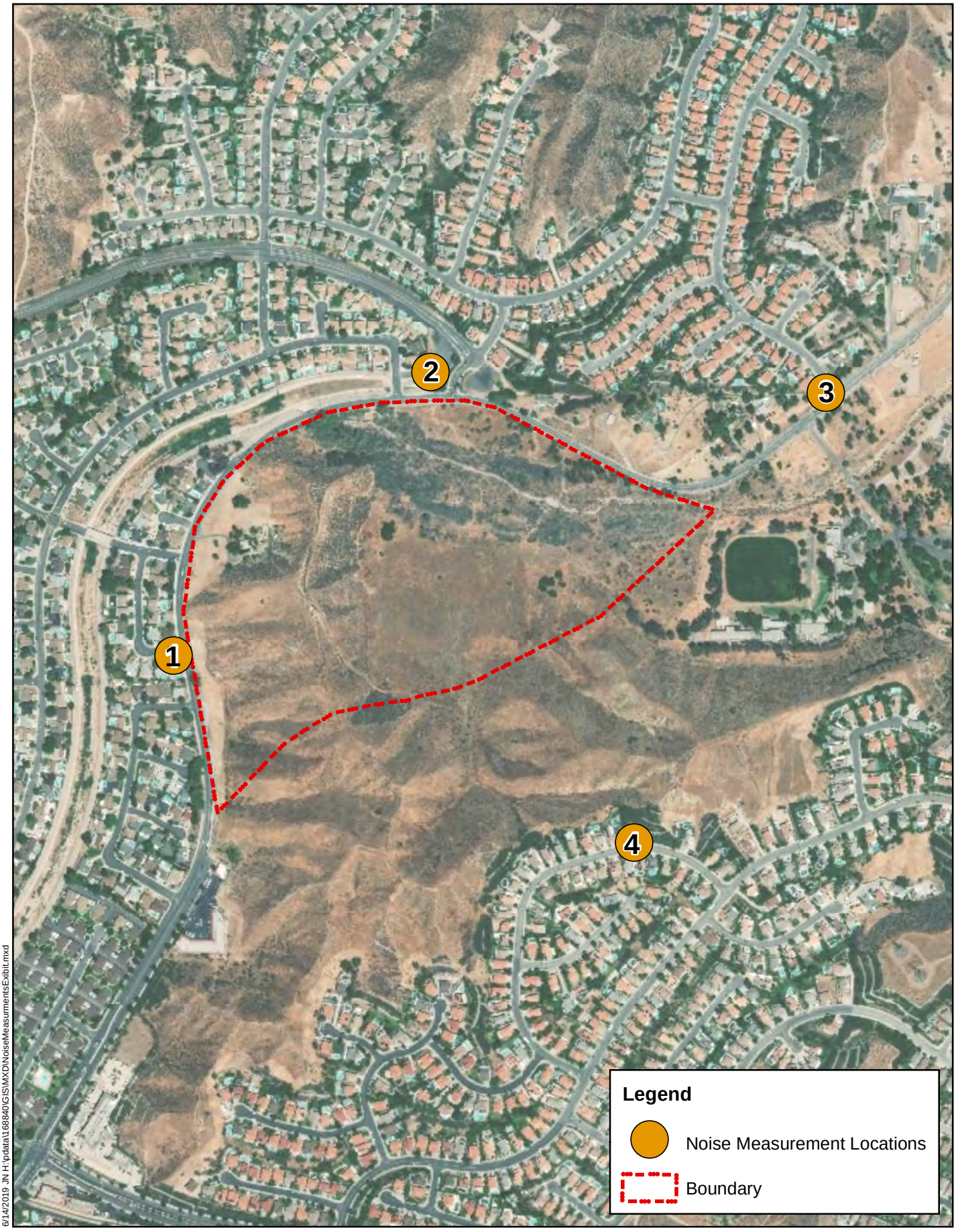
Site No.	Location	Leq (dBA)	Lmin (dBA)	Lmax (dBA)	Date	Time
1	Corner of Bouquet Canyon Road and Sue Drive.	72.4	38.3	90.1	05/22/2019	10:10 a.m.
2	In a dirt lot at the end of Pin Court.	56.1	40.8	68.6	05/22/2019	10:25 a.m.
3	Corner of Shadow Valley Lane and Bouquet Canyon Road	66.5	37.6	88.6	05/22/2019	10:41 a.m.
4	South of the project site, on Nicholas Circle.	40.4	32.6	63.9	05/22/2019	11:00 a.m.

Notes:
1. See Figure 3.10-2 for the noise level measurement locations.

Meteorological conditions were clear skies, warm temperatures, with light wind speeds (approximately 0 to 5 miles per hour), and low humidity. Measured noise levels during the daytime measurements ranged from 40.4 to 72.4 dBA L_{eq}. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters. The results of the field measurements are included in Appendix J.

3.10.2.3 MOBILE SOURCES

In order to assess the potential for mobile source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. The majority of the existing noise in the project area is generated from vehicle traffic along Bouquet Canyon Road. Mobile source noise was modeled using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108). The model calculates the average noise level at specific locations based on traffic volumes, average speeds represented by the posted speed limit, roadway geometry, and site environmental conditions. The model does not account for ambient noise levels. Noise projections are based on modeled vehicular traffic as derived from Traffic Impact Analysis; refer to Appendix J for modeling assumptions and vehicle speeds along the roadway segments. Existing modeled traffic noise levels are shown in **Table 3.10-3, Existing Traffic Noise Levels**. As shown, mobile noise sources in the vicinity of the project site range from 51.9 to 70.0 dBA CNEL.



6/14/2019 JN H:\pdata\168840\GIS\MXD\NoiseMeasurmentsExhibit.mxd

Michael Baker INTERNATIONAL

0 300 600 Feet

Source: esri basemap

BOUQUET CANYON PROJECT
ENVIRONMENTAL IMPACT REPORT

Noise Measurement Locations

Figure 3.10-2

Table 3.10-3
EXISTING TRAFFIC NOISE LEVELS

Roadway Segment	Existing Conditions				
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Bouquet Canyon Road					
Newhall Ranch to Seco Canyon	64,300	69.7	447	207	96
Seco Canyon to Plum Canyon	25,000	67.0	292	136	-
Plum Canyon to David Way	16,000	63.4	169	78	36
Northeast of David Way	13,900	62.8	154	71	33
Newhall Ranch					
Bouquet Canyon to Golden Valley	49,400	70.0	464	215	100
Golden Valley					
Newhall Ranch to Plum Canyon	12,400	63.4	170	79	-
Plum Canyon					
Bouquet Canyon to Golden Valley	13,100	62.6	149	69	-
White Canyon					
South of Skyline Ranch Road	18,300	64.5	199	92	-
Benz Road					
Bouquet Canyon to Copper Hill	3,600	51.9	-	-	-
Copper Hill					
Seco Canyon to Haskell Canyon	22,700	66.2	260	121	56
Haskell Canyon to Benz Road	11,900	62.3	143	66	-
Benz Road to David Way	6,600	59.6	94	43	-
Seco Canyon					
Copper Hill to Bouquet Canyon	14,700	63.2	164	76	-
David Way					
Copper Hill to Bouquet Canyon	7,600	55.2	48	-	-

Notes: ADT = average daily traffic; dBA = A-weighted decibels; CNEL = Community Noise Equivalent Level, - = does not approach the CNEL Noise Contour level.

Source: Noise modeling is based on traffic data in the Bouquet Canyon Residential EIR Traffic Impact Analysis - Draft, prepared by Stantec (May 24, 2019).

3.10.2.4 STATIONARY NOISE SOURCES

The site vicinity consists of residential, commercial, and two Los Angeles County juvenile detention centers (Camp Joseph Scott and Camp Kenyon Scudder). The primary sources of stationary noise in the site vicinity are heating, ventilation, and air conditioning (HVAC) units, and a commercial center parking lot to the south. The noise associated with these sources may represent a single-event or a continuous occurrence and occur intermittently during both daylight and nighttime hours.

3.10.3 REGULATORY AND PLANNING FRAMEWORK

This section summarizes the laws, ordinances, regulations, and standards that are applicable to the project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, federal and state agencies provide standards and guidelines to the local jurisdictions.

3.10.3.1 FEDERAL

Federal Transit Administration

The City does not identify specific vibration standards for temporary construction, and therefore, the Federal Transit Administration (FTA) "Transit Noise and Vibration Impact Assessment Manual" (2018) standards are utilized in this analysis. The manual identifies the vibration level thresholds for potential building damage due to construction activities, as well as human annoyance levels.

3.10.3.2 STATE

Title 24 – Building Code

The state's noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for the purpose of interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county, town, and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the California Department of Health Services in 1976, as shown in **Table 3.10-4, Land Use Compatibility for Community Noise Environments**. The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

3.10.3.3 LOCAL

City of Santa Clarita General Plan Noise Element

The City of Santa Clarita General Plan Noise Element 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.

Table 3.10-4
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging - Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

Notes: NA = Not Applicable; Ldn = Day/Night Average; CNEL = community noise equivalent level; dBA = A-weighted decibels

Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable - New construction or development should 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.

Clearly Unacceptable – New construction or development should generally not be undertaken.

Source: OPR 2003.

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 City's planning area will be protected from excessive noise intrusion. As development proposals are reviewed in the future, the City 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 following goals and policies from the Noise Element would be applicable to the project:

- 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 [see **Table 3.10-4**], 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.

City of Santa Clarita Municipal Code

The City of Santa Clarita Municipal Code (SCMC) Noise Ordinance provides exterior noise standards within the City, which are applicable to the proposed project:

11.44.040 Noise Limits.

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
(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

11.44.070 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 SCMC 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.

11.44.080 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 seven a.m. to seven 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 is permitted at all times. As defined in SCMC 11.44.020: Emergency work shall mean work made necessary to restore property to a safe condition following a public calamity, or work required to protect persons or property from an imminent exposure to danger, or work by private or public utilities when restoring utility service.

The Department of Community Development may issue a permit for work to be done "after hours"; provided, that containment of construction noises is provided.

3.10.4 THRESHOLDS OF SIGNIFICANCE

The California Environmental Quality Act Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental

effects of a project. Accordingly, a project will have a significant noise impact if it would result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; or

b) Generation of excessive groundborne vibration or groundborne noise levels.

Based on these standards, the effects of the project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

3.10.5 METHODOLOGY

Evaluating Construction Vibration Impacts

The *Transportation and Construction Vibration Guidance Manual* prepared by the California Department of Transportation (Caltrans) identifies various vibration damage to different building classes, as well as a human annoyance criterion. As the nearest receptors to project construction are residents, the criterion for human annoyance of 0.4 inch-per-second PPV is utilized.

Evaluating Changes in Traffic Noise Levels

Changes in traffic caused by the project would result in changes in noise levels along the roadways in the vicinity of the project. Using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the Traffic Impact Analysis, changes in traffic noise were calculated. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions.

An off-site traffic noise impact typically occurs when a project generates a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dB. However, this is based on a direct, immediate comparison of two sound levels. Community noise exposures occur over a long period of time and changes in noise levels occur over years (rather than the immediate comparison made in a laboratory situation). Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dB, and 3 dB is the most commonly accepted discernable difference. A 5 dB change is generally recognized as a clearly discernable difference.

As traffic noise levels at sensitive uses likely approach or exceed the applicable land use noise standard, a 3 dB increase as a result of the project is used as the increase threshold for the project. A doubling of traffic volume would result in a 3 dB increase in noise levels. Thus, the project would result in a significant noise impact if a permanent increase in ambient noise levels of 3 dB, or doubling of traffic volume, occurs upon project implementation and the resulting noise level exceeds the applicable exterior noise standard at a noise-sensitive use.

3.10.6 ANALYSIS

Impact 3.10-a The project would generate temporary construction noise levels that could result in adverse impacts to the nearest existing homes. This impact would be reduced to less than significant through mitigation measure MM 3.10-1, requiring various construction control measures. The fully developed/occupied project's normal activities would not generate significant increases in local noise levels and mitigation would not be required.

Discussion

Short-Term Construction Noise Impacts

The project involves construction activities associated with site preparation, grading, trenching, paving, building construction, and architectural coating applications. The project would be constructed over approximately 60 months, estimated to commence in July 2020. Grading activities would occur almost entirely on-site, with some on-road truck traffic to export soils excavated in the nine-lot development area at the southern end of the project site to the main development area to the north, and to export excess soil materials that cannot be used on site.

Construction activities would generate perceptible noise levels during the site preparation, grading, trenching, paving, and building construction phase. High groundborne noise levels and other miscellaneous noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, scrapers, and other heavy-duty construction equipment. **Table 3.10-5, Maximum Noise Levels Generated by Construction Equipment**, indicates the anticipated noise levels of construction equipment. The average noise levels are based on the quantity, type, and acoustical use factor for each type of equipment that is anticipated to be used.

The primary construction equipment noise sources used during construction would be during earthwork activities (use of graders, excavators, dozers), and building construction (use of forklifts, tractors/loaders/backhoes, and a crane). Graders typically generate the highest noise levels, emitting approximately 85 dBA at a distance of 50 feet (pile driving would not be required for this project). Point sources of noise emissions are atmospherically attenuated by a factor of 6 dBA per doubling of distance. This assumes a clear line-of-sight and no other machinery or equipment noise that would mask project construction noise. The shielding of buildings and other barriers that interrupt line-of-sight conditions further reduce noise levels from point sources.

Table 3.10-5
MAXIMUM NOISE LEVELS GENERATED BY CONSTRUCTION EQUIPMENT

Equipment Type	Actual L_{max} at 30 Feet (dBA)	Actual L_{max} at 50 Feet (dBA)	Actual L_{max} at 70 Feet (dBA)	Actual L_{max} at 120 Feet (dBA)
Backhoe	83	78	75	70
Bulldozer	87	82	79	74
Compactor	87	82	79	74
Compressor	83	78	75	70
Concrete Mixer	84	79	76	71
Concrete Pump	86	81	78	73

Equipment Type	Actual L_{max} at 30 Feet (dBA)	Actual L_{max} at 50 Feet (dBA)	Actual L_{max} at 70 Feet (dBA)	Actual L_{max} at 120 Feet (dBA)
Crane, Mobile	86	81	78	73
Dump Truck	81	76	73	68
Excavator	86	81	78	73
Generator	86	81	78	73
Grader	90	85	82	77
Loader	84	79	76	71
Paver	82	77	74	69
Pump	86	81	78	73
Roller	85	80	77	72
Tractor	89	84	81	76
Flatbed Truck	79	74	71	66
Welder	79	74	71	66

Source: Federal Highway Administration, Highway Construction Noise Handbook 2006.

Construction noise impacts generally happen when construction activities occur in areas immediately adjoining noise-sensitive land uses, during noise-sensitive times of the day, or when construction durations last over extended periods of time. The closest existing sensitive receptor is a single-family home, located on an inholding parcel which is not part of the project site, approximately 30 feet away from the planned construction area. As indicated in **Table 3.10-5**, typical construction noise levels would range from approximately 79 to 90 dBA at this distance. The next closest sensitive receptors are located in the neighborhoods of single-family homes on the opposite side of Bouquet Canyon Road to the west, which are as close as 70 feet to the nearest proposed grading activity for Planning Area 1. There is a single-family home within 120 feet of proposed construction activity for Planning Area 4, on the opposite side of Bouquet Canyon Road to the north. Construction noise levels at these other sensitive receptors would range from approximately 71 to 82 dBA at 70 feet, and approximately 66 to 77 dBA at 120 feet. These noise levels could intermittently occur for a few days when construction equipment is operating closest to the residential uses. The remainder of the time, the construction noise levels would be much less because the equipment would be working in a large area farther away from the existing sensitive uses.

The City has established noise standards for construction activity in SCMC Section 11.44.080 *Special Noise Sources – Construction and Building*. Pursuant to SCMC Section 11.44.080, construction noise is prohibited between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, 6:00 p.m. and 8:00 a.m. on Saturday, and/or any time on Sunday or a federal holiday. As noted above, project construction activities could expose adjoining residential uses to temporary excessive noise levels (79 to 90 dBA). To reduce this impact, mitigation measure **MM 3.10-1** would require all construction equipment to be equipped with properly operating and maintained mufflers, locate stationary construction equipment so that emitted noise is directed away from the nearest noise-sensitive receptors, locate equipment staging in areas farthest away from sensitive receptors, and limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 7:00 p.m. on weekdays, 8:00 a.m. to 6:00 p.m. on Saturday, with no activity allowed on Sundays or federal holidays). Compliance with mitigation measure **MM 3.10-1** would reduce construction noise impacts at nearby sensitive receptors sufficiently to ensure normal residential activities are not interfered with; therefore, impacts would be less than significant.

Long-Term Operational Noise Impacts

Mobile Noise

Operation of the proposed project would result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. Based on the Traffic Impact Analysis, the proposed project is projected to generate a total of approximately 3,941 daily vehicle trips, which includes approximately 271 a.m. peak hour trips and approximately 366 p.m. peak hour trips. The "Existing Without Project" and "Existing With Project" scenarios are compared in **Table 3.10-6, Modeled Existing and Existing plus Project Traffic Noise Levels**. As shown under the "Existing Without Project" scenario, noise levels would range from approximately 51.9 dBA to 70.0 dBA, with the highest noise levels occurring along Newhall Ranch Road. The "Existing With Project" scenario noise levels would range from approximately 52.4 dBA to 70.0 dBA, with the highest noise levels also occurring along Newhall Ranch Road.

Table 3.10-6 also shows the differences between the "Existing Without Project" scenario and the "Existing With Project" scenario. The noise levels would result in a maximum increase of 0.7 dBA, as a result of the proposed project, along Bouquet Canyon Road (Plum Canyon to David Way). Therefore, the proposed project would not significantly increase noise levels along the roadway segments analyzed (i.e., noise increase would be less than 3.0 dBA). Furthermore, the increase of traffic due to the project would not cause the existing noise levels under 65 dBA CNEL to exceed the land use compatibility "normally acceptable" community noise exposure level of 65 dBA CNEL; refer to **Table 3.10-4**. Therefore, the impact would be less than significant.

Stationary Noise

On-site Recreation Center Outdoor Activity Noise

Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. According to "Prediction of Crowd" *Noise* (Hayne, Rumble, and Mee 2006), crowd noise would be approximately 62 dBA at 1 meter from the source.[1]

Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source (Harris 1994). Based on Figure 2.1 in the Project Description, the nearest sensitive receptor is an existing residence located approximately 500 feet[2] from the proposed private recreation center located in Planning Area 1. As a result, crowd noise at this distance would be 18 dBA, which would not exceed the City's noise standards and would be lower than existing ambient noise levels near the site. As such, project operational noise associated with outdoor activities would not introduce an intrusive noise source. Thus, a less than significant impact would occur in this regard.

[1] Crowd noise is estimated at 60 dBA at 1 meter (3.28 feet) away for raised normal speaking. This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members. Therefore, crowd noise would be approximately 62 dBA at 1 meter from the source.

2 The main surface parking area represents the closest outdoor space area to nearby sensitive receptors (i.e. residential uses).

Table 3.10-6
MODELED EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

Roadway Segment	Existing Without Project					Existing With Project					Difference In dBA @ 100 Feet from Roadway Centerline
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Bouquet Canyon Road											
Newhall Ranch to Seco Canyon	64,300	69.7	447	207	96	65,200	69.8	451	209	97	0.1
Seco Canyon to Plum Canyon	25,000	67.0	292	136	-	26,800	67.3	306	142	66	0.3
Plum Canyon to David Way	16,000	63.4	169	78	36	18,600	64.1	187	87	40	0.7
Northeast of David Way	13,900	62.8	154	71	33	14.000	62.8	154	72	33	0.0
Newhall Ranch Road											
Bouquet Canyon to Golden Valley	49,400	70.0	464	215	100	49,400	70.0	464	215	100	0.0
Golden Valley Road											
Newhall Ranch to Plum Canyon	12,400	63.4	170	79	-	12,800	63.6	173	80	-	0.2
Plum Canyon											
Bouquet Canyon to Golden Valley	13,100	62.6	149	69	-	13,900	62.9	155	72	-	0.3
Whites Canyon											
South of Skyline Ranch Road	18,300	64.5	199	92	-	18,700	64.6	202	94	-	0.1
Benz Road											
Bouquet Canyon to Copper Hill	3,600	51.9	-	-	-	4,000	52.4	-	-	-	0.5
Copper Hill											
Seco Canyon to Haskell Canyon	22,700	66.2	260	121	56	23,100	66.3	263	122	57	0.1
Haskell Canyon to Benz Road	11,900	62.3	143	66	-	12,400	62.5	146	68	-	0.2
Benz to David Way	6,600	59.6	94	43	-	6,700	59.6	95	44	-	0.0
Seco Canyon											
Copper Hill to Bouquet Canyon	14,700	63.2	164	76	-	14,700	63.2	164	76	-	0.00
David Way											
Copper Hill to Bouquet Canyon	7,600	55.2	48	-	-	7,700	55.2	48	-	-	0.00

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level
Source: Noise modeling is based on traffic data in the Bouquet Canyon Residential EIR Traffic Impact Analysis - Draft, prepared by Stantec December 2019.

Garbage Trucks

The proposed project would involve occasional trash/recycling pickups from slow-moving trucks. Trash/recycling pickup at the project site would occur along local roadways within the new residential areas on the project site. Low speed truck noise results from a combination of engine, exhaust, and tire noise as well as the intermittent sounds of back-up alarms and releases of compressed air associated with truck air-brakes. Trash collection trucks typically generate noise levels of 75 dBA at a distance of 50 feet. The nearest sensitive receptor (i.e., a residential use) would be located approximately 300 feet north of the old Bouquet Canyon Road by David Way where trash collection trucks would operate. At this distance, noise levels from truck deliveries would be approximately 59 dBA. As such, exterior noise levels at the nearest receptor from trash/recycling truck pickups would not exceed the City's residential exterior noise

standards (i.e., 65 dBA). Further, trash/recycling truck operations would be short-term and periodic and are considered part of standard operations in the area (i.e., trash/recycling collection occurs at adjacent uses under existing conditions). Therefore, trash/recycling pickups would not introduce a new intrusive noise source compared to existing conditions and/or exceed the City's noise standards at off-site uses. As such, a less than significant impact would occur in this regard.

Mechanical Equipment

It is likely that HVAC units would be installed at the residences on the project site. HVAC systems can result in noise levels of approximately 52 dBA L_{eq} at 50 feet from the source (Berger, Neitzel, and Kladden 2010). At the time of this analysis, the exact location of HVAC units is unknown. However, based on Figure 2.1, *Proposed Development Plan*, the closest potential distance between on-site HVAC units and the nearest sensitive receptor (i.e., a single-family home located north of the proposed Planning Area 4, east of David Way), would be approximately 120 feet. At this distance, HVAC noise levels would be approximately 46 dBA assuming no attenuation from intervening structures, walls, sound propagation, etc. It is assumed that the line of sight from the HVAC units to the nearest receptor(s) would be obstructed via walls, residences, etc., which would further attenuate HVAC noise levels. Therefore, HVAC noise levels would not exceed the City's residential noise standards of 65 dBA CNEL during the daytime and 55 dBA CNEL during the nighttime. A less than significant impact would occur in this regard.

Parking Areas

Traffic associated with parking lots/areas is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the L_{dn} scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Estimates of the maximum noise levels associated with parking activities are presented in **Table 3.10-7, Typical Noise Levels Generated by Parking Activities**.

Table 3.10-7
TYPICAL NOISE LEVELS GENERATED BY PARKING ACTIVITIES

Noise Source	Maximum Noise Levels at 50 Feet from Source
Car door slamming	61 dBA L_{eq}
Car starting	60 dBA L_{eq}
Car idling	53 dBA L_{eq}

Source: Kariel 1991

As shown in **Table 3.10-7**, parking lot noise levels range between 53 dBA and 61 dBA at a distance of 50 feet. A nine-space parking area is proposed adjacent to a row of homes in the northern portion of the project site near Bouquet Canyon Road and David Way, in Planning Area 4. Based on the project site plan, the nearest receptor to this parking lot would be a residential use across from Bouquet Canyon Road, east of David Way (approximately 130 feet north). At this distance, parking lot noise levels would range between 45 dBA and 53 dBA. A 25-30 space public parking lot with adjacent open turf areas is proposed in the northeastern portion of the project site near the new segment of Bouquet Canyon Road between the eastern edge of Planning Area 3 and the new drainage channel. Based on the project site plan, the nearest receptor would be LAC Camp Joseph Scott juvenile detention center (approximately 514 feet east). At this distance, parking lot noise levels would range between 33 dBA and 41 dBA. Because this will

be an unlighted parking lot to provide public access to the on-site public trail network, it is unlikely that there will be much, if any, nighttime parking. As parking lot noise would be temporary, short in duration, and occurring mostly during daylight or early-mid evening hours, it is not anticipated that parking lot activities depicted in **Table 3.10-7** would exceed five minutes in duration. Furthermore, the parking lot noise would be attenuated due to mobile traffic noise along Bouquet Canyon Road. Therefore, parking lot noise would not exceed the City's most stringent residential noise standards of 65 dBA CNEL during the daytime and 55 dBA CNEL during the nighttime. A less than significant impact would occur in this regard.

Mitigation Measures

MM 3.10-1 To reduce noise impacts due to construction, the project applicant shall demonstrate, to the satisfaction of the City of Santa Clarita Community Development Director, that the project complies with the following:

Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating project construction activities, including haul truck deliveries, shall only occur between the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. on Saturdays, and with no activity allowed on Sundays or federal holidays. The project construction supervisor shall ensure compliance with the note and the City of Santa Clarita shall conduct periodic inspections at its discretion.

During all project construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the nearest noise-sensitive receptors.

The construction contractor shall locate equipment staging in areas that would create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the site during all project construction.

Timing/Implementation: *Provide specifications in grading and building permit documents*

Enforcement/Monitoring: *City of Santa Clarita, Building and Planning Divisions*

Level of Impact Significance Following Mitigation:

With the implementation of mitigation measure **MM 3.10-1**, noise generated during project construction would result in a less than significant impact.

Impact 3.10-b Project implementation would not result in significant vibration impacts to nearby sensitive receptors.

Discussion

The fully developed and occupied residential community would not generate substantial levels of vibration due to the lack of vibration-generating sources and therefore is not analyzed below.

Certain construction activities would have the potential to result in varying degrees of temporary

groundborne vibration, depending on the specific construction equipment used and the operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effect on buildings and people in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

Construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, buildings that are constructed with typical timber frames and masonry show that a vibration level of up to 0.2 inch-per-second PPV is considered safe and would not result in any construction vibration damage (FTA 2018). This evaluation uses the FTA architectural damage criterion for continuous vibrations at non-engineered timber and masonry buildings of 0.2 inch-per-second PPV and human annoyance criterion of 0.4 inch-per-second PPV in accordance with Caltrans guidance (Caltrans 2013). The FTA has published standard vibration velocities for construction equipment operations. The typical vibration produced by construction equipment is illustrated in **Table 3.10-8, Vibration Levels for Construction Equipment**.

Table 3.10-8
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (inch-per-second) at 30 feet
Small bulldozer	0.0023
Jackhammer	0.0266
Loaded trucks	0.0578
Large bulldozer	0.0677
Vibratory roller	0.1598

Notes:
1. PPV = peak particle velocity
2. Calculated using the following formula:
PPV equip = PPVref x (25/D)1.5
where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines
3. D = the distance from the equipment to the receiver
Source: FTA 2018

The closest existing structure is a single-family home, located on an adjacent parcel which is not part of the project site, approximately 30 feet away from the planned construction area for the proposed eight-lot cul-de-sac at the northern end of Planning Area 1. This structure would be approximately 30 feet away from where loaded trucks, large bulldozer, or vibratory rollers would be utilized. As indicated in **Table 3.10-8**, vibration velocities from typical heavy construction equipment operations range from 0.0578 to 0.1598 inch-per-second PPV at 30 feet from the source of activity. Therefore, vibration from

construction activities experienced at the nearest sensitive receptor would be below the 0.2 inch-per-second PPV significance threshold. Further, construction vibration would not cause excessive human annoyance as the highest groundborne vibration nearest sensitive receptors (i.e., 0.1598 inch-per-second PPV) would not exceed the 0.4 inch-per-second PPV human annoyance criteria. Thus, a less than significant impact would occur in this regard.

Mitigation Measures:

No mitigation measures are required.

This page intentionally left blank.

3.11 PUBLIC SERVICES

3.11 PUBLIC SERVICES

Pursuant to the environmental scoping process conducted in the first phase of this Draft EIR (see **Appendix A**), this section evaluates potential impacts related to the provision of public services for fire protection and emergency medical response, public safety and law enforcement, public schools, and parks. As indicated in the Initial Study prepared during the scoping process, the project's impact on other public services was determined to be less than significant and, therefore, is not further evaluated herein.

3.11.1 FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

3.11.1.1 EXISTING CONDITIONS

Fire suppression and emergency medical response services for the project site and the surrounding area are provided by the Los Angeles County Fire Department (LACoFD). Specifically, 16 fire stations with 15 engine companies, 5 paramedic squads, 1 hazardous materials squad, and 2 ladder trucks serve the Santa Clarita Valley. LACoFD Station 108 is located at 28799 Rock Canyon Drive, approximately 2 miles northwest of the project site, and is the jurisdictional station serving the site. Station 108 is staffed with a four-person engine company that includes one captain, one firefighter specialist, and two firefighters. The next nearest fire station is LACoFD Station 128, at 28450 Whites Canyon Road, approximately 3.5 miles southeast of the project site. During 2017, Station 108 had an average emergency response time of 6 minutes and 14 seconds.

3.11.1.2 REGULATORY AND PLANNING FRAMEWORK

FEDERAL

National Fire Protection Association Standard 1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations

This standard, which is used by the LACoFD, contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public and addresses functions and outcomes of fire department emergency service delivery, response capabilities, and resources. In accordance with this standard, the LACoFD applies the 5-minute response time for the first arriving fire department and emergency medical services (EMS) personnel and 8-minute response time for advanced life support personnel in urban areas, and an 8-minute response time for first arriving fire department and EMS personnel and 12-minute response time for advance life support personnel in suburban areas. Santa Clarita is a mixture of urban and suburban areas.

STATE

California Code of Regulations, Title 24, Part 9: Fire Code

The California Fire Code (CFC) contains regulations consistent with nationally recognized accepted practices for safeguarding, to a reasonable degree, life and property from the hazards of fire and explosion; hazardous conditions in the use or occupancy of buildings or premises; and dangerous conditions arising from the storage, handling, and use of hazardous materials and devices.

The CFC also contains provisions to assist emergency response personnel. These fire safety-related building standards are referenced in other parts of Title 24 and this code is compatible with the International Fire Code with necessary California amendments.

LOCAL

Los Angeles County Municipal Code, Title 32 Fire Code

Title 32 is a component of the overall Los Angeles County Municipal Code and is a combination of the California Fire Code (as discussed above) with amendments that are specific to the County. The Los Angeles County Fire Code contains certain more stringent building standards that are deemed necessary due to local climatic, geological, and/or topographical conditions in the Los Angeles area. Since the City of Santa Clarita contracts with the LACoFD to provide fire protection and emergency medical services, the provisions of Title 32 apply throughout the city.

Santa Clarita Municipal Code, Title 22 Fire Code

Title 22, City Fire Code, of the Santa Clarita Municipal Code states the City has adopted by reference the CFC. 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.

In relation to the provision of fire services, the code sets forth on a local level the standards to regulate and govern the safeguarding of life and property from fire damage. Particularly, the purpose of this code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations.

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Safety and Land Use Elements are listed below.

Safety Element: 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 3.1.1: Coordinate on planning for new fire stations to meet current and projected needs.
        - 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 3.3: Maintain acceptable emergency response times throughout the planning areas.
        - Policy S 3.3.1: Plan for fire response times 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 for 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.

Land Use Element: 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.

Land Use Element: 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 9.1.1: Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.
    - Policy LU 9.1.2: Coordinate review of development projects with other agencies and special districts providing utilities and other services.

3.11.1.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to fire protection services if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered fire stations, need for new or physically altered fire stations the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives established by the Los Angeles County Fire Department.

3.11.1.4 METHODOLOGY

The City contacted the LACoFD for information regarding existing fire department resources that are provided to the project area, and any potential impacts that the project may have upon fire protection services. The information provided by LACoFD establishes the context for the impact analysis below. The communication with LACoFD is contained within Appendix **I** of this EIR.

3.11.1.5 ANALYSIS

Impact 3.11.1a The proposed community of 375 new homes would expand the amount of suburban residential land uses requiring fire department services in the project area. Compliance with existing Fire Code standards pertaining to building design, internal circulation, fire flows, and emergency access would be sufficient to maintain desired levels of fire protection services to this area. No new or expanded fire station facilities would be required to address this project's impacts. The proposed new section of Bouquet Canyon Road would not be detrimental and may be beneficial from the standpoint of emergency access. Impacts would be less than significant.

Discussion

In suburban areas such as the project site, the LACoFD response standard is an 8-minute response time for the first arriving unit and EMS and 12-minute response time for paramedic units. In correspondence with the LACoFD, the department indicated that Fire Station 108, the closest to the project site, had an average response time in 2017 of 6 minutes and 14 seconds, which is better than the 8-minute standard. The LACoFD indicated that, while additional development creates greater demands on resources, the project would not have a significant effect on service demands and would not necessitate construction or expansion of existing fire stations (LACoFD 2018). Furthermore, the proposed new alignment for Bouquet Canyon Road between Plum Canyon Road and Shadow Valley Lane would improve emergency response and access to the project site and areas to the east and south.

Additionally, the project is required to comply with all applicable building safety codes and regulations pertaining to fire prevention and suppression for projects located in a Very High Fire Hazard Severity Zone. Such standards include requirements for incorporating fire-resistant building materials, sprinkler systems in all homes, certain water flow pressures for fire hydrants, adequate internal circulation and site access for fire engines and crews, and fuel modification landscaping. Please refer to Section 3.15 for additional details concerning the project's design features relative to compliance with applicable regulations governing development in a Very High Fire Hazard Severity Zone. Compliance with these standards will reduce the level of exposure to wildland fire hazards, ensure optimal access for fire engines and crews, and reduce the potential level of damage to structures in the event of fires. Given these considerations, and that the project would not conflict with any regulatory or planning standards pertaining to fire protection, the project would not necessitate construction of any new or expanded fire stations to maintain desired levels of service and thus would not result in adverse environmental effects related to such new construction.

Mitigation Measures

The project would have a less than significant impact and does not require mitigation.

3.11.2 PUBLIC SAFETY AND LAW ENFORCEMENT SERVICES

3.11.2.1 EXISTING CONDITIONS

The Santa Clarita Valley Station of the Los Angeles County Sheriff's Department (LASD) is responsible for providing public safety and general law enforcement to the City of Santa Clarita through an ongoing contract between the City of Santa Clarita and the County of Los Angeles. The contract is renewed annually and adjusted to meet changing needs. Additionally, as noted in the Santa Clarita Local Hazard Mitigation

Plan (2015), LASD is the lead agency for crisis management, perimeter security, access control, traffic/crowd control, evacuations, notifications, and safeguarding evidence.

The information and statistics provided below were obtained from a letter dated October 31, 2018, from Tracey Jue, Director in the Facilities Planning Bureau of the Office of the Sheriff, unless otherwise noted. LASD is divided into four patrol divisions: North Patrol Division, Central Patrol Division, South Patrol Division, and East Patrol Division (LASD 2013). The project site is located within the North Patrol Division. LASD currently maintains one station to serve the city, the Santa Clarita Valley Station (SCV Station), located near the intersection of Magic Mountain Parkway and Valencia Boulevard, at 23740 Magic Mountain Parkway in Valencia, approximately 7 miles southwest of the project site. The SCV Station's estimated response times for emergent, priority, and routine calls for service from the project site are 5.7 minutes, 13.1 minutes, and 63.7 minutes, respectively. Optimal response times for the SCV Station are the widely accepted industry standard of 10 minutes for emergent calls, 20 minutes for priority calls, and 60 minutes for routine calls. The project site is located within Reporting District 0640 of the SCV Station's service area. During the reporting period of January 1–December 31, 2017, there were a total of 22 Part I crimes committed in Reporting District 0640 of which one was a robbery, one was an aggravated assault, three were burglaries, one was a motor vehicle theft, and 16 were larceny/thefts.[1]

The information below was obtained from email communications on May 8, 2019, between Hai Nguyen, Associate Planner at the City of Santa Clarita and Maynora G. Castro, Department Facilities Planner II at the LASD, unless otherwise noted. LASD strives to maintain a standard service ratio of one deputy per 1,000 residents. Based on the current approximate SCV Station service area population of 293,000 residents, the SCV Station is understaffed and unable to accommodate additional sworn personnel to improve service levels due to space deficiencies. LASD is currently constructing a new station located on Golden Valley Road between Centre Pointe Parkway and Robert C. Lee Parkway to replace the existing 25,100-square-foot SCV Station. The new, approximately 46,000-square-foot station will include a heliport, a 911 dispatch center, and a jail, as well as an approximately 4,000-square-foot detached vehicle maintenance facility (Santa Clarita 2019). Completion of the new station by February 2021 will enable LASD to accommodate additional personnel and improve the level of service provided by SCV Station to the growing population in Santa Clarita.

3.11.2.2 REGULATORY AND PLANNING FRAMEWORK

FEDERAL

There are no federal regulations that are applicable to land development and the provision of local public safety and law enforcement services.

STATE

There are no state regulations that are applicable to land development and the provision of local public safety and law enforcement services.

[1] Part I crimes are serious offenses that are reported to the Federal Investigation Bureau's Uniform Crime Reporting Program and include homicide, rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson (FBI 2019).

LOCAL

LASD adheres to the widely accepted standard among law enforcement agencies for responding to emergency, priority, and routine calls for service of 10 minutes, 20 minutes, and 60 minutes, respectively.

Through the plan review process, LASD applies the principles of Crime Prevention Through Environmental Design (CPTED) to reduce opportunities for criminal activities by employing physical design features that maximize resident control of criminal behavior within a residential community. CPTED utilizes three key strategies to reduce crime and the need for police service: natural surveillance, natural access control, and territorial reinforcement. Natural surveillance (e.g., police patrols, lighting, windows) increases the perception of risk and keeps intruders under observation; natural access control (e.g., locks, guards, spatial definition) denies access to a crime target; and territorial reinforcement (e.g., low walls, landscaping) creates a sphere of territorial influence to discourage intruders.

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Safety and Land Use Elements are listed below.

Safety Element: 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 services and crime prevention strategies.
        - 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 5.2.3: Provide code enforcement services to maintain minimum health and safety standards and as a deterrent to crime.

Land Use Element: Healthy Neighborhoods

- Goal LU 3: Healthy and safe neighborhoods for all residents.
    - Objective LU 3.3: Ensure that design of residential neighborhoods consider measures to reduce impacts from natural or man-made disasters.
        - 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.

Land Use Element: 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 9.1.1: Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.
  - Policy LU 9.1.2: Coordinate review of development projects with other agencies and special districts providing utilities and other services.
  - Policy LU 9.1.5: Work with the Los Angeles County Sheriff's Department to expand law enforcement facilities to meet the needs of the Santa Clarita's Valley growing population.

Santa Clarita Unified Development Code Section 17.51.010(B): Law Enforcement Facilities Fee

The Santa Clarita Unified Development Code (UDC) Section 17.51.010(B) establishes the Law Enforcement Facilities Fee, which states that prior to the issuance of a building or similar permit, the amount of the fee to be imposed on a new residential, commercial, office, and/or industrial development shall not exceed the estimated reasonable cost of providing law enforcement facilities for such residential, commercial, office, and/or industrial development projects.

3.11.2.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to public safety and law enforcement services if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered public safety and law enforcement services, need for new or physically altered law enforcement stations or facilities the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives established by the Los Angeles County Sheriff's Department.

3.11.2.4 METHODOLOGY

The City contacted LASD for information regarding law enforcement resources that are provided to the project area, and any potential impacts that the project may have upon public safety and law enforcement services. The information provided by LASD establishes the context for the impact analysis below. Correspondence received from LASD is contained within Appendix **I** of this EIR.

3.11.2.5 ANALYSIS

Impact 3.11.2a The proposed community of 375 new homes would expand the amount of suburban residential land uses in the Saugus area and affect LASD's ability to maintain adequate service ratios in this area. LASD is currently constructing a new, centrally located Santa Clarita Valley Station to replace the existing station, which would provide sufficient space to accommodate additional sworn personnel and improve SCV Station's level of service. In addition, the proposed new section of Bouquet Canyon Road would be beneficial from the standpoint of emergency access. No new or

expanded LASD station facilities would be required to provide public safety and law enforcement services to the project site. Impacts would be less than significant.

Discussion

The proposed project would construct 375 new residential units, which would result in the addition of approximately 1,125 new residents to the SCV Station's service population.[2] Based on LASD's service ratio of one deputy per 1,000 residents, the proposed project would require the addition of fewer than 2 deputies. As stated above, the SCV Station is currently understaffed and does not have enough space to accommodate additional sworn personnel needed to maintain the industry standard service levels within the city. However, a new station is currently under construction and would replace the existing SCV Station upon completion in February 2021. This new station is located approximately 5 miles south of the project site and is closer than the existing station. The new station would have adequate space and is expected to help with the existing shortages of sworn personnel, which would improve the level of service provided by the SCV Station. The resident population added by the project would not require expansion of the new station or construction of any other LASD facilities.

The proposed project would incorporate CPTED design strategies in the design of the planning areas as well as each individual home to reduce the need for police services. Successful implementation of these strategies would be verified by LASD during the plan check process. In addition, the proposed new alignment for Bouquet Canyon Road between Plum Canyon Road and Shadow Valley Lane would improve vehicular access to the project site, which could improve LASD response times.

The project would not require the provision of a new or physically altered LASD facilities beyond the new central station that is currently being constructed. Therefore, impacts would be less than significant.

Mitigation Measures

The project would have a less than significant impact and does not require mitigation.

3.11.3 PUBLIC SCHOOLS

3.11.3.1 EXISTING CONDITIONS

The Saugus Union School District (SUSD), which serves students in transitional kindergarten through sixth grade, and the William S. Hart Union High School District (WSHUSD), which serves students in seventh grade through twelfth grade, provide public school services to residents of the project vicinity. The four campuses within these districts that would serve the project site area are Plum Canyon Elementary, Highlands Elementary, Arroyo Seco Junior High School, and Saugus High School.

Table 3.11-1 identifies the current enrollments and school capacities for these four schools. As shown, at the elementary level, both Plum Canyon and Highlands Elementary have capacity to house additional students and Plum Canyon Elementary is currently planned to be expanded; however, Arroyo Seco Junior High and Saugus High School have a student enrollment that exceeds or is approaching the capacity intended for each school.

[2] The calculation of the service population is based on 3.0 persons per household for the City of Santa Clarita as reported by the California Department of Finance (DOF 2019).

Table 3.11-1
CURRENT SCHOOL ENROLLMENT AND CAPACITY

School	Current Enrollment	School Capacity
Plum Canyon Elementary (grades K-6)	706	825
Highlands Elementary (grades K-6)	352	755
Arroyo Seco Junior High (grades 7-8)	1,328	1,200
Saugus High School (grades 9-12)	2,484	2,500

Source: (Zarasua 2019; Bladen 2019)

3.11.3.2 REGULATORY AND PLANNING FRAMEWORK

FEDERAL

There are no federal regulations that are applicable to project development and the provision of school services.

STATE

California Senate Bill 50 (Leroy F. Greene School Facilities Act of 1998)

The Leroy F. Greene School Facilities Act of 1998 established, through Senate Bill 50, Chapter 407, Statutes of 1998, the School Facility Program. The program provides a per-pupil grant amount to qualifying school districts for purposes of constructing school facilities and modernizing existing school facilities.

California Code of Regulations 65995 and 65996 and the California Education Code Section 17620

California Code of Regulations Section 65995 and California Education Code Section 17620 allow school districts to levy fees on residential and or commercial/industrial construction projects within a school district's boundaries. The purpose of the fees is for funding the construction or reconstruction of school facilities. The State Allocation Board sets the per-square-foot Level I school impact fees (developer fees) every two years; each school district must then adopt the fee applicable within their district. This is generally implemented through a fee justification study.

In accordance with Government Code Section 65996, notwithstanding any other provision of state or local law, a state or local agency, the payment of fees as instituted in Government Code Section 65995 are deemed to provide full and complete school facilities mitigation for the purpose of CEQA compliance. Further, a state or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property or any change in governmental organization or reorganization, as defined in Section 56021 or 56073, on the basis that school facilities are inadequate.

LOCAL

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Land Use Element are listed below.

Land Use Element: Environmental Justice

- 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 8.1.1: 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.
        - Policy LU 8.1.12: The City, County and the school districts should cooperate to identify appropriate land to construct new school facilities throughout the planning area. Annual information and update meetings between the planning agencies and the districts are encouraged.
        - Policy LU 8.1.13: In meeting state law for mitigation, there may be times when additional resources are required in order for the district to fully provide necessary services. Accordingly, Developers are encouraged to reach full mitigation agreements with the appropriate school districts impacted by their proposed project. Other mitigation options may include, but are not limited to, modifications to existing school sites.

Land Use Element: Public Facilities

- Goal LU 9: Adequate public facilities and services, provided in a timely manner an 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 9.1.1: Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.
        - Policy LU 9.1.2: Coordinate review of development projects with other agencies and special districts providing utilities and other services.

3.11.3.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to public schools if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered public school services, need for new or physically altered school facilities the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives established by the districts that serve the site.

3.11.3.4 METHODOLOGY

The City contacted SUSD and WSHUSD for information on affected school campuses, including existing enrollments and design capacities, and to estimate the number of students that can be anticipated to attend local schools, to help determine the project's impacts on school services and facilities. The information provided by SUSD and WSHUSD provide the context for the impact analysis below. Correspondence with SUSD and WSHUSD is contained within Appendix **I** of this EIR. In addition, the School Facilities Needs Analysis prepared by each district provided information pertaining to generation rates, campus capacities, and planned improvements.

3.11.3.5 ANALYSIS

Impact 3.11.3a The project would result in the addition of approximately 280 school-aged children that would attend elementary, junior, and high schools that serve the project area. Payment of mandatory development impact fees to each affected school district would sufficiently mitigate the project's impacts involving added student enrollment to a level of less than significant.

Discussion

As shown in **Table 3.11-2**, the project would generate a total of approximately 280 students, consisting of 177 elementary age students, 37 junior high age students, and 66 high school age students. As identified earlier in **Table 3.11-1**, Plum Canyon Elementary and Highland Elementary have sufficient capacity to accept the additional students that would be generated by the Bouquet Canyon project. Additionally, according to SUSD, Plum Canyon Elementary has a current planned expansion. Thus, with substantial available classroom capacity at present, the number of elementary school students generated by the project would not exceed the capacities at the two affected school campuses. Conversely, the additional 37 junior high school students residing on-site who would attend Arroyo Seco Junior High would increase the existing capacity deficit to 165, and the addition of 66 high school students would result in Saugus High School exceeding its design enrollment capacity by 50 students. The WSHUSD would determine the best means of providing the physical spaces to support the additional junior high and high school students, at the time the changes in enrollment occur.

Table 3.11-2
PROJECT STUDENT ENROLLMENT ESTIMATES

Type/Number of Housing Units	Generation Rate/Total Elementary School Students	Generation Rate/Total Junior High School Students	Generation Rate/Total High School Students
Single Family Detached/200	0.4791/96	.0962/19	0.1941/39
Single Family Attached/175	0.4601/81	0.0941/16	0.1568/27
Total Students:	177	37	66

Source: Saugus Union and William S. Hart Union School Districts 2019.

As set forth in Section 17620 of the California Education Code, school districts are authorized to collect fees for mitigation of the impact of new development on enrollment. As such, the project would be

required to pay fees to both affected school districts, as set forth in the development fee program outlined in the SUSD and WSHUSD School Facilities Need Analyses. These fees are imposed to finance construction or reconstruction of school facilities needed to accommodate students coming from new developments. Alternatively, developers have the option to (1) enter into mitigation agreements with a district to provide funding to SUSD or WSHUSD to offset the costs to provide capacity for the new students from the project or (2) request the formation of a community facilities district.

Consistent with Section 17620 of the Education Code and Section 65996 of the Government Code, the payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are complete mitigation of the new development project impacts on the provision of adequate school facilities. Payment of the required school districts' development impact fees would sufficiently mitigate the project's impact involving the capacities of local school facilities to a level of less than significant.

Mitigation Measures

No mitigation measures beyond payment of statutory school district development impact fees are required.

3.11.4 PUBLIC PARKS

3.11.4.1 EXISTING CONDITIONS

The City Department of Parks, Recreation and Community Services currently maintains 35 developed city parks and one recreation facility totaling approximately 393.6 acres. This equates to approximately 1.82 acres of neighborhood and community parkland per 1,000 residents, based on the total population of 218,103 persons reported by the California Department of Finance (DOF 2019). This is below the City's target of 5 acres per 1,000 residents, identified in General Plan Policy CO 9.1.1. The City also owns approximately 8,932.1 acres of open space, 55.2 miles of multi-use trails, and 38.6 miles of bike paths. In addition, the City has approximately 1,869 acres of jointly owned open space. If the total developed city parks and recreation facilities, plus City-owned open space, plus jointly owned open space is considered together, this is 11,194.7 acres of land available for enjoyment as public recreation spaces. This equates to 51.3 acres of "parkland" per 1,000 residents.

Copper Hill Park, Bouquet Canyon Park, and David March Park are within 1 mile of the project site. Copper Hill Park, located west of the project site at Copper Hill Drive and Brookview Terrace, is a 5.5-acre park with an open turf play area. Bouquet Canyon Park, located southwest of the project site at 28127 Wellstone Drive, is a 10.5-acre park with barbeques, public restrooms, picnic tables, child play area, baseball diamond, basketball court, pickleball, and tennis court. David March Park is a 3-acre park located at 28310 North Via Joyce Drive with barbeques, picnic tables, public restrooms, child play area, fitness zone, and a horseshoe pit.

3.11.4.2 REGULATORY AND PLANNING FRAMEWORK

FEDERAL

There are no federal regulations that are applicable to the design of new land development projects and the provision of park services at a local level.

STATE

Assembly Bill 1191 Quimby Act

The Quimby Act allows cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Under this legislation, a local government agency may impose land dedications or in-lieu fees on developers of new residential subdivisions to help acquire and develop public parkland.

LOCAL

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Conservation and Open Space and Land Use Elements are listed below.

Conservation and Open Space: 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 parklands 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 9.1.3: Provide local and community parks within a reasonable distance of residential neighborhoods.
        - Policy CO 9.1.9: Ensure that new development projects provide a fair share towards park and recreational facilities, phased to meet the needs of residents as dwelling units become occupied, pursuant to the Quimby Act (California Government Code Section 66477) and local ordinances as applicable.
        - Policy 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.

Santa Clarita Unified Development Code Section 17.51.010(E): Parkland Dedication or In-Lieu Fee.

The City of Santa Clarita UDC states that at the time of approval of a subdivision for a tentative tract map, tentative parcel map, or vesting map, the approving authority shall determine the land required for dedication, in-lieu fee payment, or combination of both. Further, the code states it is found and determined that the public interest, convenience, health, welfare, and safety require that a minimum of 3 acres of property for each 1,000 persons living in the city be devoted to neighborhood and community park recreational purposes. However, the code also notes that the General Plan outlines a target of 5

acres of land for each 1,000 persons living in the city to be devoted to neighborhood and community park recreational purposes.

3.11.4.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant impact involving parkland if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered parks or need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives established by the City.

3.11.4.4 METHODOLOGY

The City's Community Services, Arts, and Open Space Department (CSA Department) provided information concerning existing parkland resources, planning standards, proposed new or expanded parks, and comments concerning potential project impacts related to the City's parkland and service ratio goal. The information provided by the CSA Department establishes the context for the impact analysis below. The communication with the CSA Department is contained within Appendix **I** of this EIR.

3.11.4.5 ANALYSIS

Impact 3.11.4a The project would add approximately 1,125 new residents to the City's population that could utilize local public parks and recreation facilities. Payment of parkland dedication in-lieu fees as specified in the Santa Clarita Municipal Code would offset the project's less than significant impact on the supply of public parkland.

Discussion

The proposed project would result in the addition of approximately 1,125 new residents that would utilize the parks and recreation facilities owned and maintained by the City.[3] The proposed project includes two on-site recreation centers, additional passive trails, and outdoor open space opportunities, which would meet some of the demand for outdoor recreation by future project residents. Project residents would likely also visit the parks closest to the project site most frequently, including Copper Canyon Park, Bouquet Canyon Park, and David March Park, and other parks where a variety of organized recreation programs are offered. The addition of project residents would decrease the citywide ratio of neighborhood and community park acres from 1.82 to 1.81 acres per 1,000 residents, a minor decline, but a worsening of the current deficit relative to the General Plan Conservation/Open Space Element goal of 5 acres per 1,000 residents. In accordance with the requirements of the Santa Clarita UDC 17.51.010(E), the project applicant would be required to dedicate land, pay in-lieu fees, or a combination of both. The City has determined that the project does not have 5 acres available for dedication and would pay in-lieu fees toward the planned expansions of Copper Canyon Park, Bouquet Canyon Park, and David March Park. This fee payment will be enforced as a project condition of approval. would sufficiently offset the parkland

[3] The calculation of the service population is based on 3.0 persons per household for the City of Santa Clarita as reported by the California Department of Finance. 375 homes x 3 persons per home = 1,125 (DOF 2019).

needs created by the development of the proposed project. The proposed project would not require the provision of new or physically altered parks beyond the planned expansions of Copper Canyon Park, Bouquet Canyon Park, and David March Park. Therefore, with payment of the required in-lieu fees, project impacts would be less than significant.

Mitigation Measures

No mitigation measures beyond payment of in-lieu park fees are required.

This page intentionally left blank.

3.12 TRANSPORTATION

3.12 TRANSPORTATION

Pursuant to the environmental scoping process conducted during the initial phase of this EIR (see Initial Study and Notice of Preparation documentation in **Appendix A**), this section of the DEIR evaluates the potential transportation impacts that may result from the proposed project. Transportation impacts are addressed in terms of potential effects on the street system surrounding the project site under the following conditions: Existing (2018) Conditions, Existing (2018) Conditions Plus Project, Interim Year (2028) Cumulative Conditions without Project (i.e., future conditions without project), and Interim Year (2028) Cumulative Conditions with Project (i.e., future conditions with project).

The analysis in this section is primarily based on the "Bouquet Canyon Residential EIR, Traffic Impact Analysis – Draft" (Traffic Study) prepared by Stantec (2020). The Traffic Study is included as **Appendix J** of this Draft EIR.

3.12.1 ENVIRONMENTAL SETTING

The study area established for the project is shown in **Figure 3.12-1** and includes intersections where the project would generally add 50 or more trips during either the AM or PM peak hour. As shown in **Table 3.12-1**, the study area includes 22 intersections, 12 of which are currently signalized, 6 are currently stop-controlled, and 4 are future intersections.

EXISTING ROADWAY SYSTEM

The proposed Project is located on the east side of the current alignment of Bouquet Canyon Road, south of Copper Hill Drive.

Bouquet Canyon Road is oriented generally in a southwest to northeast direction in the study area, beginning at Magic Mountain Parkway to the southwest and heading into the Angeles National Forest to the northeast, with the exception of a section that loops to the north and back to the south around the significant grade change on the undeveloped project site. Bouquet Canyon Road is designated as a Major Highway south of Plum Canyon Road and a Secondary Highway north of Plum Canyon Road on the City of Santa Clarita General Plan Circulation Map. Bouquet Canyon Road is a four-lane road south of Plum Canyon Road that narrows to two lanes as it loops around the Project site. The speed limit on Bouquet Canyon Road varies between 45 and 50 miles per hour (mph) in the study area.

Access to the Project vicinity is also provided by Copper Hill Drive to the north and Plum Canyon Road to the south.

Copper Hill Drive begins as Rye Canyon Road near Interstate 5 (I-5) southwest of the project site and heads generally north until it veers to the east in the vicinity of McBean Parkway. Copper Hill Drive continues in a generally eastbound direction to the northern boundary of the project site where it terminates at David Way. Copper Hill Drive is designated as a Major Highway west of Seco Canyon Road and a Secondary Highway east of Seco Canyon Road on the City's Circulation Map. Copper Hill Drive provides four lanes with turn lanes at intersections west of Benz Road and two lanes with turn lanes east of Benz Road. The speed limit is 45 mph in the study area.

Plum Canyon Road intersects Bouquet Canyon Road just south of the project site and winds southeast of Bouquet Canyon Road. Plum Canyon Road is a Major Highway with four lanes and a speed limit of 45 mph west of Golden Valley Road and six lanes and a speed limit of 50 mph east of Golden Valley Road. South of Skyline Ranch Road, Plum Canyon Road becomes Whites Canyon Road.

TABLE 3.12-1
STUDY INTERSECTIONS

Intersection	Control Type
1. Bouquet Canyon Road and Vasquez Canyon Road	Two-Way Stop
2. Bouquet Canyon Road and Project Driveway (Future)	TBD
3. Old Bouquet Canyon Road and Bouquet Canyon Road (Future)	TBD
4. David Way and Copper Hill Drive	Two-Way Stop
5. David Way and Bouquet Canyon Road	Signal
6. Kathleen Avenue and Copper Hill Drive	All-Way Stop
7. Benz Road and Copper Hill Drive	Two-Way Stop
8. Alaminos Drive and Benz Road	All-Way Stop
9. Bouquet Canyon Road and Benz Road	Two-Way Stop
10. Bouquet Canyon Road and Plum Canyon Road	Signal
11. Haskell Canyon Road and Copper Hill Drive	Signal
12. Seco Canyon Road and Copper Hill Drive	Signal
13. McBean Parkway and Copper Hill Drive	Signal
14. Golden Valley Road and Plum Canyon Road	Signal
15. Haskell Canyon Road and Bouquet Canyon Road	Signal
16. Seco Canyon Road and Bouquet Canyon Road	Signal
17. Bouquet Canyon Road and Newhall Ranch Road	Signal
18. Bouquet Canyon Road and Soledad Canyon Road	Signal
19. Golden Valley Road and Newhall Ranch Road	Signal
20. Whites Canyon Road and Soledad Canyon Road	Signal
21. New Bouquet Canyon Road and Old Bouquet Canyon East	TBD
22. Project Entrance and Old Bouquet Canyon East	TBD

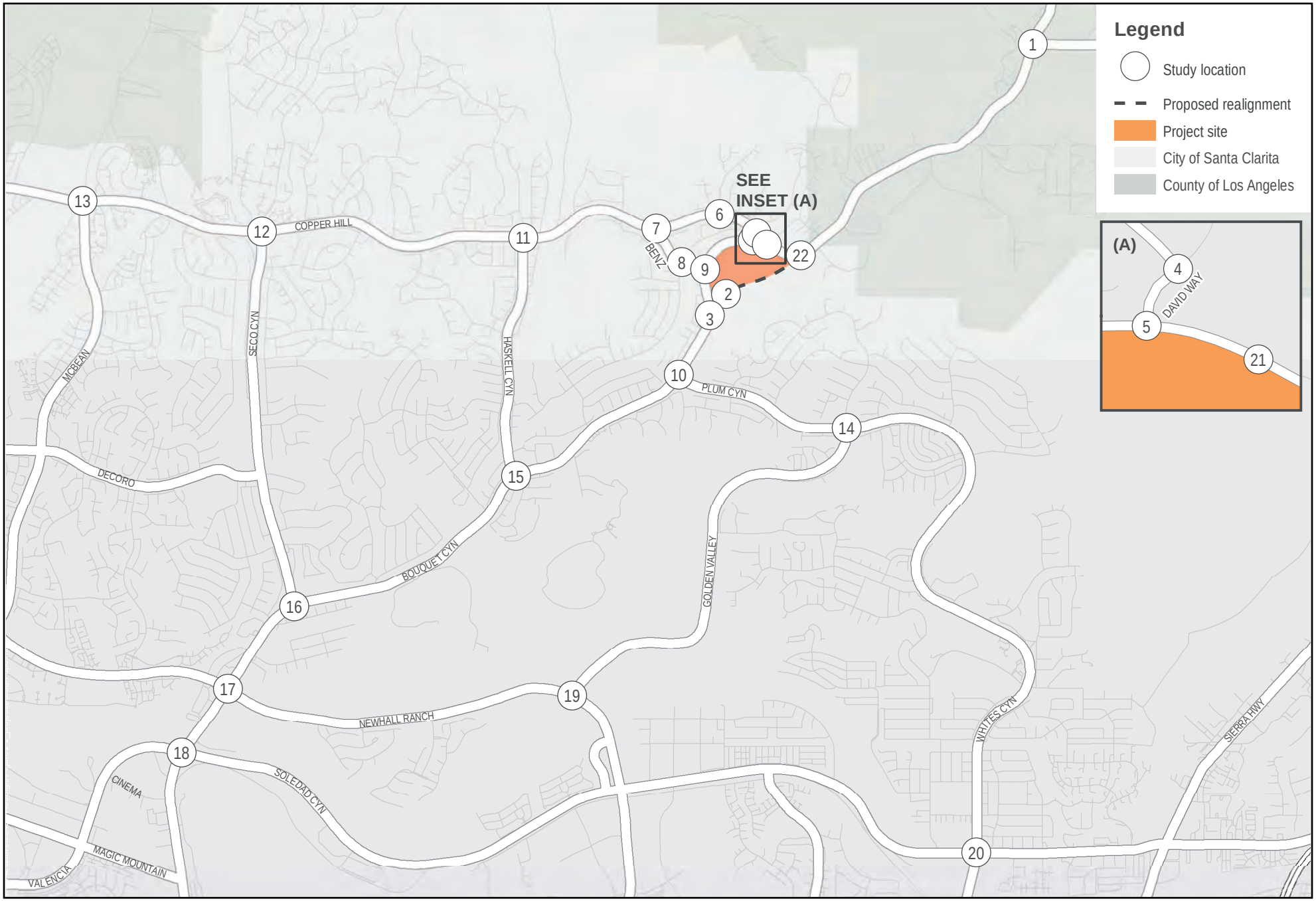
TBD: To Be Determined
Source: Stantec, Bouquet Canyon Residential EIR, Traffic Impact Analysis, March 4, 2020.

Additional roadways in the study area but more distant from the project site include Vasquez Canyon Road, Golden Valley Road, Haskell Canyon Road, Seco Canyon Road, McBean Parkway, Newhall Ranch Road, and Soledad Canyon Road.

EXISTING TRANSIT SYSTEM

The project site is currently serviced by City of Santa Clarita Transit (SCT) Route 4, with stops at the intersection of Steve Jon Street and Bouquet Canyon Road at the south end of the project site and Shadow Valley Lane and Bouquet Canyon Road north of the site. SCT Route 4 travels along Bouquet Canyon Road from Los Angeles Residential Community (LARC) Ranch on the north to State Route 14 (SR-14) at Plum Canyon Road south to Magic Mountain Parkway, then along Magic Mountain Parkway to the McBean Regional Transit Center (MRTC) and south to Newhall Metrolink Station. Additional routes, which are 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 in downtown Los Angeles.



Michael Baker INTERNATIONAL

Source: Stantec, December 2019

Traffic Study Area

Figure 3.12-1

EXISTING ACTIVE TRANSPORTATION

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.

An existing Class II Bike Lane is located on Bouquet Canyon Road north of Newhall Ranch Road, which ends just south of the Project site. There is also a Class II Bike Lane planned along Copper Hill north of the project site to join the existing Class II Bike Lane west of Haskell Canyon Road. The County of Los Angeles and the City of Santa Clarita each have Bicycle Master Plans with additional facilities planned in the project area. **Figure 3.12-2** illustrates the existing and planned future bicycle facilities in the area.

EXISTING TRAFFIC CONDITIONS

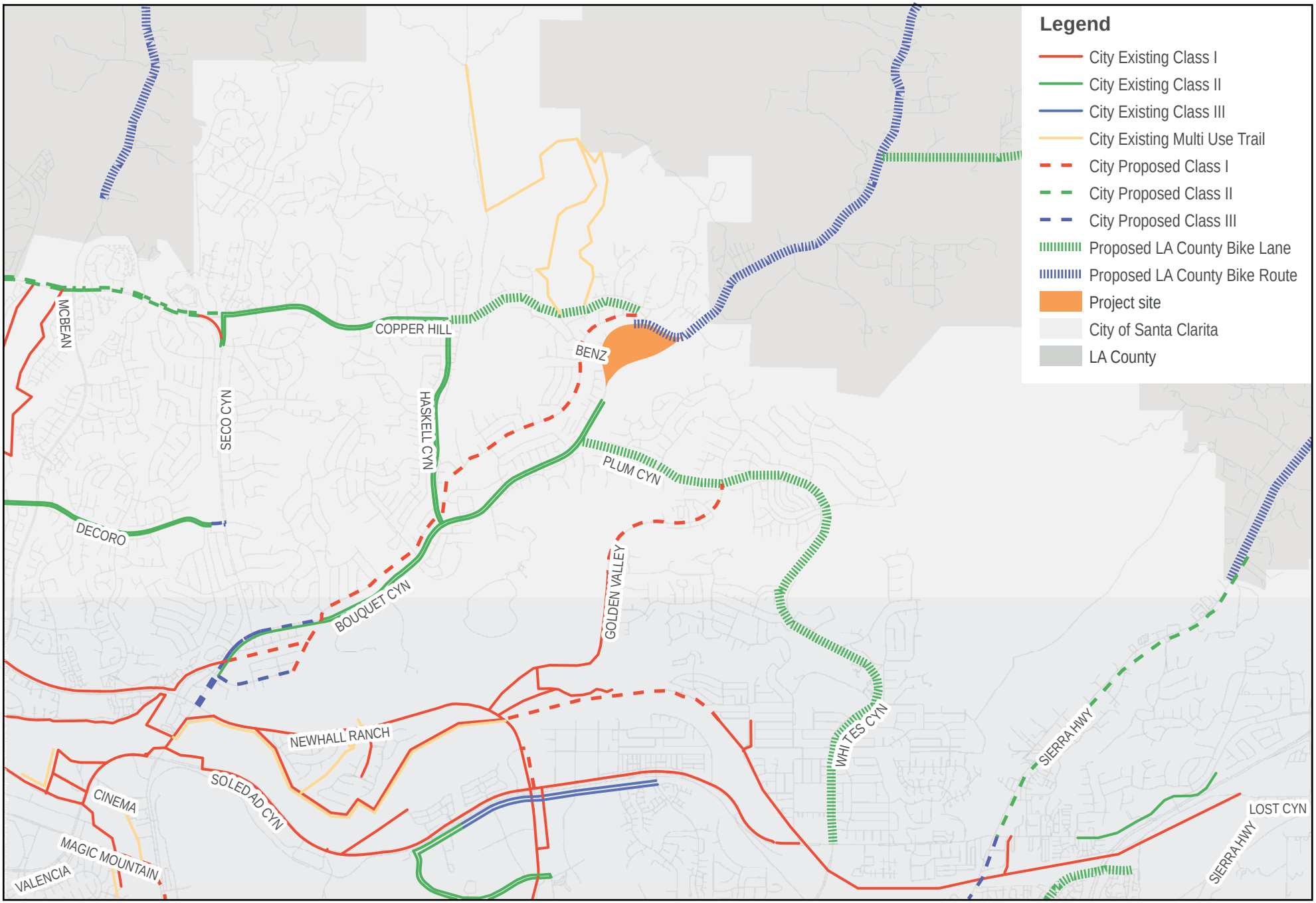
Roadway performance criteria are typically based on two primary measures. The first is "capacity," which establishes the vehicle carrying ability of a roadway, and the second is "volume." The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. For arterial roadways in an urban or suburban setting, the intersection of two roadways will typically be the limiting factor in regard to the overall capacity of the roadway network. The methodology outlined in the Highway Capacity Manual, Sixth Edition (HCM 6th Edition) 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 3.12-2** for signalized intersections.

TABLE 3.12-2
LEVEL OF SERVICE DESCRIPTIONS FOR SIGNALIZED INTERSECTIONS

LOS	Traffic Flow Descriptions	Delay (sec/veh)
A	Minimal or no vehicle delay.	0 to 10.0
B	Slight delay to vehicles.	10.1 to 20.0
C	Moderate vehicle delays; traffic flow remains stable.	20.1 to 35.0
D	More extensive delays at intersections.	35.1 to 55.0
E	Long queues create lengthy delays.	55.1 to 80.0
F	Severe delays and congestion.	Above 80.0

LOS: Level of Service
sec/veh: seconds per vehicle
Source: Stantec, Bouquet Canyon Residential EIR, Traffic Impact Analysis, March 2020.

Table 3.12-3 summarizes the ranges of volume to capacity (V/C) values for arterial roads and vehicle delay for intersections that correspond to LOS A through F. The ranges are those defined in the HCM 6th Edition and are used by the City of Santa Clarita for estimating intersection LOS.



Michael Baker INTERNATIONAL

Source: Stantec, December 2019

Existing and Future Bicycle Facilities

Figure 3.12-2

TABLE 3.12-3
INTERSECTION DELAY LEVEL OF SERVICE RANGES

LOS	Roadway V/C Ranges	Highway Capacity Manual (HCM) Average Delay (sec/veh) for Signalized Intersections	HCM Average Delay (sec/veh) for Stop-Controlled Intersections
A	0.00 – 0.60	0 – 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	Above 80	Above 50

LOS: Level of Service
sec/veh: seconds per vehicle
Source: Stantec, Bouquet Canyon Residential EIR, Traffic Impact Analysis, March 2020

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

Traffic count data were collected during the critical AM and PM peak hours in October 2018 throughout the study area. Existing (2018) average daily traffic (ADT) volumes for the study area, existing intersection lane configurations, and peak hour turning movement volumes are presented in the Traffic Study for the project (**Appendix J**).

The results of the LOS analysis for the study area intersections under existing conditions are shown in **Table 3.12-4**. Both the signalized intersections and stop-controlled intersections in the study area were analyzed using HCM delay methodology. As shown in the table, all the study area intersections currently operate at LOS D or better, with the exception of Bouquet Canyon Road at Vasquez Canyon Road, which is operating at LOS F in the AM peak hour, and Bouquet Canyon Road at Newhall Ranch Road, which is operating at LOS E in the PM peak hour.

3.12.2 REGULATORY AND PLANNING FRAMEWORK

STATE

SENATE BILL 743

Senate Bill (SB) 743 added Section 21099 to CEQA, which directed the Office of Planning and Research (OPR) to prepare guidelines establishing criteria for determining the significance of transportation impacts that promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. SB 743 and CEQA Section 21099 further required that, upon certification of such guidelines, "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.

OPR fulfilled its SB 743 mandate in December of 2018, with the publication of its "Technical Advisory on Evaluating Transportation Impacts in CEQA" (Technical Advisory) and with the addition of Section 15064.3 to the State CEQA Guidelines. The Technical Advisory and Section 15064.3 identify VMT as generally the most appropriate measure of transportation impacts. Subdivision (b) of Section 15064.3 identifies the criteria for analyzing transportation impacts and Subdivision (c) specifies that the provisions of Section

15064.3 become effective statewide on July 1, 2020 (although a lead agency may elect to be governed by the provisions of this section immediately). At this time, neither the City of Santa Clarita, the County of Los Angeles, nor the Southern California Association of Governments (SCAG) have formalized any policies or directives regarding VMT analysis and no methodology to quantify VMT or corresponding thresholds of significance are currently applicable to the project.

TABLE 3.12-4
INTERSECTION DELAY AND LOS SUMMARY – EXISTING CONDITIONS

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Bouquet Canyon Road and Vasquez Canyon Road	Two-Way Stop[a]	112.1	F	24.1	C
4. David Way and Copper Hill Drive	Two-Way Stop[a]	10.7	B	12.7	B
5. David Way and Bouquet Canyon Road	Signal	30.6	C	22.1	C
6. Kathleen Avenue and Copper Hill Drive	All-Way Stop[b]	30.4	D	18.1	C
7. Benz Road and Copper Hill Drive	Two-Way Stop[a]	28.9	D	19.9	C
8. Alaminos Drive and Benz Road	All-Way Stop[b]	8.0	A	8.1	A
9. Bouquet Canyon Road and Benz Road	Two-Way Stop[a]	19.6	C	12.6	B
10. Bouquet Canyon Road and Plum Canyon Road	Signal	34.3	C	29.6	C
11. Haskell Canyon Road and Copper Hill Drive	Signal	18.8	B	21.7	C
12. Seco Canyon Road and Copper Hill Drive	Signal	38.4	D	28.9	C
13. McBean Parkway and Copper Hill Drive	Signal	22.5	C	24.6	C
14. Golden Valley Road and Plum Canyon Road	Signal	17.7	B	11.1	B
15. Haskell Canyon Road and Bouquet Canyon Road	Signal	55.0	D	53.2	D
16. Seco Canyon Road and Bouquet Canyon Road	Signal	22.7	C	35.8	D
17. Bouquet Canyon Road and Newhall Ranch Road	Signal	44.1	D	58.4	E
18. Bouquet Canyon Road and Soledad Canyon Road	Signal	33.5	C	48.5	D
19. Golden Valley Road and Newhall Ranch Road	Signal	29.5	C	20.1	C
20. Whites Canyon Road and Soledad Canyon Road	Signal	45.8	D	49.7	D

[a] *Delay represents the highest stop-controlled approach*

[b] *Delay represents the average for the entire intersection*

Source: Stantec, Bouquet Canyon Residential EIR, Traffic Impact Analysis, March 2020.

CALIFORNIA COMPLETE STREETS ACT

The California Complete Streets Act of 2008 required cities and counties to incorporate balanced and multimodal transportation networks in circulation elements whenever the circulation element underwent a substantive revision. These transportation networks are required to meet the needs of all users of the networks, whether motorists, passengers on public transportation, bicyclists, or pedestrians, children, persons with disabilities, seniors, commercial interests, or more. These networks should also be suitable for the location of the local government, whether urban, suburban, or rural.

REGIONAL

REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM

The Regional Transportation Improvement Program (RTIP) is the SCAG's compilation of transportation projects that have been funded federally, through the State, or locally. All projects that are proposed during a 6-year period in the region covered by SCAG are included in the RTIP and include projects such as: highway improvements; transit, rail, and bus facilities; intersection improvements; and signal synchronization among others.

2016-2040 REGIONAL TRANSPORTATION PLAN/SUSTAINABILITY COMMUNITIES STRATEGY

SCAG develops the Regional Transportation Plan/Sustainability Communities Strategy (RTP/SCS) and updates it every four years. The most recent RTP/SCS was adopted in 2016. The RTP/SCS is a long-range transportation and land use plan that uses growth forecasts and economic trends over a 20-year period to evaluate the role of transportation in the region covered by SCAG. The RTP also identifies regional strategies designed to address mobility needs in the region. The RTP/SCS seeks to improve mobility, promote sustainability, facilitate economic development, and preserve the quality of life for the residents of the region.

LOCAL

CITY OF SANTA CLARITA GENERAL PLAN CIRCULATION ELEMENT

Purpose and Intent

The Santa Clarita Valley's circulation system provides vital connections linking neighborhoods, services, and employment centers throughout the community and the region. A comprehensive transportation network of roadways, multi-use trails and bike paths, bus transit, and commuter rail provides mobility options to Valley residents and businesses. Planning for the ultimate location and capacity of circulation improvements will also enhance economic strength and quality of life in the Valley.

The Circulation Element plans for the continued development of efficient, cost-effective and comprehensive transportation systems that are consistent with regional plans, local needs, and the Valley's community character. The Circulation Element complements and supports the Land Use Element, insofar as a cohesive land use pattern cannot be achieved without adequate circulation. The Circulation Element identifies and promotes a variety of techniques for improving mobility that go beyond planning for construction of new streets and highways. These techniques include: development of alternative travel modes and support facilities; increased efficiency and capacity of existing systems through management strategies; and coordination of land use planning with transportation planning by promoting concentrated mixed-use development near transit facilities.

Recommendations for Street and Highway System

- Level of Service Standard
  - The Countywide General Plan does not specify an acceptable level of service for the purpose of long-range planning; however, in conformance with the Congestion Management Program, the preferred maximum acceptable level of service on arterial

roads (i.e., major, secondary, and limited secondary highways) within the planning area is LOS E. The City strives to achieve LOS D or better on highways to the extent feasible given right-of-way and physical constraints, while recognizing that in higher density urban areas there is generally a tradeoff between vehicle LOS and other factors such as pedestrian mobility; therefore, a Level of Service F may be necessary at limited locations to implement the General Plan. In residential neighborhoods, the City and County desire conditions of LOS C or better.

Table C-3: Roadway Improvements Needed for Build-Out of Highway Plan

- Bouquet Canyon Road, Between Angeles National Forest and Plum Canyon Road
  - Improvement: Widen roadway from 2 lanes to a 4 lane Secondary Highway
  - Comments: Includes realignment in the Copper Hill Drive area

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.

o 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 1.2.4: Consider location, availability, and accessibility of transit in evaluating new development plans.
- 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.

Street and Highway System

- Goal C 2: A unified and well-maintained network of streets and highways which provides safe and efficient movement of people and goods between neighborhoods, districts, and regional centers, while maintaining community character.

- Objective C 2.1: Implement the Circulation Plan (as shown on Exhibit C-2) for streets and highways to meet existing and future travel demands for mobility, access, connectivity, and capacity.
  - Policy C 2.1.1: Protect mobility on arterial highways by limiting excessive cross traffic, access points, and turning movements; traffic signals on arterial highways should be spaced at least ½-mile apart, and the minimum allowable separation should be at least ¼-mile.
  - Policy C 2.1.2: Enhance connectivity of the roadway network to the extent feasible given the constraints of topography, existing development patterns, and environmental resources, by constructing grade separations and bridges; connecting discontinuous streets; extending secondary access into areas where needed; prohibiting gates on public streets; and other improvements as deemed appropriate based on traffic analysis.
  - Policy C 2.1.3: Protect and enhance the capacity of the roadway system by upgrading intersections to meet level of service standards, widening and/or restriping for additional lanes, synchronizing traffic signals, and other means as appropriate.
  - Policy C 2.1.4: Ensure that future dedication and acquisition of right-of-way is based on the adopted Circulation Plan, proposed land uses, and projected demand.
  - Policy C 2.1.5: At the time of project level review, monitor levels of service, traffic accident patterns, and physical conditions of the existing street system, and upgrade roadways as needed through the Capital Improvement Program.
- Objective C 2.5: Consider the needs for emergency access in transportation planning.
  - Policy C 2.5.1: Maintain a current evacuation plan as part of emergency response planning.
  - Policy C 2.5.2: Ensure that new development is provided with adequate emergency and/or secondary access for purposes of evacuation and emergency response; require two points of ingress and egress for every subdivision or phase thereof, except as otherwise approved for small subdivisions where physical constraints preclude a second access point.
  - Policy C 2.5.3: Require provision of visible street name signs and addresses on all development to aid in emergency response.
  - Policy C 2.5.4: Provide directional signage to Interstate 5 and State Route 14 at key intersections in the Valley, to assist emergency evacuation operations.

Vehicle Trip Reduction

- Goal C 3: Reduction of vehicle trips and emissions through effective management of travel demand, transportation systems, and parking.
  - Objective C 3.1: Promote the use of travel demand management strategies to reduce vehicle trips.
    - Policy C 3.1.1. In evaluating new development projects, require trip reduction measures as feasible to relieve congestion and reduce air pollution from vehicle emissions.

Bikeways

- Goal C 6: A unified and well-maintained bikeway system with safe and convenient routes for commuting, recreational use and utilitarian travel, connecting communities and the region.
    - Objective C 6.1: Adopt and implement a coordinated master plan for bikeways for the Valley, including both City and County areas, to make bicycling an attractive and feasible mode of transportation.
        - Policy C 6.1.1: For recreational riders, continue to develop Class I bike paths, separated from the right-of-way, linking neighborhoods to open space and activity areas.
        - Policy C 6.1.2: For long-distance riders and those who bicycle to work or services, provide striped Class II bike lanes within the right-of-way, with adequate delineation and signage, where feasible and appropriate.
        - Policy C 6.1.3: Continue to acquire or reserve right-of-way and/or easements needed to complete the bicycle circulation system as development occurs.
        - Policy C 6.1.4: Where inadequate right-of-way exists for Class I or II bikeways, provide signage for Class III bike routes or designate alternative routes as appropriate.
        - Policy C 6.1.5: Plan for continuous bikeways to serve major destinations, including but not limited to regional shopping areas, college campuses, public buildings, parks, and employment centers.

Pedestrian Circulation

- Goal C 7: Walkable communities, in which interconnected walkways provide a safe, comfortable and viable alternative to driving for local destinations.
    - Objective C 7.1: continuous, integrated system of safe and attractive pedestrian walkways, paseos and trails linking residents to parks, open space, schools, services, and transit.
        - Policy C 7.1.1: In reviewing new development proposals, consider pedestrian connections within and between developments as an integral component of the site design, which may include seating, shading, lighting, directional signage, accessibility, and convenience.
        - Policy C 7.1.2: For existing walled subdivisions, extend pedestrian access to connect these neighborhoods to transit and services through public education and by facilitating retrofitted improvements where feasible.
        - Policy C 7.1.3: Where feasible and practical, consider grade separated facilities to provide pedestrian connections across arterial streets, flood control channels, utility easements, and other barriers.
        - Policy C 7.1.4: Identify and develop an improvement program to connect existing walkways and paseos to transit and services, where needed and appropriate.
        - Policy C 7.1.5: In new commercial development, provide for direct, clearly delineated, and preferably landscaped pedestrian walkways from transit stops and parking areas to building entries, and avoid placement of uses (such as drive-through facilities) in locations that would obstruct pedestrian pathways.

- Policy C 7.1.6: Encourage placement of building entries in locations accessible to public sidewalks and transit.
- Policy C 7.1.7: Utilize pedestrian-oriented scale and design features in areas intended for pedestrian use.
- Policy C 7.1.8: Upgrade streets that are not pedestrian-friendly due to lack of sidewalk connections, safe street crossing points, vehicle sight distance, or other design deficiencies.
- Policy C 7.1.9: Promote pedestrian-oriented street design through traffic-calming measures where appropriate, which may include but are not limited to bulb-outs or chokers at intersections, raised crosswalks, refuge islands, striping, and landscaping.
- Policy C 7.1.10: Continue to expand and improve the Valley's multi-use trail system to provide additional routes for pedestrian travel.

Implementation

- City Task 3: Implement circulation improvements through the Capital Improvement Program
  - Task 3.1: Annually update the Capital Improvement Program (CIP) to implement roadway improvements, trails, transit facilities, and other circulation facilities identified in the Circulation Element.
  - Task 3.2: Annually review the CIP to ensure consistency with the General Plan including Circulation Element.
  - Task 3.3: Ensure consistency with the Circulation Element for all transportation improvement projects, including right-of-way acquisition and roadway design.

3.12.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to transportation if it would:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b).

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d) Result in inadequate emergency access.

3.12.4 METHODOLOGY

This EIR evaluates the proposed Project utilizing the established traffic analysis guidelines of the City of Santa Clarita (City of Santa Clarita, 1990). The primary metric utilized by the City of Santa Clarita to evaluate performance of the circulation system is LOS. This EIR analyzes the project's effect on LOS against both the existing conditions (i.e., the Existing Plus Project scenario), which assumes immediate buildout of the full Project, and against a future condition that includes buildout of the Project as well as other

pending development projects in the proximity of the study area (i.e., the Interim Year Cumulative [2028] Conditions With Project scenario).

To establish existing conditions, traffic counts were conducted during the critical AM and PM peak hours in October 2018 throughout the study area. Using this data, the LOS for the study area intersections was calculated using HCM delay methodology. The results of the LOS analysis for the study area intersections under existing conditions are shown above in **Table 3.12-5**.

The Santa Clarita Valley Consolidated Traffic Model (SCVCTM) was utilized to forecast the complex interaction of vehicle trips between existing and future land uses. 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 the future year's forecasts that are based on a defined list of planned, approved, and pending projects. The SCVCTM is regularly updated with known related projects and the buildout version of the model is based on the currently approved General Plans of the County and City of Santa Clarita.

To determine whether the project's added traffic would result in a significant congestion impact at the study area intersections, the following criteria were applied:

a) Worsens the level of service at an intersection maintained by the City of Santa Clarita from LOS D or better to LOS E or F;

b) Causes an increase in the delay at an intersection maintained by the City of Santa Clarita that operates (with the project) at LOS D or worse, of:

- 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

While the primary metric currently used by the City of Santa Clarita to evaluate transportation impacts is LOS, this EIR also includes a Vehicle Miles Travelled (VMT) impact discussion. In accordance with State CEQA Guidelines Section 15064.3(b)(3), the VMT analysis in this EIR is qualitative, since no methodology to quantify VMT or corresponding thresholds of significance have been established by the City of Santa Clarita, the County of Los Angeles, or the Southern California Association of Governments (SCAG).

The project's Supplemental Traffic Analysis (Appendix J) also includes a screening analysis of the project's potential impacts on transportation facilities included in the Los Angeles County Congestion Management Program (CMP). Based on this analysis, the project's trip generation is below the threshold for study for potential impacts on CMP facilities. Moreover, on August 28, 2019, Los Angeles County Metropolitan Transportation Authority (Metro) announced that the County of Los Angeles had opted to be exempt from the CMP. As such, the provisions of the CMP no longer apply to any of the 89 local jurisdictions in Los Angeles County, including the City of Santa Clarita. Accordingly, the impact analysis in this EIR does not include a CMP analysis.

3.12.5 ANALYSIS

Impact 3.12a: After mitigation, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

As noted above in the Methodology section, the primary metric utilized by the City of Santa Clarita to evaluate performance of the circulation system is LOS. The subsections below consider the following two scenarios to evaluate the project's effect on LOS: the Existing Plus Project scenario and the Interim Year Cumulative (2028) Conditions With Project scenario. The subsections below also provide a qualitative analysis of the project's consistency with plans addressing the transit, bicycle, and pedestrian systems.

Vehicular Circulation System Analysis

The proposed project is a residential development consisting of five planning areas with different types of residential products. The project consists of a total of 375 dwelling units, 64 of which are detached single family units and 311 are multi-family for-sale units. The Project site is presently vacant with one single-family unit that would be removed. Based on trip generation factors from the Institute of Transportation Engineers (ITE) Trip Generation Manual and the County of Los Angeles Department of Public Works Traffic Impact Analysis Guidelines, the project is estimated to generate 3,092 daily trips, including 215 during the AM peak hour and 290 during the PM peak hour (see Table 1 in the Supplemental Traffic Analysis memo in **Appendix J** for trip generation calculations).[1]

The project's trips were distributed onto the roadway network using the SCVCTM. The SCVCTM is a computerized travel demand model that utilizes a sophisticated trip distribution function to derive the distribution of vehicle trips, and which has previously been calibrated to the existing conditions of the Santa Clarita Valley. Based on the model, approximately 16 percent of Project trips are distributed to Copper Hill Drive west of the Project site, 55 percent to Bouquet Canyon Road south of the Project site, 26 percent to Plum Canyon Road east of the Project site, and 3 percent to Bouquet Canyon Road north of the Project site.

Site Access

The project's trip distribution is also based on the proposed site access controls, illustrated in Figure 3.12-3, and described below.

The Project includes a gated entry along the newly relocated Bouquet Canyon Drive that provides access to Planning Areas 1 through 3 in the western and central portions of the Project. This intersection will serve as the main access point into/out of the Project site and was evaluated for satisfaction of a traffic signal warrant. A traffic signal at this intersection is warranted based on the estimated peak hour volumes.

The Project also includes a private street approximately a quarter mile north of the main Planning Area 1-3 access intersection described above. This driveway is primarily for trailhead parking but will also provide a connection into Planning Areas 1-3. The driveway will be under stop control and limited to right-turns in/out only.

[1] The iteration of the project evaluated in the project's Traffic Study consisted of total of 366 dwelling units, 197 of single-family units and 169 multi-family for-sale units, which was estimated to generate 3,941 daily trips, with 271 trips during the AM peak hour, and 366 trips during the PM peak hour. The currently proposed project results in a lower trip generation, with 22 less AM peak hour trips, 28 less PM peak hour trips, and 120 less daily trips as a result of the change in project mix (i.e., fewer single-family detached units and more multi-family units). Therefore, the LOS analysis presented in the project's Traffic Study and in this EIR is a conservative worst-case analysis. See the Supplemental Traffic Analysis memo in Appendix J for additional details.

An entrance along the eastern portion of Old Bouquet Canyon Road east of David Way that provides access to Planning Area 4 in the eastern portion of the site will also be provided. The private street will be under stop control.

A small portion of the Project with 12 single-family homes is located on the east side of Bouquet Canyon Road adjacent to Canyon Center commercial center. This portion of the Project will take access from Bouquet Canyon Road approximately 300 feet north of Steve Jon Street/Canyon Center driveway and approximately 250 feet south of the future Old Bouquet Canyon Road and New Bouquet Canyon Road intersection. The private street will be under stop control.

Another small portion of the Project with nine single-family homes is located on the east side of the Old Bouquet Canyon Road and access to that portion of the Project is provided via a gated entrance opposite of Pam Court.

Existing Plus Project Scenario

Using the trip generation and distribution characteristics described above, the project's Traffic Study (Appendix J) added the project's trips to the existing conditions and determined the LOS that would result at the study area intersections in the Existing Plus Project Scenario. The results of this analysis are presented in **Table 3.12-5**. Four new study intersections would be created by the proposed Project and the realignment of Bouquet Canyon Road. These intersections are assumed be two-way stop controlled under Existing Plus Project conditions, with the exception of the New Bouquet Canyon Road at Old Bouquet Canyon Road East intersection, which would operate at LOS F during the AM and PM peak hours with stop sign control. This future intersection satisfies the Peak Hour Signal Warrant and is assumed to be signalized.

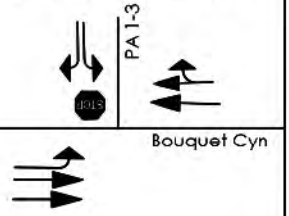
As shown in **Table 3.12-5**, under the Existing Plus Project conditions, the following intersections are forecast to be significantly impacted by the project:

5. David Way and Old Bouquet Canyon East (PM peak hour)
7. Benz Road and Copper Hill Drive (AM peak hour)
21. New Bouquet Canyon Road and Old Bouquet Canyon East (AM and PM peak hours if stop-sign controlled)

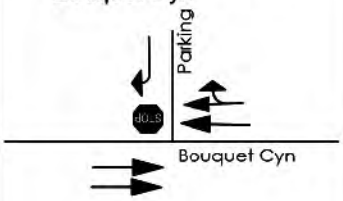
Roadway improvements have been identified to mitigate the project's impact at these intersections, consisting of:

- David Way and Old Bouquet Canyon East: Remove existing traffic signal. Close David Way between Old Bouquet Canyon Road and Copper Hill Drive (eliminates south leg of the David Way and Copper Hill Drive intersection). Construct new east leg at David Way at Copper Hill Drive intersection and connect to Old Bouquet Canyon Road. At the David Way and Copper Hill Drive intersection, construct median island to restrict the left-turn movement (southbound left) from David Way to Copper Hill Drive and install stop sign at David Way
- Benz Road and Copper Hill Drive: Construct median island to restrict left-turn movement (northbound left) from Benz Road to Copper Hill Drive
- New Bouquet Canyon Road and Old Bouquet Canyon East: Installation of a traffic signal.

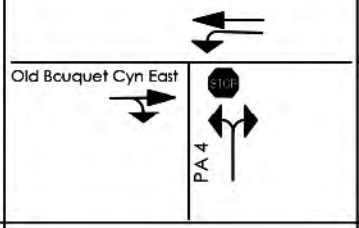
SA1. PA 1 - PA 3 Private Street & Bouquet Cyn



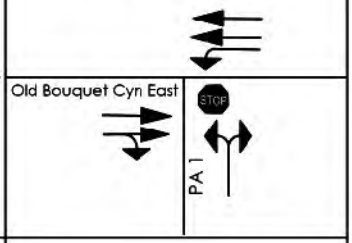
SA2. Trailhead Parking & Bouquet Cyn



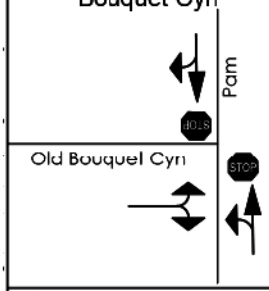
SA3. PA4 Private Street & Bouquet Cyn



SA4. PA 1A Private Street & Bouquet Cyn



SA5. Pam Court & Bouquet Cyn



3/27/2020 JN H:\pdata\168840\GIS\MXD\2019\Proposed Site Access.mxd

Michael Baker INTERNATIONAL

Source: Stantec, March 2020

Proposed Site Access

Figure 3.12-3

The realignment of Bouquet Canyon Road would alter and improve circulation flow on Benz Road, Copper Hill Drive, Kathleen Avenue, David Way, and Bouquet Canyon Road. Mitigation measures noted above that address the Project's significant impacts are part of a collective set of improvements for the immediate area.

To mitigate the Project's impact at the Benz Road and Copper Hill Drive intersection, the construction of a median island to restrict left-turn movements (northbound left) from Benz Road to westbound Copper Hill Drive is proposed. This modification would also reduce the amount on non-local cut-through traffic that currently utilized Benz Road. Access to Benz Road at Copper Hill Drive would be right/in-right/out and left-turn in, and the left-turn out would be prohibited. Vehicles may make a right-turn from Benz Road, followed by a U-turn at Kathleen Avenue to head westbound on Copper Hill Drive.

To mitigate the Project's impact at David Way at Old Bouquet Canyon Road, the traffic signal at this intersection would be removed and David Way between Old Bouquet Canyon Road and Copper Hill Drive would be closed. The roadway closure would eliminate the south leg of the David Way and Copper Hill Drive intersection and a new east leg would be constructed to connect with Old Bouquet Canyon Road. At the David Way and Copper Hill Drive intersection, a median island to restrict the left-turn movement (southbound left) from David Way to eastbound Copper Hill Drive would be constructed and David Way would be under stop control with right-in/right-out and left-in movements allowed (no left-turn out allowed).

At the New Bouquet Canyon Road at Old Bouquet Canyon Road intersection, a traffic signal would be installed.

As shown in **Table 3.12-6**, with the installation of these mitigation measures, the delay at these intersections would be improved to acceptable levels of service.

Other traffic flow improvements that are proposed in the immediate area, as described below. It is noted that these locations are not significantly impacted by the Project under Existing plus Project conditions; however, the Project would be responsible for its fair-share of the cost of these improvements.

The roadway segment between Benz Road and Kathleen Avenue would be widened from 2-lanes to 4-lanes (two lanes in each direction) and a traffic signal installed at Kathleen Avenue and Copper Hill Drive. The segment of Copper Hill Drive between Kathleen Avenue and the new realigned Bouquet Canyon Road would generally be 2 lanes (one lane in each direction), except for a short segment just east of Kathleen Avenue, which would be 3 lanes (2 lanes westbound and 1 lane eastbound).

Adjacent to the David Way at Old Bouquet Canyon Road intersection, Hob Court would terminate into a cul-de-sac (currently connects to Old Bouquet Canyon Road) and Pin Court would be removed (currently connects to Hob Court).

On the westerly side of the Project site, a median island at the Old Bouquet Canyon Road (West) and New Bouquet Canyon Road intersection would be constructed. The median island would restrict left-turn movements (southbound left) from Old Bouquet Canyon Road (West) to eastbound New Bouquet Canyon Road

TABLE 3.12-5

INTERSECTION DELAY AND LOS SUMMARY – EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Existing (2018)				Existing Plus Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
		Delay (sec/veh)/ ICU	LOS	Delay (sec/veh)/ ICU	LOS	Delay (sec/veh)/ ICU	LOS	Delay (sec/veh)/ ICU	LOS	Delay (sec/veh)	Delay (sec/veh)
1. Bouquet Cyn & Vasquez Cyn[5]	Two-Way Stop[1]	0.68	B	0.87	D	0.68	B	0.87	D	0.0	0.0
2. Project Entrance & New Bouquet Cyn	Two-Way Stop[1]	n/a[3]	--	n/a[3]	--	12.6	B	10.3	B	12.6	10.3
3. New Bouquet Cyn & Old Bouquet Cyn West	Two-Way Stop[1]	n/a[3]	--	n/a[3]	--	15.9	C	15.8	C	15.9	15.8
4. David & Copper Hill	Two-Way Stop[1]	10.7	B	12.7	B	10.8	B	12.9	B	0.1	0.2
5. David & Old Bouquet Cyn East	Signal	31.9	C	119.4	F	8.6	A	255.4	F	-23.3	**136.0**
6. Kathleen & Copper Hill	All-Way Stop[2]	30.4	D	18.1	C	32.0	D	18.7	C	1.6	0.6
7. Benz & Copper Hill	Two-Way Stop[1]	28.9	D	19.9	C	34.9	D	21.4	C	**6.0**	1.5
8. Alaminos & Benz	All-Way Stop[2]	8.0	A	8.1	A	8.2	A	8.4	A	0.2	0.3
9. Old Bouquet Cyn West [4] & Benz	Two-Way Stop[1]	19.6	C	12.6	B	9.1	A	9.2	A	-10.5	-3.4
10. Bouquet Cyn & Plum Cyn	Signal	33.7	C	29.6	C	33.2	C	30.5	C	-0.5	0.9
11. Haskell Cyn & Copper Hill	Signal	292.3	B	217.8	F	290.9	F	217.0	C	-1.4	-0.8
12. Seco Cyn & Copper Hill	Signal	38.3	D	28.9	C	38.4	D	29.1	C	0.1	0.2
13. McBean & Copper Hill	Signal	22.5	C	24.6	C	22.6	C	24.8	C	0.1	0.2
14. Golden Valley & Plum Cyn	Signal	29.6	B	21.6	C	29.8	C	21.9	C	0.2	0.3
15. Haskell Cyn & Bouquet Cyn	Signal	54.7	D	53.6	D	54.0	D	52.7	D	-0.7	-0.9
16. Seco Cyn & Bouquet Cyn	Signal	22.7	C	35.7	D	23.0	C	37.2	D	0.3	-0.5
17. Bouquet Cyn & Newhall Ranch	Signal	44.2	D	58.4	E	45.3	D	59.4	E	1.1	1.0
18. Bouquet Cyn & Soledad Cyn	Signal	33.4	C	48.5	D	33.6	C	49.4	D	0.2	0.9
19. Golden Valley & Newhall Ranch	Signal	29.5	C	20.1	C	30.0	C	20.3	C	0.5	0.2
20. Whites Cyn Rd & Soledad Cyn Rd	Signal	45.8	D	49.7	D	45.9	D	49.8	D	0.1	0.1
21. New Bouquet Cyn & Old Bouquet Cyn East	Signal	n/a[3]	--	n/a[3]	--	16.1	B	19.9	B	**16.1[6]**	**19.9[6]**
22. Project Entrance & Old Bouquet Cyn East	Two-Way Stop[1]	n/a[3]	--	n/a[3]	--	11.0	B	13.5	C	11.0	13.5

Notes: Shaded cells indicate a significant impact; n/a = Not applicable (i.e., intersection does not exist under Existing conditions)

[1] Delay represents the highest stop-controlled approach

[2] Delay represents the average for the entire intersection

[3] Future intersection

[4] This section of Bouquet Canyon Road becomes Old Bouquet Canyon Road West with the realignment of the roadway

[5] ICU methodology per LA County guidelines

[6] Under stop control the intersection would operate at LOS F, a traffic signal was assumed as part of the Project

TABLE 3.12-6

INTERSECTION DELAY AND 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 (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	Delay (sec/veh)
4. David & Copper Hill [2]	10.7	B	12.7	B	12.3	B	9.3	A	1.6	-3.4
5. David & Old Bouquet Cyn East	31.9	C	119.4	F	--[2]	--[2]	--[2]	--[2]	--	--
7. Benz & Copper Hill	28.9	D	19.9	C	9.5	A	11.3	B	-19.4	-8.6
21. New Bouquet Cyn & Old Bouquet Cyn East	n/a[1]	--	n/a[1]	--	25.9	C	17.9	B	--	--

[1] *Future intersection*

[2] *David Way at Old Bouquet Canyon East intersection is removed and replaced with the improved David Way/Copper Hill intersection*

Interim Year Cumulative (2028) Conditions with Project Scenario

Cumulative conditions were derived by the SCVCTM. An interim horizon year of 2028 was utilized to encompass the broad range of other pending development projects within the study area. Peak hour intersection LOS calculated from the Interim Year cumulative conditions traffic forecasts are shown in **Table 3.12-7**, which provides a comparison between the with and without project scenarios. As show in this table, under cumulative conditions, the following nine intersections are forecast to be significantly impacted by the Project:

1. Bouquet Canyon Road and Vasquez Canyon Road
3. New Bouquet Canyon Road and Old Bouquet Canyon Road West
6. Kathleen Avenue and Copper Hill Drive
7. Benz Road and Copper Hill Drive
14. Golden Valley Road and Plum Canyon Road
16. Seco Canyon Road and Bouquet Canyon Road
17. Bouquet Canyon Road and Newhall Ranch Road
19. Golden Valley Road and Newhall Ranch Road
21. New Bouquet Canyon Road and Old Bouquet Canyon Road East

Roadway improvements have been identified to mitigate the project's impact at these intersections, consisting of:

1. Bouquet Canyon Road and Vasquez Canyon Road: Add a northbound right-turn de-facto lane and add a dedicated westbound left-turn lane. Installation of traffic signal with northbound and southbound split-phasing.
3. New Bouquet Canyon Road and Old Bouquet Canyon Road West: Construct median island to restrict left-turn movement (southbound left) from Old Bouquet Canyon Road to eastbound New Bouquet Canyon Road.
6. Kathleen Avenue and Copper Hill Drive: Installation of a traffic signal and widen Copper Hill Drive from 2 lanes to 4 lanes from Benz to Kathleen.
7. Benz Road and Copper Hill Drive: Construct median island to restrict left-turn movement (northbound left) from Benz Road to Copper Hill Drive (same as Existing Plus Project mitigation)
14. Golden Valley Road and Plum Canyon Road: Update corridor signal timing coordination, as needed, due to future cumulative traffic volumes.
16. Seco Canyon Road and Bouquet Canyon Road: Add second southbound left-turn lane, add one eastbound right-turn lane, add third northbound through lane.
17. Bouquet Canyon Road and Newhall Ranch Road: Add third westbound left-turn lane.
19. Golden Valley Road and Newhall Ranch Road: Extend median pocket from 300 feet to 500 feet plus taper. Update corridor signal timing coordination, as needed, due to future cumulative traffic volumes.

21. New Bouquet Canyon Road and Old Bouquet Canyon Road East: Install traffic signal (same as for Existing Plus Project), add second northbound through lane, add second southbound through lane.

As shown in **Table 3.12-8**, with these improvements, the level of service impacts at all intersections would be reduced to less than significant.

The Project is located in the Bouquet Canyon Bridge and Major Thoroughfare (B&T) District and the following impacted intersections are identified in the Bouquet Canyon B&T Construction Fee Update Report:

- Bouquet Canyon & Vasquez Canyon
- Golden Valley & Plum Canyon
- Bouquet Canyon & Seco Canyon
- Golden Valley & Newhall Ranch
- Copper Hill Drive & Bouquet Canyon Road

The proposed mitigation improvements identified in the list above for these five intersections are consistent with the B&T District and B&T fees would cover the Project's mitigation obligation.

As previously discussed under Existing Plus Project Conditions, a collective set of improvements around the Project site would alter and improve traffic flow on Benz Road, Copper Hill Drive, Kathleen Avenue, David Way, and Bouquet Canyon Road. Each of these improvements are needed to mitigate the Project's interim year cumulative impacts.

Consistency with Plans Addressing the Roadway, Transit, Bicycle, and Pedestrian Systems

One Valley One Vision (OVOV) is a joint effort between the City of Santa Clarita, the County of Los Angeles, and the Santa Clarita Valley residents. OVOV provides a vision and guidelines for the future growth of the Valley, including policies related to land use and circulation. Per the OVOV Circulation Element, Bouquet Canyon Road is designated as a Secondary Highway and includes realignment in the Copper Hill Drive area. The Project would construct Bouquet Canyon Road to Secondary Highway standards within the vicinity of the Project site and would also realign Bouquet Canyon Road. Therefore, the Project would implement the Circulation Element in regard to the designated arterial highway network. OVOV includes policies that require coordination between land use and circulation planning in order to reduce vehicle trips. The future circulation network is based on projected development permitted by the Land Use Element. Implementation of OVOV policies will create a smooth-flowing transportation system, the potential for shorter trip lengths, and alternative travel modes that encourages reduction of greenhouse gas emissions. The roadway improvements to be constructed by the Project are consistent with OVOV policies to ensure that the circulation system is safe and that the circulation system is adequate to support existing and future residents. New development projects contribute funding and construction of roadway improvements to offset impacts and help maintain the City's level of service standards. The City monitors traffic conditions and determines the appropriate time to apply funding toward specific street network improvements to relieve congestion and improve traffic flow and safety.

TABLE 3.12-7

INTERSECTION DELAY AND LOS SUMMARY – INTERIM YEAR CUMULATIVE (2028) CONDITIONS

Intersection	Traffic Control	Without Project				With Project				Increase	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	Delay (sec/veh)
1. Bouquet Cyn & Vasquez Cyn[5]	Two-Way Stop[1]	0.68	B	0.87	D	0.83	D	1.09	F	**0.15**	**0.22**
2. Project Entrance & New Bouquet Cyn	Two-Way Stop[1]	n/a[3]	--	n/a[3]	--	19.5	C	12.4	B	19.5	12.4
3. New Bouquet Cyn & Old Bouquet Cyn West	Two-Way Stop[1]	n/a[3]	--	n/a[3]	--	38.9	E	36.1	E	**38.9**	**36.1**
4. David & Copper Hill	Two-Way Stop[1]	33.2	D	21.1	C	34.5	D	21.5	C	1.3	0.4
5. David & Old Bouquet Cyn East	Signal	228.6	F	111.9	D	11.4	B	447.1	F	-217.2	**335.2**
6. Kathleen & Copper Hill	All-Way Stop[2]	174.3	F	94.4	F	177.9	F	97.0	F	**3.6**	**2.6**
7. Benz & Copper Hill	Two-Way Stop[1]	195.8	F	41.4	E	283.0	F	50.3	F	**87.2**	**8.9**
8. Alaminos & Benz	All-Way Stop[2]	8.4	A	8.3	A	8.5	A	8.5	A	0.1	0.2
9. Old Bouquet Cyn West[4] & Benz	Two-Way Stop[1]	148.6	F	28.2	D	9.5	A	9.6	A	-139.1	-18.6
10. Bouquet Cyn & Plum Cyn	Signal	34.6	C	36.0	D	37.5	D	39.1	D	2.9	3.1
11. Haskell Cyn & Copper Hill	Signal	195.6	F	151.4	F	194.1	F	150.0	C	-1.5	-1.4
12. Seco Cyn & Copper Hill	Signal	38.0	D	30.6	C	38.1	D	30.8	C	0.1	0.2
13. McBean & Copper Hill	Signal	54.3	D	53.5	D	54.6	D	52.5	D	0.3	-1.0
14. Golden Valley & Plum Cyn	Signal	33.5	C	44.4	D	34.5	C	48.4	D	1.0	**4.0**
15. Haskell Cyn & Bouquet Cyn	Signal	34.9	C	55.2	E	35.7	D	54.2	D	0.8	-1.0
16. Seco Cyn & Bouquet Cyn	Signal	50.1	D	36.5	D	58.7	E	38.9	D	**8.6**	2.4
17. Bouquet Cyn & Newhall Ranch	Signal	69.2	E	69.9	E	71.8	E	71.5	E	**2.6**	1.6
18. Bouquet Cyn & Soledad Cyn	Signal	75.2	E	104.6	F	75.4	E	105.9	F	0.2	1.3
19. Golden Valley & Newhall Ranch	Signal	294.0	F	371.3	F	296.9	F	372.4	F	**2.9**	1.1
20. Whites Cyn Rd & Soledad Cyn Rd	Signal	43.8	D	62.1	E	43.9	D	62.5	E	0.1	0.4
21. New Bouquet Cyn & Old Bouquet Cyn East	Signal	n/a[3]	--	n/a[3]	--	166.2	F	37.9	D	**166.2**	**37.9**
22. Project Entrance & Old Bouquet Cyn East	Two-Way Stop[1]	n/a[3]	--	n/a[3]	--	13.5	B	17.7	C	13.5	17.7

Notes:

[1] Delay represents the highest stop-controlled approach

[2] Delay represents the average for the entire intersection

[3] Future intersection

[4] This section of Bouquet Canyon Road becomes Old Bouquet Canyon Road West with the realignment of the roadway

[5] Per LA County guidelines the ICU methodology is utilize and cumulative with Project conditions are compared to existing without Project conditions

Shaded cells indicate a significant impact; n/a = Not applicable (i.e., intersection does not exist under Without Project conditions)

TABLE 3.12-8

INTERSECTION DELAY AND LOS SUMMARY – INTERIM YEAR CUMULATIVE (2028) WITH PROJECT CONDITIONS WITH MITIGATION

Location	Without Project				With Project and Mitigation				Net Change with Mitigation	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	Delay (sec/veh)
1. Bouquet Cyn & Vasquez Cyn	0.68	B	0.87	D	0.62	B	0.71	C	-.06	-0.16
3. New Bouquet Cyn & Old Bouquet Cyn	n/a	--	n/a	--	24.7	C	12.8	B	--	--
4. David & Co pper Hill	33.2	D	21.1	C	18.2	C	10.4	B	-15.0	-10.7
5. David & Old Bouquet Cyn East	228.6	F	111.9	D	--[1]	--[1]	--[1]	--[1]	--	--
6. Kathleen & Copper Hill	174.3	F	94.4	F	39.1	D	30.7	C	-135.2	-63.7
7. Benz & Copper Hill	195.8	F	41.4	E	10.2	B	13.0	B	-185.6	-28.4
14. Golden Valley & Plum Cyn	33.5	C	44.4	D	34.5	C	28.5	C	-1.0	-15.9
16. Seco Cyn & Bouquet Cyn	50.1	D	36.5	D	21.8	C	25.8	C	-28.3	-10.7
17. Bouquet Cyn & Newhall Ranch	69.2	E	69.9	E	66.0	E	68.2	E	-3.2	-1.7
19. Golden Valley & Newhall Ranch	294.0	F	371.3	F	284.6	F	370.6	F	-9.4	-0.7
21. New Bouquet Cyn & Old Bouquet Cyn East	n/a	--	n/a	--	31.1	C	25.5	C	--	--

[1] *David Way at Old Bouquet Canyon East intersection is removed and replaced with the improved David Way/Copper Hill intersection*

Note: The Interim Year with Project and Mitigation delay and LOS shown above assume the installation of a traffic signal at intersections 6 and 21. For the Bouquet Canyon & Vasquez Canyon intersection, the ICU methodology was used and assumes installation of traffic signal.

In regard to mass transit, the Project would not conflict with existing or future transit services since circulation through Bouquet Canyon Road would be maintained with the realignment. Access and circulation in and around the adjacent neighborhoods would also be maintained. The City of Santa Clarita Transit Development Plan (2019) provides a plan for short-term operations of the transit program in the City. In the Plan, Route 4 is shown to utilize Bouquet Canyon Road with stops around the Project site. The Project may result in the relocation of existing and future stops along the current alignment of Bouquet Canyon Road to the realigned segment of Bouquet Canyon Road, however, service would not be interrupted by the Project since access along Bouquet Canyon Road would be maintained.

In regard to active transportation, the OVOV Circulation Element includes a bicycle network plan for the City. Subsequent to the General Plan, the City developed the Non-Motorized Transportation Plan in 2014 (Plan). The purpose of the Plan was to identify and prioritize bikeway needs, enhance active transportation throughout the City, improve safety and prioritize capital improvements. There is an existing Class II Bike Lane on Bouquet Canyon Road that the Project would not conflict with. In regard to future facilities, the Plan designates a Class I Bike Path along Bouquet Creek to the south of the Project site and a Class III Bike Route on Bouquet Canyon Road north of the Project site. The Project would not conflict with these planned facilities. The Project would also include design features that accommodate pedestrian travel, such as the construction of sidewalks along Bouquet Canyon Road that provide access in and around the Project site. Therefore, the Project would not conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Impacts in this regard are less than significant.

Mitigation Measures-Existing Plus Project Scenario

MM 3.12-1: David Way and Old Bouquet Canyon East: Remove existing traffic signal. Close David Way between Old Bouquet Canyon Road and Copper Hill Drive (eliminates south leg of the David Way and Copper Hill Drive intersection). Construct new east leg at David Way at Copper Hill Drive intersection and connect to Old Bouquet Canyon Road. At the David Way and Copper Hill Drive intersection, construct median island to restrict the left-turn movement (southbound left) from David Way to Copper Hill Drive and install stop sign at David Way.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-2: Benz Road and Copper Hill Drive: Construct median island to restrict left-turn movement (northbound left) from Benz Road to Copper Hill Drive.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works.*

MM 3.12-3: New Bouquet Canyon Road and Old Bouquet Canyon East: Installation of a traffic signal.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-4: The project proponent shall pay the project's fair share contribution to a collective set of improvements around the Project site would alter and improve traffic flow on Benz Road, Copper Hill Drive, Kathleen Avenue, David Way, and Bouquet Canyon Road.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

Mitigation Measures-Interim (Year 2028) Cumulative Plus Project Scenario

MM 3.12-5: Bouquet Canyon Road and Vasquez Canyon Road. The project proponent shall pay the project's fair share (2%) of the cost of these improvements: Add a northbound right-turn de-facto lane and add a dedicated westbound left-turn lane. Installation of traffic signal with northbound and southbound split-phasing.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-6: New Bouquet Canyon Road and Old Bouquet Canyon Road West. The project proponent shall pay the project's fair share (25%) of the cost of these improvements: Construct median island to restrict left-turn movement (southbound left) from Old Bouquet Canyon Road to eastbound New Bouquet Canyon Road.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-7: Kathleen Avenue and Copper Hill Drive. The project proponent shall pay the project's fair share (2%) of the cost of these improvements: Installation of a traffic signal and widen Copper Hill Drive from 2 lanes to 4 lanes from Benz to Kathleen.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-8: Golden Valley Road and Plum Canyon Road. The project proponent shall pay the project's fair share (8%) of the cost of these improvements: Update corridor signal timing coordination, as needed, due to future cumulative traffic volumes.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-9 Seco Canyon Road and Bouquet Canyon Road. The project proponent shall pay the project's fair share (42%) of the cost of these improvements: Add second southbound left-turn lane, add one eastbound right-turn lane, add third northbound through lane.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-10: Bouquet Canyon Road and Newhall Ranch Road. The project proponent shall pay the project's fair share (8%) of the cost of these improvements: Add third westbound left-turn lane.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-11: Golden Valley Road and Newhall Ranch Road. The project proponent shall pay the project's fair share (0.5%) of the cost of these improvements: Extend median pocket from 300 feet to 500 feet plus taper. Update corridor signal timing coordination, as needed, due to future cumulative traffic volumes.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

MM 3.12-12: New Bouquet Canyon Road and Old Bouquet Canyon Road East (Copper Hill). The project proponent shall pay the project's fair share (5%) of the cost of these improvements: Add second northbound through lane, add second southbound through lane.

Timing/Implementation: *Prior to issuance of a certificate of occupancy*

Enforcement/Monitoring: *City of Santa Clarita Department of Public Works*

Level of Impact Significance Following Mitigation

All level of service impacts would be reduced to less than significant. Where new traffic signals or additional turn or through lanes are to be constructed, there could be some environmental impacts that would be determined at the time those improvements are designed and reviewed/approved by the City.

Impact 3.12b: The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b).

SB 743 required changes to the State CEQA Guidelines to establish criteria for determining the significance of transportation impacts other than automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion. In implementing SB 743, Section 15064.3 of the State CEQA Guidelines was added, which identifies VMT as generally the most appropriate measure of transportation impacts. Subdivision (b) of Section 15064.3 identifies the criteria for analyzing transportation impacts and Subdivision (c) specifies that the provisions of Section 15064.3 become effective statewide on July 1, 2020 (although a lead agency may elect to be governed by the provisions of this section immediately).

At this time, the City of Santa Clarita has not formalized any policies or directives regarding VMT analysis. Therefore, in accordance with State CEQA Guidelines Section 15064.3(b)(3), the VMT analysis in this EIR is qualitative, since no methodology to quantify VMT or corresponding thresholds of significance have

been established by the City of Santa Clarita, the County of Los Angeles, or the Southern California Association of Governments (SCAG).

The Project consists of two components, the residential development component and the roadway improvement component. Given the Project's location near the northerly edge of the developed portion of the City, the average VMT per capita for Project residents would likely be higher than the Citywide average. The Project is also constructing a realignment of Bouquet Canyon Road, which will shorten travel distance for commuters who utilize this roadway.

The current alignment of Bouquet Canyon is approximately a quarter mile longer than the proposed alignment. Under existing conditions, approximately 14,000 to 16,000 vehicles per day utilize the segment of the Bouquet Canyon that would be realigned. Under interim year conditions, approximately 22,000 to 27,000 vehicles are forecast to utilize that segment daily. The trip length for these vehicles would be reduced by approximately a quarter-mile with the realignment, which helps offset the VMT of the residential component of the Project.

Based on the analysis above, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). Impacts in this regard are considered less than significant.

Mitigation Measures

None.

Impact 3.12c: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Project roadways would be constructed in accordance with the City's design standards. The project also includes the realignment of Bouquet Canyon Road in accordance with the General Plan designation of a Secondary Highway. With the realignment, any existing design features that are hazardous would be corrected. The project would construct street improvements that provide space for pedestrians, motorists, and bicyclists. Furthermore, the Project would not construct any incompatible uses that are not consistent with the surrounding area. Therefore, the project would not substantially increase hazards due to the Project's geometric design features. Impacts in this regard are less than significant.

Mitigation Measures

None.

Impact 3.12d: With secondary access to Bouquet Canyon Road provided for Planning Areas 1, 2 and 3, the proposed project would not result in inadequate emergency access.

Construction activities associated with buildout of the Project could potentially result in partial lane closures or temporary closure of street segments. The Project is required to prepare a construction traffic management plan for any proposed street closures to be approved by the City. Therefore, emergency access to the area would not be significantly impacted during construction.

Emergency vehicle access to the Project site can be made from multiple arterial Highways, such as Copper Hill Drive, Bouquet Canyon Road from the south, and Bouquet Canyon Road from the north (via Vazquez

Canyon Road). Since there are multiple Highways that provide access to the Project site, emergency vehicle access would be adequate.

The current development plan provides one means of ingress/egress for 269 homes within Planning Areas 1, 2 and 3 to the proposed new segment of Bouquet Canyon Road. This is considered to be insufficient for emergency evacuation purposes and is inconsistent with Santa Clarita General Plan Circulation Element Policy C 2.5.2; therefore, it is considered a significant impact. This will be mitigated through a revision to the proposed development plan and subdivision map, as specified in Mitigation Measure MM 3.12-10.

Mitigation Measures

MM 3.12-13

A secondary access to the proposed segment of Bouquet Canyon Road shall be provided for the homes in Planning Areas 1, 2 and 3 that are accessible only to that new roadway segment. This secondary access shall be identified on the project plans and approved by the County Fire Department and City of Santa Clarita, prior to approval of a Final Tract Map.

Timing/Implementation:	*Prior to recordation of Final Tract Map*
Enforcement/Monitoring:	*City of Santa Clarita Department of Public Works and County of Los Angeles Fire Department*

Level of Impact Significance Following Mitigation

With the secondary access noted above, there would be sufficient emergency evacuation outlets for project residents and the impact would be less than significant.

This page intentionally left blank.

3.13 TRIBAL CULTURAL RESOURCES

3.13 TRIBAL CULTURAL RESOURCES

This section of the EIR addresses potential effects on tribal cultural resources (TCRs) that could result from the land alterations proposed by the project. Such resources are defined in Public Resources Code Section 21074 as a site, feature, place, cultural landscape (that is geographically defined in terms of the size and scope of the landscape), sacred place, or object with cultural value to a California Native American tribe.

3.13.1 EXISTING CONDITIONS

3.13.1.1 Tataviam People

As noted in Chapter 3.4 Cultural Resources, the Santa Clarita Basin is the core territory of the Tataviam people, a distinct linguistic and ethnic group first identified by the Spanish missionary Francisco Garces in 1776 (King and Blackburn 1978). Their territory spanned from the Piru Creek on the west to the Liebre Mountains and the southern edge of Antelope Valley on the north; the eastern extent of their territory has yet to be refined (King and Blackburn 1978; Johnson and Earle 1990; Szabolcsi 2000).

The Tataviam people were hunter-gatherers whose economy focused on small game as well as seeds, berries, and native plants such as yucca. Campsites and habitation areas were focused on permanent reliable water sources in the region, including streams, rivers, and lakes (Fernandeño Tataviam Band of Mission Indians 2018; King and Blackburn 1978). Several major Tataviam villages were located in areas surrounding present-day Newhall Ranch. One, *Chaguayanga* (*Tsawayng*), was situated within the Santa Clara River Valley at the confluence with Castaic Creek (Fernandeño Tataviam Band of Mission Indians 2018). Other village sites with known names were located in the San Francisquito, Piru, Camulos, Castaic Reservoir, Piru Creek, and Elizabeth Lake areas (City of Santa Clarita 2011; Johnson and Earle 1990).

Prior to missionization, bands (or tribelets or villages) were formed into single patrilineal lineages. Each lineage included a headman or leader, assistants, and ceremonial leaders. These lineages held land, engaged in collective social and economic activities, and intermarried with other lineage groups, thereby forming a highly complex network of social, religious, and economic ties (Fernandeño Tataviam Band of

Mission Indians 2018). Considerable evidence exists that widespread regional trade occurred between the Tataviam and surrounding cultural groups, including the Chumash, Serrano/Vanyume, Tongva, and western Mojave Desert cultural groups such as the Chemehuevi and Mohave. As a result of early Spanish contact, much of the specific culture history of the Tataviam people was lost, but their material culture was similar to surrounding groups and included elaborate basketry; ornamental items made from bone, shell, and stone; projectile points and tools made from lithic materials; and shell inlaid wooden vessels (ESA 2008). They resided in a Ki'j, made of bundles of grass tied to a framework of sycamore poles that formed a permanent family dwelling (Fernandeño Tataviam Band of Mission Indians 2018). Unlike some of their neighbors, the Tataviam people favored cremation of the dead rather than interment.

3.13.1.2 Records Searches, Site Field Survey, and Communications with Native American Representatives

As discussed in Chapter 3.4 Cultural Resources, a search of cultural resources research materials at the South Coast Central Information Center determined that there are no recorded historic resources on-site, and four resources found on-site during cultural resource surveys were determined to be ineligible for

listing in the National or California Register or in a local register of historical resources. As such, there are no recorded findings of TCRs associated with historic resources on-site.

HELIX contacted the Native American Heritage Commission (NAHC) on May 31, 2018, for a sacred lands file search and list of Native American contacts for the project area. The NAHC indicated in a response dated June 22, 2018, that the search of the sacred lands file was completed for the project area with negative results.

Pursuant to the provisions of Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act, in November 2018, the City of Santa Clarita notified the Fernandeño Tataviam Band of Mission Indians (FTBMI) of the proposed project and the ongoing CEQA review process and requested a response expressing any interest in further consultation. The FTBMI responded with a request for further consultation, which occurred in the last months of 2018 and the first half of 2019.

A pedestrian survey of the project site and off-site improvement areas was conducted on June 29, 2018, and November 14, 2018, respectively, by HELIX and a Native American monitor from FTBMI. During the pedestrian survey, the project site was walked in 10 meters (m) transects. Slopes greater than 25 degrees were visually assessed but were not surveyed. The top of the ridgeline on the west side of the project site was surveyed; however, the ridgeline was very narrow and systematic transects were not feasible. Visibility was poor throughout the study area. Flood plain sands have been deposited over the entirety of the valley area within the project site, and the ridgelines and slopes are highly eroded. Visibility throughout the project site was less than 10 percent in the low areas and down to zero percent along the creek banks. The slopes allowed for up to 30 to 40 percent visibility; however, most of the slopes were not surveyed due to the slope angles measuring more than 25 degrees.

No visible indications of any TCRs were identified during the cultural resources field survey efforts.

Based on a review of the proposed development plan, geotechnical report, cultural resources report, and the site surveys noted earlier, Jairo Avila, Tribal Historic and Cultural Preservation Officer of the FTBMI, stated in correspondence dated June 28, 2018, that this project is considered to be sensitive. This is based on the tribe's determination that the project:

1) Is situated along the Bouquet Canyon wash, a tributary to the Santa Ana River and a trail that connects several resources in the region;
2) Is within distance to known TCR sites;
3) Is situated on undeveloped land that has not been tested for subsurface TCRs;
4) Is situated on land containing native oak trees that could be impacted by the development plan; and
5) Could impact unidentified Native American burial sites.

3.13.2 REGULATORY AND PLANNING FRAMEWORK

3.13.2.1 State

Assembly Bill 52

AB 52 was approved by Governor Jerry Brown Jr. on September 25, 2014. It amended Public Resources Code Section 5097.94 as well as adding Public Resources Code Sections 210073, 21074, 21080.3.1,

21080.3.2, 21082.4, 21083.09, 21084.2, and 21084.3. This bill applies to projects where a Notice of Preparation of a Draft EIR or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration is filed on or after July 1, 2015. This legislation requires notification and an opportunity for consultation with affected Native American representatives who can demonstrate cultural affiliations in the project area. This notification must be provided within 14 days to the designated contact or tribal representative of California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project and who have requested in writing to be informed by the lead agency.

3.13.2.2 Local

City of Santa Clarita

Santa Clarita General Plan – Open Space and Conservation Element

- Goal CO 5: Protection of historically and culturally significant resources that contribute to community identity and a sense of history.
    - 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 California Native American tribes on the contact list maintained by the Native American Heritage Commission that have traditional lands 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.

3.13.3 THRESHOLDS OF SIGNIFICANCE

The California Environmental Quality Act Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant impact on TCRs if it would cause a substantial adverse change in the significance of a TCR, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.13.4 METHODOLOGY

A records search was conducted at the South Central Coastal Information Center (SCCIC) to determine whether there have been any documented findings of historic resources containing TCRs found on or near the project site. Field surveys were conducted throughout the project site to search for any surficial indications of potential archaeological resources, including TCRs. Notification of the proposed project and an invitation to request further consultation was provided by the City of Santa Clarita to the FTBMI. A consultation was conducted, resulting in an agreement to conduct targeted monitoring of grading activities to avoid destruction of TCRs that may be uncovered.

3.13.5 ANALYSIS

Impact 3.13-a The proposed project site is not currently listed nor eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. Therefore, the project would have no impact on tribal cultural resources associated with a known historic resource.

Discussion

As discussed in Section 3.4 Cultural Resources, based on the results of the cultural resources records searches and field surveys, and evaluation of potential resources found during the surveys, there are no known historic resources that have been recorded on the project site. This project would have no effect on any listed or potentially eligible historic resources that consist of TCRs.

Mitigation Measures

Mitigation measures would not be required.

Impact 3.13-b The proposed project site is located within ancestral tribal territory of the FTBMI. Consultation with that tribal entity determined that they consider this site to be sensitive and the City and the applicant have agreed to implement construction control measures to prevent accidental damage or destruction to tribal cultural resources. With those measures, as specified in mitigation measure **MM 3.13-1**, potential impacts would be avoided or reduced to less than significant.

Discussion

Approved by Governor Brown on September 25, 2014, AB 52 establishes a formal consultation process for California native tribes to identify potential significant impacts to TCRs as defined in the Public Resources Code Section 21074, as part of CEQA. As specified in AB 52, lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted a written request to be notified. The tribe must respond to the lead agency within

30 days of receipt of the notification if it wishes to engage in consultation on the project and the lead agency must begin consultation within 30 days of receiving the request for consultation.

In compliance with AB 52, the City of Santa Clarita notified the FTBMI of the proposed project and requested response if the tribe had a desire to consult. The FTBMI responded with a written request for consultation dated November 2, 2018, and consultation was initiated shortly thereafter. Reference materials were shared with the FTBMI, including the project's preliminary geotechnical report and grading plan, and cultural resources assessments, and a tribal representative accompanied a crew of cultural resource specialists during on-site field surveys in a search for indications of archaeological resources and TCRs. Although the tribal representatives did not identify TCRs within the project site and there are no recorded resources on the project site, the FTBMI did determine that the site is considered to be sensitive, with a strong potential for uncovering previously unknown TCRs that may occur in the near surface or subsurface areas that would be impacted by grading. During the ongoing consultation, mitigation measures were identified that would address the tribal concerns by providing for grading monitoring by a qualified tribal representative, with responsibility to identify potential TCRs, divert construction work while resources are being evaluated, and determine appropriate methods for recovery and disposition of any TCRs that might be found. Mitigation measure MM 3.13-1 is the mitigation language developed in consultation with the FTBMI and agreed to by the City and the project applicant. Through implementation of mitigation measure MM 3.13-3, impacts to TCRs would be avoided or reduced to less than significant.

Mitigation Measures

MM 3.13-1 The applicant shall retain a professional Native American monitor procured by the Fernandeño Tataviam Band of Mission Indians to observe all clearing, grubbing, and grading operations within areas designated sensitive for tribal cultural resources, including areas with young alluvium and colluvium soil conditions. If cultural resources are encountered, the Native American monitor will have the authority to request that ground-disturbing activities cease within 60 feet of discovery to assess and document potential finds in real time. One monitor will be required on-site for all ground-disturbing activities in areas designated through additional consultation. However, if ground-disturbing activities occur in more than one of the designated monitoring areas at the same time, then the parties can mutually agree to an additional monitor, to ensure that simultaneously occurring ground-disturbing activities receive thorough levels of monitoring coverage.

If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County coroner shall be contacted pursuant to California Health and Safety Code Section 7050.5 and that code shall be enforced for the duration of the project. Inadvertent discoveries of human remains and/or funerary objects and the subsequent disposition of those discoveries shall be decided by the most likely descendant as determined by the Native American Heritage Commission, should those findings be determined as Native American in origin.

Timing/Implementation: *Retain monitor prior to site clearing/grading. Conduct monitoring during site clearing/grading.*

Enforcement/Monitoring: *City of Santa Clarita, Planning Division*

Level of Impact Significance Following Mitigation

Implementation of mitigation measure MM 3.13-1 would avoid significant impacts to tribal cultural resources during construction.

3.14 UTILITIES AND SERVICE SYSTEMS

3.14 UTILITIES AND SERVICES SYSTEMS

Pursuant to the preliminary analysis in the Initial Study prepared for the proposed project (see **Appendix A**), this section of the Draft EIR evaluates the potential impacts related to the connection and/or extension of water, wastewater conveyance and treatment, storm drain, and dry utilities (electric, gas, and telecommunications) infrastructure to the project site. This section also evaluates the proposed project's potential impacts to wastewater treatment capacity and water supply resources.

As discussed in the Initial Study, potential impacts related to solid waste collection and disposal were determined to be less than significant; therefore, that topic will not be addressed in this section.

3.14.1 WATER SUPPLY AND INFRASTRUCTURE

3.14.1.1 EXISTING CONDITIONS

Water service to the project site is provided by the Santa Clarita Valley Water Agency (SCV Water). SCV Water was created January 1, 2018, through the merger of the Castaic Lake Water Agency (CLWA) and its Santa Clarita Water Division (SCWD), Newhall County Water District (NCWD), and the Valencia Water Company (VWC). The CLWA was formed as a wholesale water agency to acquire, treat, and deliver State Water Project water supply throughout the Santa Clarita Valley, and SCWD, NCWD and VWC were the retail water purveyors (SCV Water 2010). SCV Water also provides wholesale water to Los Angeles County Waterworks District (LACWWD) #36, Val Verde, which is located northwest of Santa Clarita, west of I-5 and north of State Route 126. In total, the SCV Water service area has a population of 273,000 and covers approximately 195 square miles (124,800 acres) (SCV Water 2019). The project site is located within the service area of the SCWD, which covers 34,700 acres and has approximately 31,350 service connections (L&S 2018).

SCV Water's sources of water consist of local groundwater, imported water primarily from the State Water Project, and recycled water. The sole source of local groundwater in the Santa Clarita Valley is the Santa Clara River Valley Groundwater Basin, East Subbasin, which is composed of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies most of the Upper Santa Clara River area (KJC 2016). SCV Water obtains imported water from the State Water Project from Castaic Lake and delivers it through an extensive transmission pipeline system to its retail purveyors (KJC 2016). Recycled water has been available in Santa Clarita Valley since 2003 and is used for irrigation purpose. Error! Reference source not found. below summarizes SCV Water's projected existing and planned water supply sources for the period 2020 to 2050.

Table 3.14-1
SUMMARY OF EXISTING AND PLANNED WATER SUPPLIES (ACRE-FEET)[A]

	2020	2025	2030	2035	2040	2045	2050
Existing Supplies							
Groundwater[b]	31,545	31,545	31,545	31,545	31,545	31,545	31,545
Imported Water	78,467	78,167	75,587	75,387	75,387	75,387	75,387
Recycled Water	450	450	450	450	450	450	450

	2020	2025	2030	2035	2040	2045	2050
Banking/Exchange Programs	22,950	12,950	12,950	12,950	12,950	12,950	7.950
Total Existing	133,412	123,112	120,532	120,332	120,332	120,332	115,332
Planned New Supplies							
Groundwater	5,230	7,230	8,230	10,230	10,230	10,230	10,230
Recycled	565	5,156	7,627	9,604	9,604	9,604	9,604
Banking/Exchange Programs	7,000	7,000	17,000	17,000	17,000	17,000	22,000
Total Planned	12,795	19,386	32,857	36,834	36,834	36,834	41,834

Source: KJC 2016, pg. 3-2.

[a] The values shown under "Existing Supplies" and "Planned Supplies" are projected to be available in average/normal years. The values shown under "Existing Banking and Exchange Programs" and "Planned Banking Programs" are the maximum capacity of program withdrawals, and would typically be used only during dry years.

[b] *Existing groundwater supplies represent the quantity of groundwater anticipated to be pumped with existing wells.*

In 2017, the total water demand for the SCV Water service area was approximately 77,000 acre-feet (AF), consisting of approximately 63,600 AF for municipal use and 13,400 AF for agricultural and other (miscellaneous) uses (L&S 2018). The total water demand in 2017 was met by a combination of approximately 29,900 AF from local groundwater, approximately 46,600 AF of imported water, and approximately 500 AF of recycled water.

Error! Reference source not found. below summarizes the projected water demand for the SCV Water service area for five-year increments beginning 2020 through 2050.

Table 3.14-2

SUMMARY OF PROJECTED WATER DEMAND FOR ENTIRE SCV WATER SERVICE AREA (ACRE-FEET)[a]

	2020	2025	2030	2035	2040	2045	2050
NCWD	10,100	10,700	11,200	11,800	12,600	13,400	14,200
SCWD	28,400	29,100	29,900	30,800	32,400	33,900	36,000
VWC	28,100	32,100	36,600	40,000	39,600	39,300	39,000
LACWWD #36[b]	2,300	2,700	3,100	3,500	3,900	4,300	4,700
Total Demand	68,900	74,600	80,800	86,100	88,500	90,900	93,900

Source: KJC 2016, pg. 2-6.

[a] Values rounded to the nearest hundred. Demands include savings from plumbing code and standards and active conservation as assumed in the 2015 Santa Clarita Valley Water Use Efficiency Strategic Plan.

[b] *LACWWD 36 future demand was based on a growth projection factor and not on land use. LACWWD #36 is included for purposes of providing regional completeness.*

The project site is currently undeveloped with no existing improvements on the site. Therefore, there is no water infrastructure on the project site (e.g., groundwater wells or distribution lines) and the project site does not generate water demand under current conditions.

3.14.1.2 REGULATORY AND PLANNING FRAMEWORK

STATE

California Water Plan

The California Water Plan is the state's blueprint for integrated water management and sustainability. The California Department of Water Resources (DWR) updates the plan approximately every five years. The California Water Plan is a statewide strategic plan for water management through the year 2050. The plan includes a framework and resource management strategies promoting two major initiatives: integrated regional water management that enables regions to implement strategies appropriate for their own needs and helps them become more self-sufficient; and improved statewide water management systems that provide for upgrades to large physical facilities, such as the State Water Project, and statewide management programs essential to California's economy.

Urban Water Management Planning Act

In 1983, the California legislature enacted the Urban Water Management Planning Act (UWMPA) to create Water Code Sections 10610–10656. The UWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 AF of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The UWMPA describes the contents of urban water management plans as well as how urban water suppliers should adopt and implement the plans. It is the UWMPA's intention to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

The CLWA, which is now part of SCV Water, adopted its 2015 Final UWMP in June 2016. The UWMP provides a detailed summary of present and future water resources and demands within the Santa Clarita Valley service area and assesses its water resource needs. Specifically, the UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet existing and future demands.

Senate Bill 610

Senate Bill (SB) 610 (Water Code Section 10910[c][2]) makes changes to the UWMPA to require additional information in urban water management plans if groundwater is identified as a source available to the supplier. Required information includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if non-adjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current DWR publication on that basin. If the basin is in overdraft, the plan must include current efforts to eliminate any long-term overdraft. A key provision in SB 610 requires that any project subject to the California Environmental Quality Act (CEQA) supplied with water from a public water system be provided a specified water supply assessment, except as specified in the law. Water supply assessments are required under SB 610 for projects that include 500 units of residential development (would demand an amount of water equivalent to, or greater than, the amount of water required by a project with 500 dwelling units) and for projects that would increase the number of the public water system's existing service connections by 10 percent. In accordance with Water Code Section 10912, projects subject to CEQA requiring submittal of a water supply assessment include the following:

- Residential developments of more than 500 dwelling units;
- Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- Hotels, motels, or both, having more than 500 rooms;
- Industrial, manufacturing, or processing plant, or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons;
- Mixed-use projects that include one or more of the above-identified categories; or
- A project that would demand an amount of water equivalent to or greater than the amount of water required by a 500-dwelling unit project.

As proposed, the project would result in the development of 375 residential units. Thus, the provisions of SB 610 are not applicable and the project proponent is not required to prepare a water supply assessment.

Assembly Bill 901

Assembly Bill (AB) 901 requires urban water management plans to include information relating to the quality of existing sources of water available to an urban water supplier over given time periods and the manner in which water quality affects water management strategies and supply.

Assembly Bill 1420

Effective January 1, 2009, AB 1420 amended the UWMPA to require that water management grants or loans made to urban water suppliers and awarded or administered by DWR, the State Water Resources Control Board, or the California Bay-Delta Authority or its successor agency be conditioned on implementation of the water demand management measures.

Senate Bill x7-7 (Chapter 4, Statutes of 2009)

SBx7-7, the Water Conservation Act of 2009, requires the state to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. The responsibility for this conservation falls to local water agencies, which must increase water use efficiency through promotion of water conservation standards that are consistent with the California Urban Water Conservation Council's best management practices. Each urban retail water supplier was also required to develop urban water use targets and an interim urban water use target by July 1, 2011, based on the alternative methods set out in the 2009 act. The agencies must meet those targets by the 2020 deadline. As stated in the 2017 Santa Clarita Valley Water Report, three of the water purveyors (NCWD, SCWD, and VWC) met the 2020 water conservation target in 2015. The fourth water purveyor (LACWWD 36) does not have 3,000 AF served or 3,000 connections, so SB X7-7 does not apply (L&S 2018, p. 39).

California Plumbing Code

Title 24, part 5 of the California Code of Regulations establishes the California Plumbing Code, which sets efficiency standards, such as maximum flow rates, for all new federally regulated plumbing fittings and fixtures, including showerheads and lavatory faucets.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 comprised several assembly and senate bills (AB 1739, SB 1168, and SB 1319), and requires local agencies to adopt groundwater management plans that are tailored to the resources and needs of their communities. The act requires formation of local groundwater sustainability agencies to assess local water basin conditions and adopt locally based management plans. To meet this requirement, the Santa Clarita Valley Groundwater Sustainability Agency formed in 2017 and plans to develop a groundwater sustainability plan by 2022 tailored to the resources and needs of the Santa Clarita Valley (SCVGSA 2018). These plans are intended to achieve long-term groundwater sustainability and protect existing surface water and groundwater rights. The act provides local groundwater sustainability agencies with the authority to require registration of groundwater wells, measure and manage extractions, require reports, assess fees, and revise groundwater basin boundaries. The DWR released a Draft Groundwater Sustainability Program Strategic Plan in March 2015. This 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 the DWR implements specific actions in coordination with stakeholders and partners.

State Model Water Efficient Landscape Ordinance

The State Model Water Efficient Landscape Ordinance (MWELO) promotes the efficient use of water in new or retrofitted landscapes by establishing irrigation system efficiency standards which include greywater usage, on-site stormwater capture, limiting the percentage of turf planted in new landscapes, and reporting on the implementation and enforcement of the ordinance by local agencies. Local agencies are required to either adopt the MWELO or adopt a local ordinance which must be at least as effective in conserving water as MWELO. Section 17.51.030 of the City of Santa Clarita Unified Development Code (UDC), as discussed below, implements the provisions of the MWELO at the local level.

LOCAL

2015 Santa Clarita Urban Water Management Plan

The 2015 Santa Clarita Urban Water Management Plan (2015 UWMP) was prepared for the CLWA and was adopted on June 8, 2016, prior to the creation of SCV Water. The 2015 UWMP provides a broad perspective on a number of water supply issues and is a planning tool that generally guides water supply and resource management in the Santa Clarita Valley. The 2015 UWMP includes water supply and demand forecasts that are based on the population projections in the general plans of the jurisdictions within the SCV Water service area. The 2015 UWMP also discusses the implementation of water conservation measures.

City of Santa Clarita Municipal Code Chapter 9.38, Water Conservation

The City of Santa Clarita Municipal Code Chapter 9.38, Sections 9.38.010 through 9.38.050, establish water use guidelines and restrictions which reinforce the water use reduction goals established in the Water Shortage Contingency Plan adopted by the CLWA. This chapter outlines both the appropriate water use restrictions in response to drought conditions and the continual water use practices that outline the measures for efficient use of water in irrigation and indoor plumbing, including drought-tolerant landscaping and low-flow fixtures.

City of Santa Clarita Unified Development Code Section 17.51.030, Development Standards – Landscaping and Irrigation Standards

The City of Santa Clarita UDC Section 17.51.030 sets forth the landscaping and irrigation standards for all new development in the city and codifies the implementation of the state MWELO. Specifically, the purpose of this section is to encourage the efficient use of water through appropriate low water-using plant materials, water-conserving irrigation design, and regular maintenance of landscaped areas. Further, the intent of this section is to encourage the appropriate design, installation, maintenance, and management of landscapes so that water demand can be decreased, runoff can be retained, and flooding can be reduced without a decline in the quality or quantity of landscapes. Lastly, this section is intended to promote the conservation of potable water by maximizing the use of recycled water and other water-conserving technology for appropriate applications.

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Conservation and Open Space Element (Santa Clarita 2011a) and Land Use Element (Santa Clarita 2011b) are listed below.

Conservation and Open Space Element – Water Supply

- 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 4.1: Promote water conservation as a critical component of ensuring adequate water supply for Santa Clarita Valley residents and businesses.
        - Policy 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 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 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.
    - 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 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 4.2.6: Require that all new development proposals demonstrate a sufficient and sustainable water supply prior to approval.

Land Use Element – 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 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 7.4.1: Require the use of drought tolerant landscaping, native California plant materials, and evapotranspiration (smart) irrigation systems.
        - Policy 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.

Land Use Element – 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 9.1.1: Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.
        - Policy 9.1.2: Coordinate review of development projects with other agencies and special districts providing utilities and other services.

3.14.1.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to water supply and infrastructure if it would:

a) Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple years.

3.14.1.4 METHODOLOGY

The analysis of potential impacts to water infrastructure and supply is based on communication with SCV Water. The proposed project's estimated water demand is calculated using demand factors for the project's domestic and irrigation demands as provided by SCV Water and is analyzed relative to the available water supply during average/normal years projected in the 2015 UWMP. Further analysis

includes identifying existing off-site water infrastructure in the vicinity of the project site and determining whether connections to such existing water infrastructure would result in project impacts.

3.14.1.5 ANALYSIS

Impact 3.14.1a The proposed project would require water service provided by SCV Water's Santa Clarita Water Division (SCWD). The development of 375 new residential units and private and common landscape areas on the project site would generate a water demand of approximately 338.85 acre-feet per year. This would require construction of new on- and off-site water infrastructure to connect to the existing local water distribution lines maintained and operated by SCWD. Impacts would be less than significant.

Discussion

SCV Water's SCWD would provide water service to the project site for the proposed 375 new residential units. Points of connection to the SCWD existing water distribution lines are located along the south side of Bouquet Canyon Road in the two areas where the new layout of Bouquet Canyon Road would tie into the existing roadway. Construction impacts associated with the installation of these connections to the existing water distribution lines would primarily involve trenching to place the connections below the ground surface. The design and installation of these new service connections would require coordination with SCWD to ensure compliance with applicable construction standards and avoid disruption of water service to existing customers, and to maintain safe traffic flow over affected street segments. In addition, during construction of the proposed project, water would be required primarily for dust control, cleaning of equipment, and other related construction activities; however, the water demand would be temporary and intermittent. Water for construction-related purposes could be provided by water trucks and/or through connections to nearby water distribution lines. The amount of water required during this construction phase would be well below the total water demand of the fully developed project and would not require expansions of existing or construction of new water transmission infrastructure. Therefore, construction impacts to water supplies and facilities would be less than significant.

Error! Reference source not found. below summarizes the proposed project's estimated water demand by housing unit type and total irrigation demand. The proposed project would generate an estimated total water demand of 338.85 AF per year during an average rainfall year; in single drought years, the water demand is estimated to be 10 percent higher, or 372.7 AF per year (Marks 2019). According to SCV Water, the proposed project's water demand would not require additional water transmission infrastructure; therefore, project impacts would be less than significant.

Table 3.14-3
ESTIMATED PROJECT WATER DEMAND (ACRE-FEET PER YEAR) IN AVERAGE RAINFALL YEAR

	No. of Units	Demand Factor	Demand
Planning Area 1 - Single-Family Lots with Driveways	52	0.7936	41.3
Planning Area 1A - Single-Family Lots with Driveways	12	0.7936	9.5
Planning Area 2 - Single-Family Detached/8-Pack Cluster	136	0.7936	107.9
Planning Area 3 - Backyard Towns	90	0.3436	30.9

	No. of Units	Demand Factor	Demand
Planning Area 4 - Rowtown with Carriage Units	85	0.3436	29.2
Landscape Irrigation	-	-	120.0
Total Demand	**375**	**-**	**338.85**

Source: Marks 2019

Mitigation Measures

The project would have a less than significant impact and would not require mitigation.

Impact 3.14.1b SCV Water would have sufficient water supplies to meet the project's water demand of 338.85 acre-feet per year to supply water service to the 375 new homes and the irrigated landscape areas proposed by the project, during normal, dry, and multiple dry years. Impacts would be less than significant.

Discussion

As discussed above, the proposed project would generate an estimated total water demand of 338.85 AF per year during an average rainfall year or 372.7 AF per year in single dry years. The proposed project is consistent with the "Urban Residential 2 (UR2)", "Urban Residential 5 (UR5)", and "Neighborhood Commercial (CN)" General Plan land use designations for the project site, which allows for single-family homes, medium- to high-density apartment, and condominium complexes. SCV Water has stated that the proposed project's water demand is included in the water demand projections contained in the 2015 UWMP (see **Error! Reference source not found.**), since the proposed project is consistent with the City's General Plan land use designations (Marks 2019). Therefore, SCV Water's existing and planned water supplies (see Error! Reference source not found.) would be sufficient to serve the project site and impacts would be less than significant.

Mitigation Measures

The project would have a less than significant impact and would not require mitigation.

3.14.2 WASTEWATER TREATMENT AND INFRASTRUCTURE

3.14.2.1 EXISTING CONDITIONS

The project site has no wastewater infrastructure and does not currently generate any wastewater. It is not within the jurisdictional boundaries of the Sanitation Districts of Los Angeles County (SDLAC), which provides wastewater collection and treatment services throughout the Santa Clarita Valley and a larger total service area of approximately 824 square miles, consisting of 24 independent sanitation districts serving approximately 5.5 million people within 78 cities and unincorporated territory in Los Angeles County (SDLAC 2019a). The Santa Clarita Valley Sanitation District owns, operates, and maintains the wastewater conveyance system for the Santa Clarita Valley, which consists of a 34-mile long, interconnected network of trunk sewers and two pumping plants (SDLAC 2019b). The system conveys wastewater and wastewater solids from the local sewer lines, which are either owned by the City of Santa Clarita or Los Angeles County, to the Saugus and Valencia Water Reclamation Plants (WRPs) (SDLAC 2019b). The Saugus WRP is located at 26200 Springbrook Avenue in the City of Santa Clarita and provides

primary, secondary, and tertiary treatment for 6.5 million gallons per day (mgd) of wastewater (SDLAC 2019c). The Valencia WRP is located at 28185 The Old Road in the community of Valencia, in Los Angeles County unincorporated area, and provides primary, secondary, and tertiary treatment for 21.6 mgd of wastewater (SDLAC 2019d). The Valencia WRP also has solids processing facilities and processes all wastewater solids generated in the Santa Clarita Valley Sanitation District. The Saugus and Valencia WRPs are interconnected, forming the Santa Clarita Valley Joint Sewerage System (SCVJSS), which has a combined water treatment capacity of 28.1 mgd and currently produces an average recycled water flow of 18.4 mgd (Raza 2019).

The nearest SDLAC regional collection sewer is the Bouquet Canyon relief trunk sewer, located in Bouquet Canyon Road at Festividad Drive, south of Seco Canyon Road. That trunk sewer has a capacity of 12.3 mgd and conveyed a peak flow of 3.5 mgd when last measured in 2012. (Raza 2019)

3.14.2.2 REGULATORY AND PLANNING FRAMEWORK

FEDERAL

Clean Water Act, National Pollutant Discharge Elimination System Permits

The National Pollutant Discharge Elimination System (NPDES) permit system was established as part of the Clean Water Act to regulate discharges from all point sources. Through this system, point sources of pollution must obtain a discharge permit from the proper authority, often a state, federal agency (EPA), a tribe, or a territory. The NPDES permits cover industrial and municipal discharges, storm sewer discharges in larger cities, stormwater associated with industrial activity, runoff from construction sites disturbing more than 1 acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds. For point source discharges, such as municipal sewage plants and industrial uses, each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Indirect dischargers, those that send wastewater into municipal sewer systems that flow into a sewage treatment plant, are not required to obtain NPDES permits. These indirect discharges are covered by another Clean Water Act program, called pretreatment.

STATE

California State Water Resources Control Board

The State Water Resources Control Board 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. Per Title 23, Part 26 of the California Code of Regulations, the board oversees the Wastewater Treatment Plant Classification, Operator Certification, and Contract Operator Registration Program, which is designed to protect public health and the environment by providing for the effective operation of wastewater and water recycling treatment plants through the certification of wastewater treatment plant operators.

LOCAL

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Land Use Element are listed below.

Land Use Element – 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.
    - Objective 9.2: Coordination of City and County sewer master planning and sewer mitigation to support future development and avoid fiscal impacts to local government or the existing community.
        - Policy 9.2.2: Require that all new development mitigates its impact on existing sewer capacity by upgrading facilities when warranted or payment of a fee to allow construction of new facilities when needed.
        - Policy 9.2.4: Facilitate the efficient construction of sewer infrastructure by sizing facilities to accommodate anticipated future sewer flows within the sewershed.
        - Policy 9.2.5: Cooperate with the development community to allow reimbursement for the cost of constructed sewer facilities with a capacity that exceeds what would be required to mitigate a project's own sewer impact.
        - Policy 9.2.6: Coordinate to ensure that new development projects have agreed to mitigate both City and County sewer impacts prior to project approval.

3.14.2.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project would have a significant environmental impact related to wastewater collection and treatment infrastructure if it would:

a) Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.

b) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

3.14.2.4 METHODOLOGY

The analysis of potential impacts to wastewater treatment facilities is based on communication with SDLAC. The proposed project's estimated wastewater flows are calculated using loading factors provided by SDLAC and analyzed relative to the capacity of the WRPs and regional collection sewer lines that the proposed project would connect to.

3.14.2.5 ANALYSIS

Impact 3.14.2a Wastewater flows from the project site would be discharged to the Los Angeles County Sanitation District's Bouquet Canyon Relief Trunk Sewer, then conveyed to the Saugus and Valencia WRPs for treatment. The trunk sewer and the Saugus and Valencia WRPs would have sufficient capacity to convey and treat the flows generated by the fully developed project. Therefore, the project would not require the construction of new or expanded wastewater collection or treatment facilities and impacts would be less than significant.

Discussion

Error! Reference source not found. provides the estimated wastewater flows that would be generated by the proposed project at buildout. As shown, based on the loading factors provided by SDLAC, the 375 new homes and the recreation center on the project site would generate a total of 74,490 gallons per day (gpd) of wastewater. The wastewater flow from the project site would be discharged to a new sewer main to be constructed by the project within the proposed new segment of Bouquet Canyon Road, then conveyed to the 24-inch Bouquet Canyon Relief Trunk Sewer, located in Bouquet Canyon Road at Festividad Drive, south of Seco Canyon Road, approximately two miles southwest of the project site. Construction of the sewer main within the new segment of Bouquet Canyon Road would not result in additional or stand-alone impacts that have not been accounted for in the project's various construction impacts associated with the new segment of Bouquet Canyon Road. A private system of underground sewers would collect wastewater generated at the homes and recreation centers for conveyance into the new sewer main.

The project site is not within the jurisdictional boundaries of the SDLAC and will require annexation before sewer service can be provided. The proposed project would also be required to pay a capital facilities fee to connect to the SDLAC sewer system. Upon annexation and connection, the Bouquet Canyon relief trunk sewer, which has a capacity of 12.3 mgd and peak flow of 3.5 mgd, would have sufficient capacity to accept the estimated 74,490 gpd (0.074 mgd) of wastewater from the project site. This would represent a minor increment of the available capacity in that sewer. The project's estimated 0.074 mgd of wastewater would represent a negligible share of the total capacity of the SCVJSS and would thus result in a minor impact on system capacity. The proposed project would not require the construction of new or expanded wastewater collection or treatment facilities. Impacts would be less than significant.

Table 3.14-4
ESTIMATED PROJECT WASTEWATER GENERATION (GALLONS PER DAY)

	No. of Units	Factor[a]	Demand
Single-Family Detached	64	260	16,640
Single-Family Detached/8 Pack Cluster	136	195	26,520
Attached Backyard Towns	90	195	17,550
Attached Rowtowns	85	156	13,260
Recreation Centers	2[b]	260	520
Total Wastewater Flow			**74,490**

Source: Michael Baker International 2019

[a] Based on the factors provided by SDLAC in *Table 1, Loadings for Each Class of Land Use.* Website: https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531, accessed May 31, 2019.

[b] *Projected wastewater generation for the two proposed private recreation centers (and associated restroom facilities) is estimated to have the same wastewater generation factor as two single-family detached homes.*

Mitigation Measures

The project would have a less than significant impact and would not require mitigation.

Impact 3.14.2b The project would need to annex into the SDLAC to discharge wastewater into their sanitary sewer system for conveyance and treatment. Wastewater flows from the project site, estimated at 0.074 mgd, would be conveyed to the SCVJSS for treatment. The Saugus and Valencia WRPs have sufficient capacity to treat the flows generated by the fully developed project and existing wastewater infrastructure within Bouquet Canyon Road has the capacity to convey project-generated wastewater to the SCVJSS. As such, impacts would be less than significant.

Discussion

As discussed above, the fully developed project would generate a total of 74,490 gpd (0.074 mgd) of wastewater. The proposed project's total estimated wastewater flow represents 0.08 percent of the approximately 9.7 mgd remaining capacity of the SCVJSS, which comprises the Saugus and Valencia WRPs. Further, the Bouquet Canyon relief trunk sewer, which has a capacity of 12.3 mgd and a peak flow of 3.5 mgd, has sufficient capacity to receive the proposed 0.074 mgd volume of wastewater from the project and convey it to the SCVJSS. Therefore, the SCVJSS would have sufficient capacity to receive and treat the wastewater flows from the project site in addition to existing wastewater flows. Impacts would be less than significant.

Mitigation Measures

The project would have a less than significant impact and would not require mitigation.

3.14.3 STORM WATER DRAINAGE

3.14.3.1 EXISTING CONDITIONS

The project site currently consists of approximately 73.7 acres of mostly undeveloped land, covered by a mixture of natural and altered landscapes, prominent hills in the western side, and Bouquet Creek flowing from east to west in the northern part of the site. The project site does not include a 2.9-acre inholding parcel that is developed with a single-family residence on the western boundary of the project site. Beginning north of Bouquet Canyon Road, near the intersection with Hob Avenue, Bouquet Creek is a soft bottom channel with concrete walls and is a tributary to the Santa Clara River. The channel is maintained by the Los Angeles County Flood Control District (LACFCD). Currently, stormwater runoff from the center and southern portion of the site drains north, to the natural creek channel on the project site, and is conveyed to the LACFCD-managed Bouquet Creek via a culvert beneath Bouquet Canyon Road. Stormwater on the western portion of the project site, west of the significant ridgeline, drains to an inlet structure underneath Bouquet Canyon Road opposite Russ Jay Street. Stormwater is then conveyed to Bouquet Creek to the west via an underground drain managed by the LACFCD located in between Russ Jay Street and Sue Drive.

3.14.3.2 REGULATORY AND PLANNING FRAMEWORK

REGIONAL

Los Angeles County MS4 Permit

The Los Angeles County Regional Water Quality Control Board issued a revised NPDES permit in 2012, promulgated under the federal Clean Water Act and the State Porter-Cologne Act, which regulates discharges of urban runoff in public storm drains in Los Angeles County. This includes regulations governing the quality and the quantity of wastewater discharges. The MS4 permit includes project performance criteria for new development and redevelopment projects that include guidance for managing water quality and quantity. Water quality performance criteria include controlling runoff volume from the project site by minimizing impervious surfaces and controlling runoff through infiltration, bioretention, and/or rainfall harvest and use. Further, the MS4 permit states that projects that discharge to natural drainage systems must implement control measures to ensure that downstream stream habitats are not impacted by accelerated project runoff.

Los Angeles County LID Standards Manual

Los Angeles County has a Low Impact Development Standards manual, which outlines stormwater quality and quantity control design standards. These design standards are also outlined in the Santa Clarita Municipal Code, Section 17.95 and require certain projects to retain stormwater on-site through infiltration, evapotranspiration, and stormwater harvest, as feasible. Per Section 17.95, development projects must retain stormwater quality design volume on-site, which is defined as the volume of runoff produced from a 0.75-inch, 24-hour rain event, or the 85th percentile 24-hour runoff event, as determined by the Los Angeles County 85th percentile precipitation isohyetal map, whichever is greater.

LOCAL

Santa Clarita Unified Development Code

The City of Santa Clarita UDC Chapter 17.95 contains post-construction stormwater requirements for development projects, which apply to projects larger than 1 acre in size with more than 10,000 square feet of impervious surface. The requirements state that no development shall increase the peak rate of stormwater discharge from the developed site if the increase would make downstream erosion more probable.

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Land Use Element and Conservation and Open Space Element are listed below.

Land Use Element – Environmentally Responsible Development

- Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resource.
    - Objective LU 7.3: Protect surface and ground water quality through design of development sites and drainage improvements.

- Policy LU 7.3.2: Maintain stormwater runoff onsite by directing drainage into rain gardens, natural landscaped swales, rain barrels, permeable areas, and use of drainage areas as design elements, where feasible and reasonable.
- Policy LU 7.3.3: Seek methods to decrease impermeable site area where reasonable and feasible, in order to reduce stormwater runoff and increase groundwater infiltration, including use of shared parking and other means as appropriate.

Conservation and Open Space Element – 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 4.3: Limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, and managing stormwater runoff at the source.
    - Policy CO 4.3.1: On undeveloped sites proposed for development, promote onsite stormwater infiltration through design techniques such as pervious paving, draining runoff into bioswales or properly designed landscaped areas, preservation of natural soils and vegetation, and limiting impervious surfaces.

3.14.3.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to stormwater drainage and treatment infrastructure if it would:

a) Require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.

3.14.3.4 METHODOLOGY

The analysis of potential impacts involving construction of new stormwater drainage facilities is based on the proposed development plans for the project site, as well as the Hydrology Study and Urban Stormwater Mitigation Plan prepared to support the proposed development plan (see Appendix I).

3.14.3.5 ANALYSIS

Impact 3.14.3a The stormwater drainage facilities developed on-site would be designed to contain stormwater from a 100-year storm. Infiltration and biofiltration basins are designed to hold a greater capacity than the water quality volume required by the County of Los Angeles. As such, the project would not require new or expanded stormwater drainage facilities outside of the project limits; therefore, the project would have a less than significant impact on existing municipal storm drain facilities. No unique impacts would result from the proposed on-site drainage improvements beyond the impacts evaluated for the overall project footprint.

Discussion

As the project site is currently undeveloped, the project would require new drainage facilities to manage stormwater generated in the project area. The proposed project would include a new drainage channel which would run parallel to Bouquet Creek and would be designed to contain 100-year and other higher intensity storm flows, and to modify the existing Federal Emergency Management Agency (FEMA) floodplain mapping to confine the limits of the 100-year flood hazard zone to this channel area. Refer to Chapter 3.9 for additional details concerning modifications to the existing floodplain. This new channel would be constructed as a reinforced concrete trapezoidal structure, with access roads along both sides to facilitate regular and emergency maintenance operations. In-street, underground drainage lines would collect runoff from developed areas associated with the project for conveyance into the new drainage channel. Stormwater runoff from manufactured slopes south of the proposed realignment of Bouquet Canyon Road would drain either west to existing stormwater infrastructure in Bouquet Canyon Road, which would convey stormwater west to Bouquet Creek, or north, via culverts underneath the proposed realignment of Bouquet Canyon Road to the new drainage channel on the project site. Two infiltration basins and two bio-basins (non-infiltrating) are proposed to collect and treat runoff, prior to discharge into the new drainage channel or to allow the runoff to infiltrate into the subsurface. The infiltration basins, both with overflow pipes connected to the proposed drainage basin, are proposed at the north end of the project site between the proposed drainage channel and Bouquet Canyon Road and south of the Bouquet Canyon Road realignment, immediately south of where the proposed drainage channel passes underneath the Bouquet Canyon Road realignment. These infiltration basins prevent pollutants in stormwater from being discharged off-site by allowing stormwater to infiltrate into the soil where natural processes can break down pollutants. The non-infiltrating bio-basins are proposed on the west side of the project site, across Bouquet Canyon Road from Pam Court, and on the southwest side of the project site, north of the intersection of existing Bouquet Canyon Road and the proposed new segment of Bouquet Canyon Road. These bio-basins treat stormwater through natural mechanisms by removing pollutants as the water passes through the root zone of vegetation in the bio-basin. Two debris/desilting basins are located on the project site, one immediately southwest of the infiltration basin south of the Bouquet Canyon Road realignment and one between two manufactured slopes on the south side of the Bouquet Canyon Road realignment. These debris/desilting basins allow sediment and debris to settle out of the stormwater before it is discharged off-site. Finally, a debris-carrying paved ditch would be located south of the Bouquet Canyon Road realignment, connecting manufactured slopes south of Bouquet Canyon Road to the debris/desilting basin near where the proposed drainage channel passes underneath the Bouquet Canyon Road realignment. The infiltration basins, biofiltration basins, and two debris/desilting basins south of Bouquet Canyon Road would be maintained by LACFCD. The debris-carrying paved ditch would be privately maintained.

In addition to the proposed high-flow drainage channel, the proposed storm drainage system would retain and restore existing Bouquet Creek as an unlined/revegetated drainage course between the proposed main drainage channel and Planning Area 4This natural drainage would maintain low flows of stormwater generated off-site that currently flow through the project site to the channelized portion of Bouquet Creek northwest of the project site.

All elements of the proposed project storm drainage network will be designed to meet or exceed the design criteria set forth in the Los Angeles County Department of Public Works (LACDPW) Hydrology

Manual and Sedimentation Manual. Examples of those standards that are key to sizing and location of storm drain facilities are:

- Design storm frequency: 25-year storm for developed areas and a 50-year storm for undeveloped areas
- Debris Potential Areas (DPAs) and soil type
- Peak bulking factor
- Debris production
- Isohyet
- Percent imperviousness

As stated above, the newly constructed drainage channels associated with the project site would allow for revisions to the FEMA floodplain mapping, to reflect that 100-year storm flows would be contained within the channel limits. The above-described stormwater drainage facilities are described in further detail in **Section 3.9, Hydrology and Water Quality**, of this Draft EIR. Environmental impacts associated with these improvements are analyzed in **Sections 3.3, Biological Resources**, **3.6, Geology and Soils**, and **3.9, Hydrology and Water Quality** of this EIR. As discussed in those sections, none of the proposed drainage system improvements would result in significant adverse impacts, although permits would be required from the U.S. Army Corps of Engineers and the Los Angeles Regional Water Quality Control Board, for impacts to non-wetland Waters of the US and a permit would be required from the California Department of Fish and Wildlife for alterations to streambed features. As the proposed stormwater drainage channel is designed to manage stormwater from a 100-year storm and other high intensity flows, and because biofiltration and infiltration basins are designed with greater water quality volume capacity than is required by the LACDPW, the proposed project would have adequate stormwater drainage facilities, requiring no additional facilities outside of the project area. Peak rates of developed site runoff that flows into the existing municipal storm drainage network outside of the project site would be no more than under current conditions, as required under LACDPW design standards. Therefore, the proposed stormwater drainage facilities would have less than significant impacts and would not require mitigation.

Mitigation Measures

The project would have a less than significant impact and would not require mitigation.

3.14.4 DRY UTILITIES

3.14.4.1 EXISTING CONDITIONS

ELECTRIC POWER

Southern California Edison (SCE), a division of Edison International, provides electric service to the project area. As of 2017, SCE's power sources include 32 percent renewable (geothermal, small hydroelectric, solar, and wind), 0 percent coal, 8 percent large hydroelectric, 20 percent natural gas, 6 percent nuclear, and 34 percent "unspecified," which refers to electricity from transactions that are not traceable to specific generation sources (SCE 2017). Power is delivered from the California grid to seven substations in

the Santa Clarita region. The Saugus substation, located near the intersection of Magic Mountain Parkway and Tourney Road, is the largest distributor of electricity in the City's General Plan planning area (CPUC 2019).

Currently, the project site is vacant/undeveloped land. As such, the project site does not currently contain any developed area requiring electric power and there is no electricity infrastructure on-site. Existing electrical infrastructure in the area includes overhead electrical power lines along the Bouquet Canyon Road site frontage.

NATURAL GAS

The California Public Utilities Commission (CPUC) regulates natural gas utility services for approximately 10.8 million customers that receive natural gas services in California. Statewide, the majority of natural gas customers are residential and small commercial customers, who accounted for approximately 32 percent of natural gas delivered from California utilities in 2012; larger consumers, such as industrial uses and electric generators, accounted for the remaining 68 percent. According to the CPUC, most of the natural gas used in the state comes from outside of California. In 2012, only 9 percent of natural gas used by Californians originated in California. The rest of the natural gas used in California came from the southwest U.S. (35%), the Rocky Mountains (40%), and Canada (16%).

Natural gas service to the project area is provided by the Southern California Gas Company (SoCal Gas). Within the Santa Clarita region, SoCal Gas service lines range in size from 2- to 34-inch mains. In the eastern part of the city, two 30-inch gas lines run along the Santa Clara River (Santa Clarita 2010). There are no natural gas storage or transmission facilities on the undeveloped project site. The nearest SoCal Gas transmission lines are located in Bouquet Canyon and Copper Hill Roads.

TELECOMMUNICATIONS

Telephone, internet, and cable service to the project area are provided by AT&T, Spectrum (formerly Time Warner Cable), and Dish Network. Other high-speed internet options are planned for the Santa Clarita area with City Council approving the lease of two fiber optic strands from a private company during the council's June 25, 2019, meeting; these would connect Santa Clarita with downtown Los Angeles, providing more selection of internet service providers and potentially faster internet speeds. As the project site is currently vacant, there are no telecommunications facilities currently located within the project site; however, these services and related infrastructure are available in surrounding residential neighborhoods.

3.14.4.2 REGULATORY AND PLANNING FRAMEWORK

STATE

California Public Utilities Commission (CPUC)

The CPUC regulates investor-owned electric and natural gas utilities operators (such as SCE and SoCal Gas) in California. This includes in-state transportation over the utilities' transmission and distribution systems, storage, procurement, metering, and billing. Specifically, the CPUC has primary rate-making jurisdiction over the funding of distribution-related expenditures associated with 66 kilovolt powerlines and has a significant role in permitting transmission and substation facilities. The CPUC also specifies a variety of design, construction, inspection, and notification requirements for these utilities and conducts annual

audits of natural gas pipeline operations to ensure compliance with safety standards. The CPUC operates Tariff Rule 20, which requires utilities to allocate certain amounts of funding each year for projects converting aboveground utility lines to underground utility lines. The CPUC then authorizes the utility to recover the costs of undergrounding utilities from ratepayers if the commission determines that the project was in the "public interest," such as elimination of an unusually heavy concentration of overhead lines, undergrounding utilities along a road or street with high traffic volumes, or undergrounding utilities in recreation areas or other areas of scenic interest.

The CPUC also develops and implements policies regulating the telecommunications industry. These regulations are designed to ensure fair and affordable universal access to necessary services and removing barriers preventing a competitive market. The CPUC communications division is responsible for licensing, registration, and the processing tariffs of local exchange carriers, competitive local carriers, and non-dominant interexchange carriers. It is also responsible for registration of wireless service providers and franchising of video service providers. The division tracks compliance with commission decisions and monitors consumer protection and service issues and commission reliability standards for safe and adequate service. The CPUC also administers the Broadband Infrastructure Grant Account, which provides funding for broadband infrastructure that provides the "last mile" connection to households that are unserved by an existing broadband provider.

California Energy Commission (CEC)

The CEC is the state's principal energy planning organization, charged with six basic functions: 1) forecasting electrical needs statewide, 2) licensing power plants to meet those needs, 3) promoting energy conservation and efficiency measures, 4) promoting research, development, and demonstration projects, 5) developing renewable energy resources and alternative energy techniques, and 6) planning for and directing response to state energy emergencies.

Since the proposed project does not include any new energy generation facilities for either the electricity or natural gas networks, and would construct connections to existing mainline natural gas and electricity grid infrastructure, the project is not subject to regulation by the CPUC or the CEC with respect to its energy infrastructure.

California Code of Regulations, California Building Standards Code (Title 24)

The California Energy Efficiency Standards for residential and nonresidential development are included as Title 24, Parts 6 and 11 of the California Code of Regulations. These standards mandate certain energy efficiency measures and include standards for attics, walls, water heating, and lighting. Further, recent amendments to Title 24, Part 6, (Sections 110.10 and 150.1) will require installation of on-site photovoltaic panels for low-rise residential buildings permitted on or after January 1, 2020.

LOCAL

Santa Clarita Unified Development Code

Section 17.51.070, Road Dedication, Improvements, and Other Requirements, of the City of Santa Clarita Unified Development Code (UDC) states that "a building or structure shall not be used on any lot or parcel of land any portion of which abuts upon an alley, street or highway unless the one-half (1/2) of the alley, street or highway … has been dedicated and improved" with curbs, gutters, sidewalks, base pavement, streetlights, street trees, and drainage structures. This section also specifies that all new and existing

utilities shall be located underground, including along project street frontage. When locating utilities underground is not possible, they shall be screened from view to the satisfaction of the City Engineer.

City of Santa Clarita General Plan

The applicable goals, objectives, and policies from the City of Santa Clarita General Plan Land Use Element and the Conservation and Open Space Element are listed below.

Land Use Element – Community Appearance

- Goal LU 6: A scenic and beautiful urban environment that builds on the community's history and natural setting.
    - Objective LU 6.3: Beautify streetscapes and gateways to the community.
        - Policy LU 6.3.4: Require undergrounding of utilities lines for new development where feasible and plan for undergrounding of existing utility lines in conjunction with street improvement projects where economically feasible.

Land Use Element – 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 9.1.1: Ensure construction of adequate infrastructure to meet the needs of new development prior to occupancy.

3.14.4.3 THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant environmental impact related to energy and telecommunications infrastructure if it would:

a) Require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects.

3.14.4.4 METHODOLOGY

Analysis of potential project impacts was based on locations and extent of proposed connections to existing off-site utility infrastructure and the potential for disruptions to traffic flow or utility services, or potential for additional impacts of other kinds during construction of those connections. Regional demand forecasts for electricity and natural gas services were examined to help determine if there could be potential impacts involving expanding the supplies of these energy sources.

3.14.4.5 ANALYSIS

Impact 3.14.4a The project area is already served by electricity, natural gas, and telecommunication service providers. As such, the proposed project would require connections to existing infrastructure, such as electricity lines and natural gas mains in surrounding roadways. As no other modifications to existing off-site infrastructure facilities are anticipated as a result of adequate electric and natural gas capacity and existing telecommunication services, the project would not require construction or expansion of such utility facilities, resulting in less than significant impacts requiring no mitigation.

Discussion

Electricity

The proposed project would include connections to the existing electrical energy infrastructure maintained by SCE located in Copper Hill and Bouquet Canyon Roads. The project site is surrounded by suburban land uses to the north, west, and south, which are served by SCE. Individual energy demand in the Santa Clarita region for a residential user is typically higher than that of an average SCE user, due to lack of older, small housing stock in the city, as well as the hot climate. However, while individual residential energy demand is greater in Santa Clarita, no major upgrades to the electrical system are anticipated as a result of this project because overall regional projections set forth by energy purveyors anticipate that energy demand will decline. This is because of more efficient power plants, statewide efforts to minimize greenhouse gas emissions through demand-side reductions, and CPUC-authorized energy efficiency programs (California Gas and Electric Utilities 2016).

Further, a portion of each home's electrical power demand would be met with on-site solar photovoltaic panels pursuant to Section 110.10 of the California Energy Efficiency Standards (Title 24, Part 6), which requires installation of on-site photovoltaic panels for low-rise residential buildings permitted on or after January 1, 2020. These on-site photovoltaic panels would be installed exclusively on rooftops. As such, there is no additional impact associated with the photovoltaic panels beyond construction impacts already discussed in other sections of this EIR. Electricity generated via photovoltaic panels would be supplemented by energy provided by SCE during peak energy demand periods and at night, when photovoltaic panels would not produce electricity. Therefore, as some of the electrical energy demand for the proposed development will be generated on-site, and overall energy needs in the region are projected to be lower in the future, no electrical energy system capacity problems or major upgrades to existing electrical energy infrastructure are anticipated as a result of the proposed project. Should SCE determine that upgrades to existing electrical energy infrastructure would be necessary, resulting from either the demand of the proposed project or cumulative demand increases, such off-site upgrade projects would be undertaken by SCE and would be subject to environmental review pursuant to CEQA. Attempting to estimate what environmental impacts may result from such electrical utility infrastructure improvements without knowledge of when and where the improvements would take place would be speculative.

The construction associated with electricity service connections described above could result in air quality (dust), noise, or and/or circulation impacts. For example, connections to existing electricity infrastructure along Bouquet Canyon Road may require temporary traffic disruptions to allow utility trucks to access

overhead power lines. If overhead powerlines along Bouquet Canyon Road are to be undergrounded, upon the direction of the City of Santa Clarita, then trenching could result in traffic disruptions and construction-related air quality (e.g., dust) and noise impacts. These impacts would be temporary and short term, occurring only for portions of a normal construction work day and only in those areas where utility improvements are being constructed. Therefore, the impact to neighboring residents to the west and north would be limited and would not be expected to be more significant than an occasional nuisance as construction equipment for trenching would not generate exceptionally loud or continuous noise, nor would it generate significant groundborne vibration. Further, standard construction traffic control measures will be implemented to address circulation impacts, and dust and noise impacts are addressed within the range of project construction impacts in Sections 3.2, Air Quality, and 3.10, Noise of this EIR, neither of which identified significant impacts.

Natural Gas

The proposed project would include connections to the existing natural gas infrastructure maintained by SoCal Gas located in Copper Hill and Bouquet Canyon Roads. As stated in the 2016 California Gas Report, prepared by the California Gas and Electric Utilities, natural gas in California is expected to decline at a rate of 1.4 percent per year from 2016-2035, resulting from only moderate growth in the natural gas vehicle market and overall declines in other segments, such as residential users. Specifically, residential demand is expected to decrease at a rate of 0.5 percent over the same time period. SoCal Gas reports that the number of active meters for residential uses (single-family and multifamily customers) grew by 29,759 meters between 2014 year end and 2015 year end. Despite this growth in metered customers, SoCal Gas anticipates a decrease in total natural gas demand throughout its service territory of 0.5 percent per year between 2015 and 2035 (California Gas and Electric Utilities 2016). This is due to a forecasted decline in residential use per meter, increase in marginal gas rates, and CPUC-authorized energy efficiency program savings in the residential market. Given such decline in natural gas demand, it is not anticipated that the proposed project would require any major reconstruction or relocation of off-site natural gas infrastructure. Should SoCal Gas determine that upgrades to existing natural gas infrastructure would be necessary, resulting from either the demand of the proposed project or cumulative demand increases, such off-site upgrade projects would be undertaken by SoCal Gas and would be subject to environmental review pursuant to CEQA. Attempting to estimate what environmental impacts may result from such natural gas utility infrastructure improvements without knowledge of when and where the improvements would take place would be speculative.

The construction associated with the natural gas service connection in Copper Hill and Bouquet Canyon Roads could result in air quality (dust), noise, or and/or circulation impacts. For example, connections to existing natural gas infrastructure may require temporary traffic disruptions to allow access to pipelines in the roadway right-of-way. If work within the street is necessary, construction could result in traffic disruptions and construction-related air quality (e.g., dust) and noise impacts. These impacts would be temporary and short term, occurring only for portions of a normal construction work day and only in those areas where utility improvements are being constructed. Therefore, the impact to neighboring residents to the west and north would be limited and would not be expected to be more significant than an occasional nuisance as construction equipment is not expected to generate exceptionally loud or continuous noise, nor would it generate significant groundborne vibration. Further, standard construction traffic control measures will be implemented to address circulation impacts, and dust and noise impacts are addressed within the range of project construction impacts in Sections 3.2, Air Quality, and 3.10, Noise

of this EIR, neither of which identified significant impacts. As such, project-related impacts associated with connections to existing natural gas infrastructure would not be significant.

Telecommunications

As stated above, telephone, internet, and cable service to the project area are provided by AT&T, Spectrum (formerly Time Warner Cable), and Dish Network. Existing residential uses directly south, west, and north of the project site are currently served by these telecommunications providers. The proposed project would install underground cables to enable connections within each planning area to telecommunications services from one of the local providers listed above. The expansion of existing internet, telephone, or cable service infrastructure is not anticipated as a result of the proposed project, other than to construct connection points serving each of the planning areas. Temporary construction impacts such as air quality (dust), noise, and circulation impacts may result from the construction of connection points to serve each planning area. These impacts would be temporary and short term, occurring only for portions of a normal construction work day and only in those areas where utility improvements are being constructed. Any traffic disruptions associated with telecommunication utility activities within the travel lanes would be addressed through routine traffic control measures. Further, dust and noise impacts associated with construction of the telecommunication connection points are addressed within the range of project construction impacts in Sections 3.2, Air Quality, and 3.10, Noise of this EIR. Therefore, since the proposed project would not result in relocation or reconstruction of telecommunication service infrastructure off-site, the project would have a less than significant impact.

Mitigation Measures

The project would have a less than significant impact and would not require mitigation.

This page intentionally left blank.

3.15 WILDFIRE

3.15 WILDFIRE

This section discusses site conditions and regulatory frameworks involving wildfire hazards and assesses project impacts involving such hazards, relative to impairment of an adopted emergency response or evacuation plan, exacerbation of wildfire risk in a way that exposes project occupants to pollutant concentrations or uncontrolled spread of a wildfire, installation of infrastructure that could exacerbate wildfire risk or related environmental impacts, and exposure of people or structures to increased risks due to wildfire-induced slope instability, runoff, or drainage changes, such as flooding and landslides.

3.15.1 EXISTING CONDITIONS

3.15.1.1 BACKGROUND ON WILDFIRE HAZARDS

A "wildfire" is defined in Section 51177(j) of the California Government Code as "…an unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to extinguish the fire."

The classic "wildland/urban interface" exists where well-defined urban and suburban development presses up against open expanses of wildland areas. Certain conditions must be present for significant interface fires to occur, including hot, dry, windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once such a fire has started, several conditions influence its behavior, including fuel load, topography, weather, drought, and development patterns. Southern California has two distinct areas of risk for wildland fires: 1) the foothills and lower mountain areas, typically covered with scrub brush or chaparral; and 2) the higher elevations of mountains, covered with heavily forested terrain.

The fall of 2003 was the most destructive wildfire season in California history. In a 10-day period, 12 separate fires raged across Los Angeles, Riverside, San Bernardino, San Diego, and Ventura Counties, burning almost 750,000 acres and resulting in the loss of 22 lives and 4,812 homes. The magnitude of the 2003 fires resulted from a combination of factors, including extended drought followed by thunderstorms, lightning strikes and windy conditions; an infestation of bark beetles that killed thousands of mature trees; and the practice of suppressing wildfires over the last century that has led to buildup of brush and highly flammable fuel loads.

Wildland fires can require evacuation of portions of the population, revised traffic patterns to accommodate emergency response vehicle operations, and restrictions on water usage during the emergency. Health hazards may exist for elderly or disabled persons who cannot evacuate or succumb to smoke and heat. The loss of utilities, and increased demand on medical services, can also be anticipated.

The Santa Clarita Valley planning area is susceptible to wildland fires because of its hilly terrain, dry weather conditions, and native vegetation. Steep slopes allow for the quick spread of flames during fires and pose difficulty for fire suppression due to access problems for firefighting equipment. Late summer and fall months are critical times of the year when wildland fires typically occur, when the Santa Ana winds deliver hot, dry desert air into the region. Highly flammable plant communities consisting of variable mixtures of woody shrubs and herbaceous species, such as chaparral and sage vegetation, allow fires to spread easily on hillsides and in canyons.

Areas subject to wildland fire danger include portions of Newhall and Canyon Country, Sand Canyon, Pico Canyon, Placerita Canyon, Hasley Canyon, White's Canyon, Bouquet Canyon, and all areas along the interface between urban development and natural vegetation in hillside areas. Fire hazards increase with any drought periods and are highest for structures at the fringe of forested or wildland areas. In addition to the damage caused directly by a foothill fire, further damage may be caused by resulting mudslides during subsequent rains.

Pursuant to legislation adopted in 1982 (Article 9, Sections 4201 to 4202 of the California Public Resources Code), the State Department of Forestry and Fire Protection (CALFIRE) were directed to conduct mapping of areas meeting criteria for a Fire Hazard Severity Zone (FHSZ). Such zones are designated into several classes of hazard, based on factors such as steep terrain, flammable brush cover, dry climate, lack of water or road infrastructure, and periods of high winds and high temperatures. These conditions can combine to create circumstances where an intentional or accidental ignition can quickly expand and spread, endangering people, wildlife, structures, and power transmission networks, generating air pollution, creating complicated emergency evacuation circumstances, etc. FHSZs may be designated as a State Responsibility Area, where fire protection and response is provided by CALFIRE, or as a Local Responsibility Area (LRA), where these duties are assigned to the local government entities.

The entire project site and surrounding lands have been designated by CALFIRE as a Very High Fire Hazard Severity Zone (VHFHSZ) - LRA, representing an area with the highest risk of wildfire that triggers a stringent level of regulation for new buildings and construction in such areas. In Santa Clarita, fire protection and response services are provided by the LACoFD, under contract to the City. **Figure 3.15-1** depicts the VHFHSZ mapping on and within five miles of the project site. Cal Fire is in the process of updating FHSZ maps, including mapping of the Santa Clarita Valley, to reflect land cover changes. Significant changes to the Santa Clarita area maps are anticipated due to the significant amount of new land development since the last round of mapping occurred in the mid-late 2000s (Sapsis, 2019).

Site conditions that contribute to the VHFHSZ designation on and near the project site include steep topography, flammable brush, lack of water and road infrastructure, dry climate, seasonally high temperatures, periodic high winds during the summer and fall months, and proximity to other wildland fire susceptible open spaces.

3.15.1.2 ONSITE VEGETATION AND FUEL LOAD CHARACTERISTICS

Vegetation communities found on site and their fuel load characteristics are described below.

Big Sagebrush

The Big Sagebrush community consists of a shrub canopy with an herbaceous and grassy layer that is sparse to intermittent. Because of this, the fuel load is comprised of leaf litter and smaller twigs, which may reach combustion temperatures at a faster rate. Spread occurs from the surface to dead material within the crown, resulting in moderate to high intensity burns. The community is most flammable in the summer to early fall due to the low moisture content.

Chamise Chaparral

The Chamise Chaparral community consists of a shrub canopy with emergent trees that may be present at a lower cover. The fuel load is comprised of small-stemmed material, distributed continuously from ground level throughout the multi-stemmed canopy. In addition, dead material is also found within the

crown. These characteristics result in spatial continuity of the fuel bed and facilitates heat transfer. The community burns fast and can ignite easily, and chamise is most flammable in the fall when moisture drops significantly.

Disturbed - California Buckwheat Scrub

The California Buckwheat Scrub community is dominated by shrubs but may include emergent trees at low cover as well as an herbaceous layer that may contain grasses. The canopy varies being continuous or intermittent, which can vary the spread of the fire. The fuel load is comprised of leaf litter; however, dead materials within the crown can also contribute to the spread and height of the burn.

Blue Elderberry Stands

Blue Elderberry Stands are dominated by shrub canopy that may be two tiered and include an herbaceous layer consisting of grasses. The multiple layers add into the vertical complexity of the area and may increase the height and spread of the fire (i.e. a fuel ladder).

Giant Reed Breaks

Giant Reed is an invasive species found within riparian habitats throughout Southern California. Though no specific fire studies have been conducted on giant reed, riparian microclimates may be characterized by lower daily maximum air temperature and higher relative humidity, contributing to higher fuel moisture content. This results in lower intensity and severity of fire within these areas when compared to their adjacent uplands. However, riparian Giant reed grows rapidly and produces large amounts of biomass, which can alter the fire behavior of riparian areas.

Mulefat Thickets

Mulefat thickets are dominated by a shrub canopy that may be two tiered and contain a sparse herbaceous understory. Due to its locations in more arid riparian habitats, the thickets can hold water after rain events or they can be dry year-round. Based on the variability, the moisture content and the susceptibility is unique to each area.

Red Brome Grasslands

Red Brome Grasslands may be co-dominant with other non-native species within the herbaceous layer. The community produces large amounts of fine fuels, which promotes fires that are hot and fast burning.

Upland Mustards

These tall mustards increase fire fuel loads and fire intensity, especially in areas already altered by non-native grasses with which they commonly grow. The fuel load consists of small-stemmed material that may increase the intensity of fires that occur.

California Sagebrush Scrub

The California Sagebrush Scrub community is dominated by a shrub canopy that may consist of two tiers. Emergent trees may be present at a low cover and an herbaceous layer may be present either seasonally or annually. These communities have the potential for more vertical complexity and potential high of damage with fires. When dominated by California sagebrush, the community biomass varies from 3 to 15 tons/acre, and approximately 70% to 85% of the biomass is consumed by hot fire.

California Sagebrush Scrub/ Non-Native Grassland

The California Sagebrush Scrub community is dominated by a shrub canopy that may consist of two tiers. Emergent trees may be present at a low cover and an herbaceous layer may be present either seasonally or annually. These communities have the potential for more vertical complexity and high damage with fires. When dominated by California sagebrush, the community biomass varies from 3 to 15 tons/acre, and approximately 70% to 85% of the biomass is consumed by hot fire. The introduction of non-native, annual grasses has increased the continuous ground cover of flash fuels, which shifts the fire regime of the California Sagebrush Scrub to shorten the fire return interval.

River Wash

River Wash regions lack significant vegetation due to the fluvial processes occurring throughout the year. Streamside plants retain a high moisture content which causes these areas to act more as fire breaks.

Scrub Oak Chaparral

The Scrub Oak Chaparral community is dominated by shrub canopy with a sparse herbaceous understory. Fuels may be sparser and moister than fuels in chaparral habitats without those oaks, particularly on north-facing slopes. The shrub dominance within this community results in more fine fuels, with about one-third to one-half of their aboveground biomass consisting of leaves and small twigs.

Scrub Oak Chaparral/Red Brome Grasslands

The Scrub Oak Chaparral community is dominated by shrub canopy with a sparse herbaceous understory. Fuels may be sparser and moister than fuels in chaparral habitats without those oaks, particularly on north-facing slopes. The shrub dominance within this community results in more fine fuels, with about one-third to one-half of their aboveground biomass consisting of leaves and small twigs. The addition of Red Brome Grasslands within the community results in more primary fuel within the ground later, which increases both the fuel load and fuel continuity.

Tucker Oak Chaparral

The Tucker Oak Chaparral community is dominated by shrub canopy that is open or continuous, with an herbaceous layer that is intermittent to sparse. These communities have lower complexity compared to other chaparral habitats and can range in the severity and intensity of fires based on the ground cover and spacing. The spread is based on both surface interactions (leaf litter groundcover) and within the crown of the Tucker oaks. The community occurs in areas of lower rainfall and sparser vegetation with less frequent fire intervals.

Red Willow Thickets

Red Willow Thickets consist of tree and shrub canopies, both open to intermittent, with a variable herbaceous layer. The plant community exhibits low fire incidence resulting from high moisture within the potential fuels and the rapid decomposition of litter. The placement of the community within its surroundings may influence the spread and intensity of the fire due to the channeling effect of wind from areas containing higher biomass.

3.15.1.3 LOCAL WILDFIRE HISTORY

Historical records kept by the U.S. Department of Forestry indicate that wildland fires occur regularly within the planning area, with large fires occurring approximately every 10 years. (City of Santa Clarita, 2015). Fire danger rises based on the age and amount of vegetation; therefore, fire incidents tend to be cyclical in an area as vegetation intensity increases with age, and dead vegetation accumulates.

In October 2007, wildfires again swept through Southern California, including the Santa Clarita Valley. Emergency response procedures put into place after the 2003 fires reduced losses through better notification and evacuation procedures, and through quick action by the State and Federal governments to declare an emergency and provide suppression support. Within the Santa Clarita Valley, the 2007 fires included the Buckweed Fire, which burned 38,356 acres; the Magic Fire, which burned 1,750 acres; and the Newhall Fire, which burned 40 acres. The Ranch Fire, which burned 55,756 acres, started near Castaic and burned primarily wildland areas. Twenty-one homes were destroyed and 15 homes damaged by the Buckweed Fire, but no lives were lost. To respond to these fires, the City set up a telephone bank that handled thousands of phone calls and transformed Central Park into a Fire Department base camp for firefighters. Local Assistance Centers were set up to help residents file FEMA claims, and the nonprofit Santa Clarita Valley Disaster Coalition solicited and disbursed funds for fire victim relief.

Records of past wildfire events in the Santa Clarita Valley are maintained by CALFIRE. A review of those records determined that there have been 51 wildfires documented within a three-mile radius of the project site since 1960, ranging from just under six acres in size (Gladding, 2012) to more than 21,000 acres (Agua Dulce, 1970). Since 2000, there have been eight documented wildfires, with the smallest being a 5.8-acre event ("Gladding") located three miles to the south/southwest in 2012, and the largest being a 6,401-acre event (Stables Fire") located 0.2 miles to the north/northwest in 2001.

3.15.1.4 LOCAL FIRE RESPONSE RESOURCES

Local fire response resources include those of the LACoFD, the Fire Services mutual aid system, CALFIRE, and the United States Forest Service (USFS). The combination of resources applied depends upon the severity of the fire, other fires in progress, and the availability of resources. Suppression efforts can involve fire equipment, heavy construction equipment, and air fire bombardment aircraft, in addition to hand crews.

Fire suppression and emergency medical response services for the project site and the entire Santa Clarita Valley are provided by the LACoFD. Specifically, 16 fire stations with 15 engine companies, 5 paramedic squads, 1 hazardous materials squad, and 2 ladder trucks serve the Santa Clarita Valley. LACoFD Station 108 is located at 28799 Rock Canyon Drive, approximately 2 miles northwest of the project site, and is the jurisdictional station serving the site. Station 108 is staffed with a four-person engine company that includes one captain, one firefighter specialist, and two firefighters. The next nearest fire station is LACoFD Station 128, at 28450 Whites Canyon Road, approximately 3.5 miles southeast of the project site. During 2017, Station 108 had an average emergency response time of 6 minutes and 14 seconds.

LACoFD operates 10 fire suppression camps assigned to the Air and Wildland Division, of which four camps employ paid personnel and six camps are staffed with inmate crews from detention facilities (City of Santa Clarita, 2011). Wildland fire crews are used for fire protection, prevention, and suppression activities. They control wildland fires by cutting a control line around the perimeter of a fire, coordinating activities of bulldozers, and use of water-dropping helicopters and fixed wing aircraft, as deemed appropriate. LACoFD

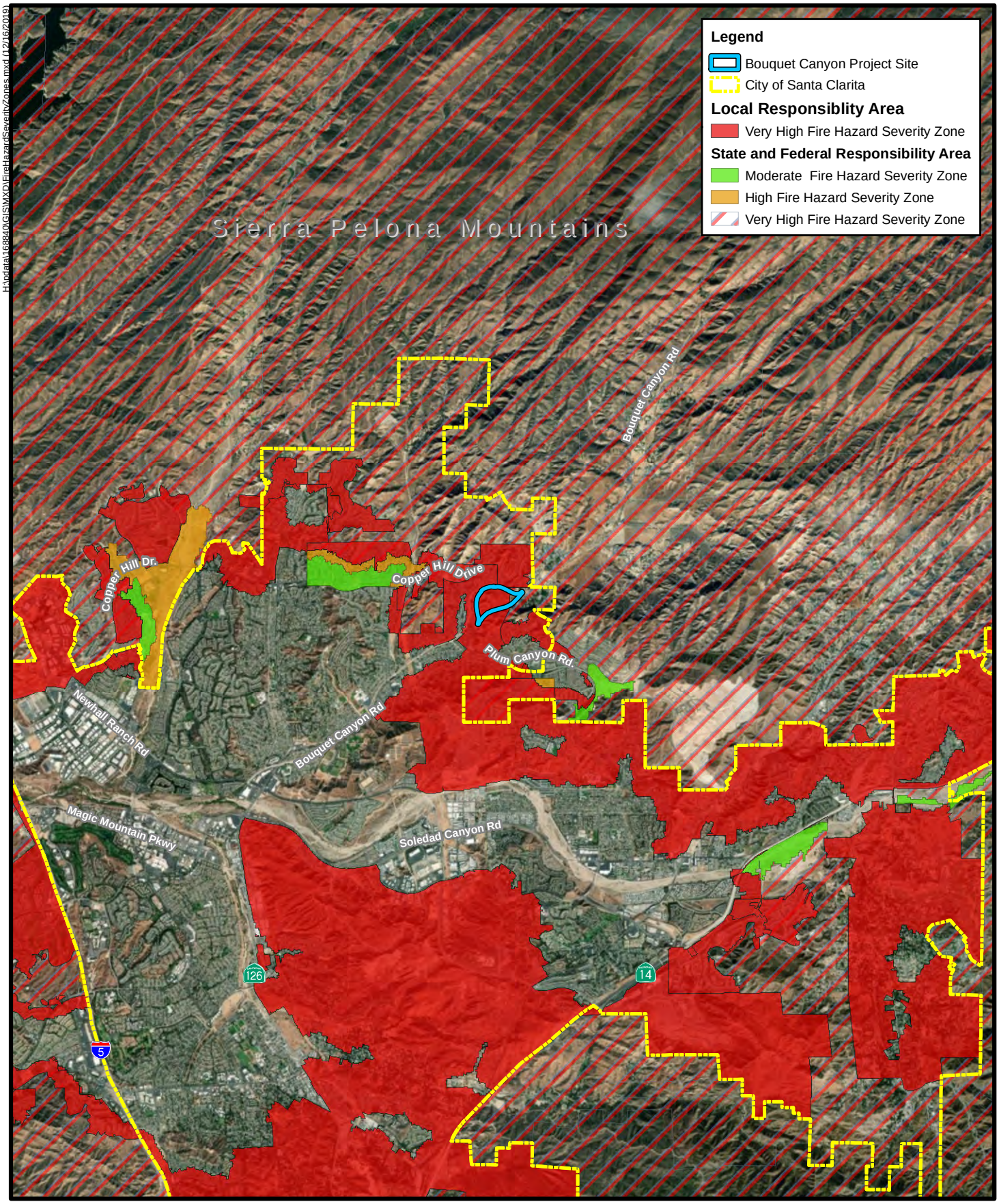
also oversees vegetation management for fuel reduction and provides response to other emergency incidents as required.

Under a mutual aid agreement covering federal forest lands, responsibility for non-structure fires within the National Forest belongs to the USFS, while LACoFD has the responsibility for suppressing structure fires. In practice, each agency cooperates in fighting both wildland and structural fires during actual fire emergencies. There are USFS fire stations and facilities located within the Santa Clarita planning area.

In addition to suppression activities, LACoFD has adopted programs directed at wildland fire prevention, including adoption of the State Fire Code standards for new development in hazardous fire areas. Fire prevention requirements for all new development in fire hazard severity zones include provision of access roads, adequate road width, and clearance of brush around structures located in hillside areas. Proof of adequate water supply for fire flow is required within a designated distance for new construction in fire hazard areas. LACoFD also provides fire safety training to County residents and youth education programs on fire safety and prevention. The City teams with the County to provide training to residents on fire prevention and response, through the Community Emergency Response Training (CERT) program, and other educational programs.

Residents with homes located in urban/wildland interface areas must bear some of the responsibility for preventing the spread of wildland fires. Houses surrounded by brushy growth rather than cleared space allow for greater continuity of fuel and increase the fire's ability to spread. Homeowners should also consider whether their home is located near a fire station, has adequate access for fire suppression vehicles, has adequate water supply for fire flow, is located away from slopes or canyons which act to draw fires upward, and is constructed with fire-resistant materials and design features, such as non-combustible roofing and boxed eaves. Fuel reduction through vegetation management around homes is essential to saving homes in hillside areas. The City, County, and LACoFD will continue to provide public education programs about fire prevention strategies for residents in interface areas.

After a fire has been suppressed in a wildland area, the work of restoration begins. The Burned Area Emergency Response (BAER) Team is a group of specialists in fields such as hydrology, soil sciences and wildlife management who evaluate damage to habitat areas from fires, and from firebreaks which may have been constructed to contain fires by cutting and clearing vegetation with earthmovers. In order to prevent erosion and re-establish vegetation consistent with native plant communities, appropriate planting and other management techniques must occur as soon as possible after a fire is extinguished.



Michael Baker INTERNATIONAL

Source: ESRI Streetmap Service, 2018; Los Angeles County, 2018; LA County Fire Severity Zone; Cal Fire 2017

Fire Hazard Severity Zones

Figure 3.15-1

3.15.2 REGULATORY AND PLANNING FRAMEWORK

3.15.2.1 STATE

California Department of Forestry and Fire Protection

Cal Fire protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. Cal Fire's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year (Cal Fire 2012).

The Office of the State Fire Marshal supports Cal Fire's mission by focusing on fire prevention. It provides support through a wide variety of fire safety responsibilities including by regulating buildings in which people live, congregate, or are confined; by controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; by providing statewide direction for fire prevention in wildland areas; by regulating hazardous liquid pipelines; by reviewing regulations and building standards; and by providing training and education in fire protection methods and responsibilities.

California Health and Safety Code

Fire regulations for California are established in Sections 13000 et seq. of the California Health and Services Code and include regulations for structural standards (similar to those identified in the California Building Code); fire protection and public notification systems; fire protection devices such as extinguishers and smoke alarms; standards for high-rise structures and childcare facilities; and fire suppression training. The State Fire Marshal is responsible for enforcement of these established regulations and building standards for all state-owned buildings, state-occupied buildings, and state institutions within California.

California Fire Plan

The Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection. By placing the emphasis on what needs to be done long before a fire starts, the Fire Plan looks to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health. The current plan was finalized in early 2010.

California Public Resources Code and Government Code

Public Resources Code (PRC) Sections 4201–4204 and Government Code Sections 51175–89 direct Cal Fire to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as fire hazard severity zones (FHSZ), define the application of various mitigation strategies to reduce risk associated with wildland fires. As noted earlier, the project site is designated as a Very High Fire Hazard Severity Zone within the Local Responsibility Area for the City of Santa Clarita/LACoFD.

In response to recent changes to Public Resources Code Section 4291 that increased the defensible space clearance requirement from 30 feet to 100 feet around structures, CALFIRE issued guidelines for fuel reduction and other fire safety measures in urban/wildland interface areas. For example, "defensible space" must be provided within the perimeter of a parcel where basic wildfire protection practices are implemented. This area is characterized by adequate emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

California Fire Code

The 2016 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. Chapter 49 sets forth the specific standards for development in Wildland-Urban Interface Areas. The City of Santa Clarita has adopted the California Fire Code as part of its building regulations (Municipal Code Chapter 22.01) and implements these standards through its building permit process.

Senate Bill 1241

In 2012, Senate Bill 1241 added Section 66474.02 to Title 7 Division 2 of the California Government Code, commonly known as the Subdivision Map Act. The statute prohibits subdivision of parcels designated very high fire hazard, or that are in a State Responsibility Area, unless certain findings are made prior to approval of the tentative map. The statute requires that a city or county planning commission make three new findings regarding fire hazard safety before approving a subdivision proposal. The three findings are, in brief: (1) the design and location of the subdivision and its lots are consistent with defensible space regulations found in PRC Section 4290-91, (2) structural fire protection services will be available for the subdivision through a publicly funded entity, and (3) ingress and egress road standards for fire equipment are met per any applicable local ordinance and PRC Section 4290.

3.15.2.2 REGIONAL

County of Los Angeles Fire Code

Chapter 7A of the California Building Code is adopted by reference in the County of Los Angeles Code ("County Code") and establishes Materials and Construction Methods for Exterior Wildfire Exposure. These standards apply to building materials, systems, and/or assemblies used in the exterior design and construction of new buildings, and to additions, alterations or repairs made to existing buildings erected, constructed, or moved with a Wildland-Urban Interface Area. The City of Santa Clarita has adopted these standards by reference, in Section 22.01 of its Municipal Code. Compliance procedures for new development projects involve submittal and approval of a Fire Protection Plan (FPP) that describes ways to minimize and mitigate potential for loss from wildfire exposure. Key elements of a FPP include structural design measures to prevent or resist ignition from embers or other sources, applicable to: roofing, vents, exterior wall materials, open roof eaves, enclosed roof eaves and roof eaves soffits, exterior windows and doors, exterior porch ceilings, decking, floor projections/underfloor protection/underside of appendages, and accessory structures.

Section 328.10 of the County Code requires land development plan check reviews located within a VHFHSZ to be performed in accordance with County Code Section 4908, which requires a fuel modification plan be submitted and have preliminary approval before the issuance of a permit for any permanent structure used for habitation.

Fuel modification plans are reviewed by the Los Angeles County Forestry Division of the Fire Department on the basis of defensible space, fire safety, and compliance with the County Code, Fire Department fuel modification guidelines, and California Code of Regulations. Fuel modification plans require the designation of three zones: Zone A, Setback Zone; Zone B, Irrigated Zone; and Zone C, Native Brush Thinning Zone (LA County, 2019). Plans also include criteria for fire access roads and maintenance activities. Specifications for these plans are summarized below.

- Zone A – Setback Zone extends 20 feet from combustible structures and can include green lawns or ground cover no more than six inches in height (LA County, 2019). Adequately spaced and fire-resistant shrubs are allowed in this zone, such as small herbaceous or succulent plants between two and three feet in height (LA County, 2017). No vines or climbing plants are allowed in this zone and trees are not recommended. All plants must be properly irrigated by automatic or manual systems to maintain plant health and fire resistance.
- Zone B – Irrigated Zone extends from the outer edge of Zone A to 100 feet from combustible structures and can include green lawns or ground covers no more than six inches in height (LA County, 2019). Plants on slopes may grow up to 12 inches in height within 50 feet of a structure and 18 inches in height beyond 50 feet. Annual grasses and weeds must not grow above three inches. Irrigation is not required for this zone if it consists entirely of native plants (LA County, 2017). Trees are allowed but they must be an appropriate species as determined by the Fire Department. Plants in this zone can be planted at a slightly higher density than Zone A.
- Zone C – Native Brush Thinning Zone extends from the outer edge of Zone B up to 200 feet from combustible structures and follows the same guidelines as Zone B, but at a slightly higher planting density (LA County, 2017). If Zone C is not landscaped as part of a project, brush clearance is required as necessary.
- Fire access roads to be used for access by fire-fighting apparatus or resources must have clearance of ten feet on both sides that is free of flammable growth and a vertical clearance of 20 feet. Roadways must be designed in accordance with the fire code, including having an unobstructed width of 20 feet and appropriate turning radii (LACMC 503.2.1).
- Maintenance activities in fuel modification zones must include thinning, pruning, removal of plant litter, removal of invasive species, and maintenance of irrigation systems. Maintenance measures must be implemented year-round.

3.15.2.3 LOCAL

City of Santa Clarita General Plan

General Plan Safety Element

- Goal S3: Protection of public safety and property from fires
    - Objective S 3.2: Provide for the specialized needs of fire protection services in both urban and wildland interface areas.
        - Policy S 3.2.1: Identify areas of the Santa Clarita Valley that are prone to wildland fire hazards and address these areas in fire safety plans.

- 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.

o 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.

Local Hazard Mitigation Plan (2015)

The City's Hazard Mitigation Plan (HMP) was originally adopted in 2004 and updated in 2010 and 2015. It provides the overall direction for efforts by the City's agencies, organizations, and citizens to mitigate risk from natural and man-made hazards. The five goals are:

- Protect life and property
- Increase public awareness
- Preserve natural systems
- Strengthen partnerships and encourage implementation
- Maintain and improve emergency services

The City participates in a multi-jurisdictional support network of agencies located throughout Los Angeles County, organized under the auspices of the Los Angeles County Office of Emergency Management. The City of Santa Clarita is part of the Los Angeles County Disaster Management Area B, which also includes the cities of: Lancaster, Palmdale, Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village. As a member of Area B, the City can incorporate County hazard mitigation and emergency response activities

in their local strategies, such as the County Fire Department's wildfire prevention efforts and the Specific Needs Awareness Planning Program.

Section 7 of the HMP address wildfire hazards, including existing conditions that create wildfire hazards, identification of fire hazard areas, history of major wildfires in Southern California, an assessment of wildfire vulnerability and potential damage, an overview of existing wildfire prevention and mitigation programs, and key strategies and action items to respond to wildfire hazards. A summary of these strategies is provided below.

Table 3.15-1
LOCAL HAZARD MITIGATION PLAN - WILDFIRE HAZARDS STRATEGIES AND ACTIONS

Strategies	Corresponding Activities
WF001: Work with LACoFD Division III, North Regional Operations Bureau (LACoFD Division III) to enhance emergency services to increase the efficiency of wildfire response and recovery activities.	WF001-01: Support LACoFD Division III's efforts to install more fire stations for better access and coverage. WF001-02: Coordinate with LACoFD Division III and Sheriff's Department to coordinate the Public Alert and Warning Notification System to quickly contact all at-risk urban/wildland interface residents in the Santa Clarita Valley regarding evacuations. Incorporate the use of e-texting, mass notification and social media, i.e. Twitter, Facebook, MySpace.
WF002: Collaborate with LACoFD Division III in educating City staff and fire personnel on federal cost-share and grant programs, Fire Protection Agreements and other related federal programs so the full array of assistance available to local agencies is understood.	WF002-03: Collaborate with LACoFD to secure potential funding opportunities for individual mitigation projects. WF002-04: Work with LACoFD Division III to develop, approve, and promote Fire Protection Agreements and partnerships to clarify roles and responsibilities and to provide for fire mitigation activities and suppression preparedness.
WF003: Continue collaborating with LACoFD Division III to develop and disseminate maps relating to fire hazards to help educate and assist builders and homeowners in being engaged in wildfire mitigation activities and to help guide emergency services during response.	WF003-05: Work with LACoFD Division III to update wildland/urban interface maps. WF003-006: Encourage LACoFD Division III and USDA Forest Service to continue to conduct risk analysis incorporating data and creating hazard maps using GIS technology to identify risk sites and further assist in prioritizing mitigation activities.
WF004: Collaborate with LACFD Division III outreach and education programs aimed at mitigating wildfire hazards and reducing or preventing the exposure of citizens, public agencies, private property owners, and businesses to natural and man-made hazards.	WF004-07: Support LACoFD Division III's efforts to hire and educate fire prevention staff to oversee education programs. WF004-08: Work with LACoFD Division III and USDA Forest Service to visit urban interface neighborhoods and rural areas and conduct education and outreach activities. WF004-09: Work with LACoFD Division III to conduct specific community-based demonstration projects of fire prevention and mitigation in the urban interface.

Strategies	Corresponding Activities
	WF004-10: Continue to work with LACoFD Division III to establish neighborhood "drive-through" activities that pinpoint site-specific mitigation activities. Fire crews can give property owners personal suggestions and assistance. WF004-11: Continue to work with LACoFD Division III to organize public outreach and information activities at fire stations, such as "Wildfire Awareness Week" activities. This allows the public to visit fire stations, see the equipment and discuss wildfire mitigation with the station crews.
WF005: Work with LACoFD Division III to encourage and increase communication, coordination and collaboration between wildland/urban interface property owners, County and officials to address risks, existing mitigation measures and federal assistance programs.	WF005-12: Continue to encourage single-family residences to have fire plans and practice evacuation routes. WF005-13: Work with LACoFD Division III to continue performing fire inspections in residential homes to increase awareness among homeowners and potential fire responders. WF005-15: City and LACoFD Division III work closely with landowners and/or developers who choose to build in the wildland/urban interface to identify and mitigate conditions that aggravate wildland/urban interface wildfire hazards. WF005-016: City to encourage all new homes and major remodels involving roof additions that are located in the interface to have fire resistant roofs and residential sprinkler systems. WF005-017: Work with LACoFD Division III to encourage the public to evaluate access routes to rural homes for fire-fighting vehicles and to develop passable routes if they do not exist.
WF006: Collaborate with LACoFD Division III to encourage implementation of wildfire mitigation activities in a manner consistent with the goals of promoting sustainable ecological management and community stability.	WF006-18: Prescribed burns for brush abatement and training are performed by the LACFD; burns are based on climate conditions. WF006-019: During routine inspections, residents are advised of the clearance required by the LACFD for both their roof and around their structures. Pruning permits are issued to allow the resident to bring their property to compliance.
WF007: Enhance City's Urban Forestry ability to mitigate, respond to and prepare for and recovery from events that impact the more than 80,000 trees in the City.	WF007-20: Maintain tree program in the City which includes routine inspections and review of the tree maintenance cycle. Urban Forestry Division will target dead or hazardous trees within the public right-of-way. Dead or hazardous trees are removed and replaced with new trees. WF007-21: Mitigate tree hazards by addressing trees that pose a public safety hazard.

Strategies	Corresponding Activities
	WF007-22: Purchase a full-size bucket truck for tree maintenance operations to enable City staff to safely perform emergency limb removal. WF007-23: Design and develop informational and educational brochures that relate to the hazards of dead material on palm trees and problematic trees in fire areas. Brochures would educate the public on how to keep your homes fire safe and inform them of what trees are beneficial and troublesome in high fire areas.

Source: City of Santa Clarita Hazards Mitigation Plan. 2015

Thresholds of Significance

The CEQA Guidelines, Appendix G, as amended through December 31, 2019, serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Accordingly, a project will have a significant impact involving wildfire hazards if it would:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

3.15.3 METHODOLOGY

Project impacts have been assessed in the context of existing regulatory standards that mandate stringent design and construction measures in wildland fire hazard areas, the landscape changes resulting from the project, and the implementation of emergency response protocols established by public safety agencies and the City's Hazard Mitigation Plan.

3.15.4 ANALYSIS

Impact 3.15-a The project would not conflict with an emergency response plan and would not have a significant effect on emergency evacuation efforts in the event of a major wildfire event.

Discussion

By converting most of the existing flammable landscape onsite to a built community comprised of hardscapes, residential structures built to stringent standards to resist ignition and slow the spread of fire, street and water infrastructure designed and built in accordance with LACoFD standards, and installation and irrigation of non-flammable landscaping materials that are consistent with the LACoFD standards in a Fuel Modification Plan, the project would substantially reduce the fuel loads found on site and thus reduce the chances of a wildfire occurring or intensifying onsite and threatening surrounding neighborhoods.

Potential for wildfires within or moving through the site to affect emergency travel along the adjacent and outlying street network may, therefore, also be reduced, which could be beneficial from the standpoint of an emergency evacuation effort in this area.

On the other hand, building a community of 375 new homes in a VHFHSZ would substantially increase the number of homes and local residents who could be affected during a wildfire event in this area, and would add to the scale and complexity of emergency response and evacuation procedures that could be required if circumstances are severe enough to warrant voluntary or mandatory evacuations for the people living or and near the project site. The influence of the completed project on emergency evacuations associated with wildfire events would depend on the circumstances of the particular events, including the direction and speed in which the wildfire is moving, the size and intensity of the fires, time of day or night, whether parts of or all of the proposed community would need to evacuate, etc. Based on the layout of the proposed development plan and the points of ingress/egress from Bouquet Canyon Road to the various planning areas on site, the routes that project residents would take for an emergency evacuation would include:

Bouquet Canyon Road. The proposed site plan would provide access from the five residential neighborhoods (Planning Areas 1 – 4 and 1A) to three locations along the existing segments of Bouquet Canyon Road and one location along the new segment of Bouquet Canyon Road that would be built as part of the project. The nine homes located in Planning Area 1, opposite Benz Road, would evacuate directly to existing Bouquet Canyon Road, and either cross to Benz Road toward Copper Hill, or head south along Bouquet Canyon Road to outlying areas. There are 269 homes located in Planning Areas 1, 2, and 3 that would load onto the proposed drive entrance along the new segment of Bouquet Canyon Road. From there, the vehicles could travel south or north on Bouquet Canyon Road to evacuate. The 12 homes in Planning Area 1A would exit directly to the new segment of Bouquet Canyon Road that would be built by the project and could head north or south. The 85 homes in Planning Area 4 would evacuate via the adjacent segment of existing Bouquet Canyon Road, and head either west toward Copper Hill Drive, or east, to the new segment of Bouquet Canyon Road, then either north or south on Bouquet Canyon Road.

Benz Road. Some or all of the eight homes located in Planning Area 1, opposite Benz Road, could follow Benz Road to Copper Hill Road in an evacuation.

Plum Canyon Road. Residents who evacuate south on existing Bouquet Canyon Road could head east on Plum Canyon or continue south on Bouquet Canyon Road.

Copper Hill Road. It is likely that some or all of the 85 homes located in Planning Area 4 would evacuate via Copper Hill Road, since it is close to the Bouquet Canyon Road driveway serving that neighborhood.

If the people in each home being evacuated were to flee in one of their automobiles, approximately 375 vehicle trips could be generated during a total community evacuation effort. It is possible that some households would evacuate in more than one vehicle. Some residents may also choose to stay and "shelter in place" rather than evacuate. Some parts of the community may evacuate in one time period, while other neighborhoods evacuate at a different time, depending on local conditions. Thus, a specific number of vehicles that might be impacting the outlying street system during an emergency evacuation is difficult to predict. Based on the distribution pathways for evacuating vehicles noted above, the volume of vehicles leaving the site and traveling along those pathways would differ between pathways. The impact of project residents departing in their vehicles during an evacuation effort would range, depending on which pathway is involved, the time of day and the traffic conditions that occur during that time, and

on the extent of other evacuation efforts in other parts of the community that may generate traffic on the same routes.

Estimates of project-related evacuation trips as a percentage of normal weekday peak hour traffic on affected roadways are presented in, below, as a way of examining the relative magnitude of the project's impact during such normally congested time periods, when the impact would likely be highest. During non-peak hours, especially late-night and early morning periods when there is much less traffic, the impact of project residents leaving during an emergency evacuation would likely be less than during peak hour conditions. Conditions during such lower traffic periods could be exacerbated if several neighboring communities were also threatened by the same wildfire conditions and forced to evacuate along the same escape routes as project residents.

Table 3.15-2
PROJECT EMERGENCY EVACUATION TRAFFIC AS A PERCENTAGE OF TYPICAL PEAK HOUR TRAFFIC

Roadway Segment/Number of Lanes	Highest Two-Way Peak Hour Volume – Current Conditions[1]	Existing Volume-to-Capacity Ratio[2]	Project-Added Vehicles with Full Evacuation[3]	Project Increase in V/C Ratio[4]
Copper Hill Road, between Old Bouquet Canyon Rd and Benz Road/2 lanes	883 (PM)	V/C = 0.44	85 from PA 4 (or could also split ½ in this direction, ½ to east)	V/C = up to 0.53 (+.09)
Copper Hill Road, west of Benz/4 lanes	1,198 (AM)	V/C = 0.30	Up to 97 from PA 1A and PA 4	V/C = 0.35 (+.05)
Bouquet Canyon Road, north of new segment of Bouquet Canyon Road/2 lanes	1,387 (PM)	V/C = 0.69	Up to 85 from PA 4, possibly up to 281 more from PAs 1, 1A, 2 and 3	V/C could increase to 1.06 (+.37) with 366 homes taking this route
Bouquet Canyon Road, south of new Bouquet Canyon Road/2 lanes	1,277 (PM)	V/C = 0.64	Up to 281 from PAs 1, 1A, 2 and 3	V/C = 0.92 (+.28)
Benz Road, between old Bouquet Canyon Road and Copper Hill/2 lanes	304 (PM)	V/C = 0.15	9 from PA 1	V/C = 0.16 (+.01)
Plum Canyon Road, east of old Bouquet Canyon Road/4 lanes	1,680 (PM)	V/C = 0.42 (PM)	Up to 281 from PAs 1, 1A, 2, and 3, but many would likely continue on old Bouquet Canyon Road rather than turning onto Plum Canyon Road.	V/C could increase to 0.56 (+.14)

[1] AM = morning peak hour and PM = afternoon peak hour
[2] Assumes 1,000 vehicles per lane capacity
[3] "PA" refers to proposed project Planning Areas and number of homes from specific areas that might evacuate in one vehicle

[4] Project trips added to ½ peak hour two-way volumes, then V/C calculated based on that total divided by total lane capacity in that direction
Sources: Stantec, October 2019; Michael Baker International, December 2019

As shown in **Table 3.15-2**, the project would add a range of vehicles to local roadways during an evacuation event, with corresponding increases in peak hour V/C ranging from 5 – 37 percent. With the project's emergency evacuation traffic, the affected roadways would operate at well below saturation levels, at less than 60 percent of volume-capacity, except in two locations. If the hypothetical "worst-case" condition involving 375 homes evacuating and all drivers electing to escape to the north, via existing two-lane Bouquet Canyon Road to the north of the project, the peak hour V/C would increase to 1.06, indicating more than the capacity of the northbound lane. This represents severely congested conditions with difficult and highly constrained traffic flow and would represent a serious constraint to evacuating motorists. If the hypothetical worst-case condition involving evacuation of 281 homes and all escaping motorists elect to escape to the south, via the existing 2-lane Bouquet Canyon Road, the peak hour V/C would increase to 0.92, representing 92 percent of the southbound lane capacity, and a highly congested condition that would represent a serious constraint to evacuating motorists.

As noted earlier, the City's HMP provides a framework for communications, decisions, and actions by emergency response personnel for wildfire emergencies. The command structure would assess local conditions in a dynamic, i.e., ongoing manner, to identify locations and severity of threats to homes and businesses and any other land uses that put people in the path of a wildfire. Based on those assessments, decisions would be made on where to focus fire response efforts, initiate calls for back-up assistance and assignment of additional resources, and when/where to implement emergency evacuations if no other options are deemed viable. This could include partial or total evacuation of the project site, sheltering in place for some parts of the community, possibly moving people to the internal recreation centers, or combinations of all of these approaches. The two hypothetical worst-case conditions noted above where project residents evacuating the site could encounter and complicate congested peak hour roadway conditions are unlikely to occur, since it is unlikely that all of the escaping motorists would select the same routes after exiting the project site. It is more likely that motorists would select the route and direction that they believe would take them most quickly away from whatever direction a wildfire might be approaching. Actions by emergency responders to direct evacuation efforts would also be based, in part, on indications of where congestion is occurring so that project evacuees could be directed in a different direction. The City's existing emergency response system, including the manner in which emergency evacuations are initiated and managed, would be sufficient to address emergency evacuation scenarios in the event of future wildfires in the project area that result in a need to evacuate some or all of the proposed 375 home residential community. Development of the proposed project would not adversely affect the emergency response protocols established by the City's HMP or current best practices. Project impacts would be less than significant.

Mitigation Measures

Mitigation measures would not be required.

Impact 3.15-b The project would not exacerbate wildfire risks, and therefore would not create conditions that would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Discussion

Given the site's location in an area comprised of both developed neighborhoods and wildlands which are classified as Very High Fire Hazard Severity Zones, the fully built and operational residential community would locate a sizeable concentration of people on a site that could be exposed to smoke containing a variety of pollutants from burned natural landscape and from burning structures if wildfire comes from an upwind area and winds spread that fire toward the project site. The extent of such exposure and nature/intensity of pollutants would depend on the origin and distance of a wildfire, what is burning, speed of the moving wildfire, how many people are home at the time, health conditions of affected residents, efforts to extinguish fires, etc. The project site exposure to wildland fire risks is the same as surrounding residential neighborhoods previously developed in this part of Santa Clarita.

By replacing the existing undeveloped landscape that has extensive cover by flammable vegetation with non-flammable landscape materials designed to comply with the County's fuel modification standards, installing a pressurized water system throughout the developed site area, constructing an internal street network to provide access by emergency response vehicles to all new homes, and constructing new homes with fire and ignition resistant materials, the built project would substantially reduce the fuel loads onsite and could, thereby, reduce the volume of smoke and pollutants that could be generated if a wildfire were to occur onsite in the current conditions. No building permits would be issued by the City until construction plans have been reviewed and determined to be in full compliance with all applicable standards for development in a VHFHSZ.

As a residential community with no other land uses except public and private recreational amenities, there would be no storage, use, or disposal of significant quantities of hazardous materials. In the event of an onsite fire, there would be no significant sources of hazardous materials that could add to the fuel load and potential pollutant burden.

As such, the project would not exacerbate wildfire hazards and would not create conditions that would expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The long-term impacts of the project would be less than significant.

Mitigation Measures

Mitigation measures would not be required.

Impact 3.15-c Project design would include fuel modification zones required by the County Fire Department, underground utilities including a pressurized water system, and an internal circulation network that would reduce fire risks. These standard design features in wildland fire hazard areas would not result in temporary or ongoing adverse impacts to the environment. Construction activities could accidentally ignite fires; however, with the control measures specified in the mitigation measures herein, impacts would be less than significant.

Discussion

Construction activities could exacerbate wildfire risks through discarding lit cigarettes, use of flammable materials and fuels, and operation of combustion-powered machinery that could generate a spark that could ignite spilled fuels or other flammable materials as well as vegetation. Specific examples are identified below:

- Earth-moving and excavating equipment – Heated exhausts or sparks could result in ignition.
- Chainsaws and other small gas-powered equipment/tools – could result in vegetation ignition from overheating, spark, fuel leak, etc.
- Tractors, graders, mowers, bulldozers, backhoes, cranes, excavators, trucks, and vehicles – heated exhaust in contact with vegetation may result in ignition.
- Welders – Open heat source could result in metallic sparks coming into contact with vegetation.
- Wood chippers – Include flammable fuels and hydraulic fluid that could overheat and spray onto vegetation with a hose failure.
- Grinders – Sparks from grinding metal components could land on a receptive fuel bed.
- Torches – Heat source, open flame, and resulting heated metal shards could come in contact with vegetation.

Given the project site conditions which support substantial areas of flammable vegetation and the location in an area that is highly affected by wildland fire hazards, there is a potential for a small fire incident onsite to expand into a wildfire that could spread to surrounding landscapes and developed neighborhoods. This risk is most pronounced during periods of high temperatures, dry conditions, and strong winds. A variety of pre-construction planning and during construction control measures are available and are required by the City for all construction in a wildland fire hazard area; these measures are identified in Mitigation Measures **MM 3.15-1** and **MM 3.15-2** and would sufficiently reduce construction-related accidental ignition impacts to a level of less than significant.

During the construction of the new segment of Bouquet Canyon Road, there could be temporary periods when traffic flow along the adjacent segments of existing Bouquet Canyon Road could be impeded by construction work. Routine traffic control measures such as the use of flagmen and maintaining continuous access for emergency response vehicles and crews would be implemented to ensure that emergency response efforts would not be significantly impeded in the event of a wildfire during project construction. These measures will be specified in an Emergency Vehicle Access Plan, as described in Mitigation Measure **MM 3.15-3**.

All wet and dry utilities would be underground and thus would not exacerbate any fire risks. Internal streets and all common landscape areas, including the required fuel modification zones, would be maintained by a Homeowners Association, with negligible environmental effects. Fuel modification zones, as approved by the County Fire Department, would require periodic irrigation but would have beneficial environmental effects including stabilizing soils, providing some wildlife habitat value, filtering stormwater, and resisting spread of wildfires. No other wildfire-resistant design measures such as emergency water storage facilities, additional fire roads or fuel breaks, or additional power facilities have been identified by the Fire Department at this time. The proposed project design would not exacerbate fire risks or result in temporary or ongoing negative environmental impacts.

Mitigation Measures

MM 3.15-1 Construction Fire Prevention Plan

The Project Applicant shall develop a Construction Fire Prevention Plan that addresses training of construction personnel and provides details of fire-suppression procedures and equipment to be used during construction. Information contained in the plan shall be included as part of project-related environmental awareness training. At minimum, the plan shall include the following:

- Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, use of spark arrestors, and hot work restrictions;
- Work restrictions during periods of high winds, Red Flag Warnings and High to Extreme Fire Danger days;
- Fire coordinator role and responsibility;
- Worker training for fire prevention, initial attack firefighting, and fire reporting;
- Emergency communication, response, and reporting procedures;
- Coordination with local fire agencies to facilitate agency access through the project site;
- Emergency contact information

Timing/Implementation: *Plan check/building permits and construction*

Enforcement/Monitoring: *City of Santa Clarita Building and Safety Division, Los Angeles County Fire Department*

MM 3.15-2 **Fuel Modifications, Landscaping, and Irrigation.** The Construction Contractor shall ensure the implementation of all construction-phase flammable vegetation removal, fuel modification landscape materials, and irrigation systems required by the Los Angeles County Fire Department, prior to combustible building materials being delivered to the site.

Timing/Implementation: *Plan check/building permits and construction*

Enforcement/Monitoring: *City of Santa Clarita Building and Safety Division*

MM 3.15-3 **Emergency Vehicle Access Plan During Construction**. To avoid impeding emergency vehicle and evacuation traffic around construction vehicles and equipment, the Project Applicant, in consultation with the City, shall develop an Emergency Vehicle Access Plan that includes the following:

- Evidence of advanced coordination with emergency service providers, including but not necessarily limited to police departments, fire departments, ambulance services, and paramedic services;

- Emergency service providers will be notified of the proposed project locations, nature, timing, and duration of any construction activities, and will be asked for advice about any road access restrictions that could impact their response effectiveness; and
- Project construction schedules and routes designed to avoid restricting movement of emergency vehicles to the best extent possible. Provisions to be ready at all times to accommodate emergency vehicles. Provisions could include the use of platings over excavations, short detours, and/or alternate routes.

Timing/Implementation: *Plan check/building permits and construction*

Enforcement/Monitoring: *City of Santa Clarita Building and Safety Division, Los Angeles County Fire Department, and Los Angeles County Sheriff's Department*

Level of Impact Significance Following Mitigation

Proper implementation of Mitigation Measures 3.15-1, 2, and 3 would sufficiently reduce the project's potential impacts during construction to less than significant and would not result in independent adverse impacts.

Impact 3.15-d The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Discussion

All manufactured slopes would be built to factors of stability required by the City's building code, which would also improve stability of several existing slopes areas compared to current conditions, where grading is proposed. All such slopes would also be landscaped with fire resistant materials, thus reducing the vegetation fuel load and reducing chances that a wildfire would denude the slopes and create possible landslide or flooding conditions due to loose/bare slopes. In-street and subsurface storm drainage improvements would occur in each planning area. In the existing Bouquet Creek floodplain area in the site's lower elevations/flatter areas, the existing natural landscape would be altered by construction of engineered/managed drainage facilities where dry flammable vegetation would be removed and replaced with structurally enhanced channel embankments covered with non-flammable plant materials. The proposed drainage system is designed to comply with all applicable standards for collecting, retaining, and discharging runoff during various intensity rainstorms, and would not discharge any runoff onto surrounding residential properties or to the roadway surface of Bouquet Canyon Road. The built project would thus eliminate and/or reduce landscape elements that exist today that could contribute to flooding or landslides and thus significantly reduce the chances for such hazard conditions in a post-wildfire scenario.

Mitigation Measures

Mitigation measures are not required.

This page intentionally left blank.

4.0 CUMULATIVE IMPACTS

4.0 CUMULATIVE IMPACTS

4.1 INTRODUCTION AND APPROACH

"Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, § 15355; see also Pub. Resources Code, § 21083(b)). Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (CEQA Guidelines, § 15130(a)(1).

"[I]ndividual effects may be changes resulting from a single project or a number of separate projects." (CEQA Guidelines, § 15355(a)). "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines, § 15355(b); Los Angeles Unified School Dist. v. City of Los Angeles (1997) 58 Cal.App.4th 1019, 1024-1025). Past and present projects are considered to be inherent in the baseline conditions.

A project's cumulative impact is, generally, the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects (CEQA Guidelines, § 15355(b)). Determining a project's influence on cumulative impacts is imperative because although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and thus significant, when viewed together with environmental changes anticipated from past, present, and probable future projects (CEQA Guidelines, §§ 15064(h)(1), 15065(c), 15355(b)).

In order to set the framework for a cumulative impact assessment, it is useful to define a relevant geographic area of analysis and "a discrete universe of past, present, and probable future projects producing related or cumulative impacts" relevant to the impact area (CEQA Guidelines § 15130(b)(3)). The relevant geographic area of analysis varies depending on the type of impact under consideration. For example, construction noise impacts associated with the proposed project would be temporary and limited to the project area. If project A, several miles away from the project site, is also undertaking construction activities that generate noise, the projects would likely be far enough away from one another such that noise impacts would not be additive, and would not result in compounding, cumulative impacts. As a similar example, impacts related to Geology and Soils, such as impacts resulting from land alterations on sites exposed to rupture from a known earth quake fault, seismic ground shaking, or landslides are site specific and would not directly interact with similar effects involving a project located miles away. In these cases, the geographic area of analysis for cumulative effects would be limited to the immediate area of the proposed project. Thus, for impacts involving effects that occur only within or close to the project site, the probable future projects that would be evaluated for potential impacts that could add or combine with the proposed project's impacts would be limited to those projects in the immediate project area.

Other impact areas require larger geographic areas of analysis. For example, if projects A, B, and C are located several miles away from the project site, and are also within the Santa Clarita Valley Water Agency's Santa Clarita Water District, each project could have an individually minor impact on the capacity of existing water infrastructure; however, the projects could have a combined, cumulatively considerable

impact if the combined project water demand is greater than the available water supplies or local infrastructure can provide. In this case, the geographic area for determining which projects to include in the cumulative impacts analysis would be the Santa Clarita Valley Water Agency service area for determining cumulative impacts on available water supply, and a subset of the Santa Clarita Water District's service area for determining cumulative impacts on the capacity of the local water main within Bouquet Canyon Road serving the project.

The City of Santa Clarita maintains a list of major development projects throughout the City's jurisdictional boundaries that are in various stages of the approval and construction process (listed as either proposed, approved, or under construction). These projects are identified in **Table 4.0-1.**

A separate list of projects was generated for the Traffic Impact Analysis (TIA), which includes 66 pending development projects within and outside of the City of Santa Clarita that could generate traffic that would affect the same elements of the transportation network that would be impacted by the proposed project. This list includes all of the projects identified in **Table 4.0-1**, plus proposed projects from the approved General Plans of Los Angeles County and the City of Santa Clarita, as well as projects included in the City's One Valley One Vision Area Plan. Please refer to **Table 4.0-3**, later in this chapter, for further details.

TABLE 4.0-1
MAJOR DEVELOPMENT PROJECTS PROPOSED WITHIN THE CITY OF SANTA CLARITA

Number	Project Name	Description	Status[1]
1	Aliento Neighborhood	400 single family residential units, 95 age qualified single-family residential units, two recreation centers, one trailhead park.	Under Construction
2	Centre at Needham Ranch Business Park	Up to 4,000,000 square foot business park – 7 buildings in Phase I.	Under Construction
3	Five Knolls and Galloway Senior Housing	140 age restricted residential units, a YMCA and a Senior Center.	Under Construction
4	Henry Mayo Newhall Hospital	Inpatient Tower to be completed in 2019. Proposed new Inpatient Tower, Diagnostics and Treatment Building, and parking structure.	Under Construction, Proposed
5	Homewood Suites and Hampton Inn	185 hotel rooms in two construction phases.	Under Construction
6	Laemmle Theatre	1,700 square feet of commercial space, a seven-screen movie theatre.	Under Construction
7	Luxen Hotel	42-room boutique hotel	Under Construction
8	Newhall Crossings	20,000 square feet of retail space and 47 residential units with subterranean parking and a public plaza	Under Construction
9	Residence Inn, Springhill Suites, and Holiday Inn Express	182-room Residence Inn/Springhill Suites and a 102-room Holiday Inn Express.	Under Construction
10	River Village Area D	The entire River Village Area was approved in 2005. 184 multi-family units in Area D are under construction.	Under Construction

Number	Project Name	Description	Status[1]
11	Southern California Innovation Park	600,000 square feet of industrial space, 137,000 square foot office building. Pending developments include 124,280 square feet of building space.	Under Construction, Proposed
12	Valencia Town Center Square	60 multi-family residential units and 10,000 square feet of commercial space.	Under Construction
13	Vista Canyon Ranch	1,100 multi-family residential units and 950,000 square feet of commercial space, structured parking, Vista Canyon bridge, a new Metrolink and bus transit stations.	Under Construction
14	Master's University Master Plan	240,000 square feet of new college buildings, extension of Dockweiler Drive, 42 residential units, and an increase of 600 students.	Approved
15	Oliver Hotel (Element by Westin)	A 102,000 square-foot, 134-room hotel with a 4,000 square-foot restaurant pad.	Approved
16	Sand Canyon Plaza	580 residential units, assisted living facility, and 140,000 square feet of commercial space.	Approved
17	8th Street Subdivision	11 single-family residential units.	Proposed
18	Bouquet Canyon Realignment (Proposed Project)	375 single- and multi-family residential units in 5 planning areas, with 2 parks, trails, and trailhead parking. Project includes realignment of Bouquet Canyon Road.	Proposed
19	Dockweiler 21	93 detached single-family condominiums, a recreation center, and community pool.	Approved
20	Mancara	109 single-family detached units, trails, and an equestrian center.	Proposed
21	Park Vista	182 single-family detached units and a 17-acre park.	Proposed
22	Placerita Ranch	322 single-family detached units, trails, and 37-acres of open space.	Proposed
23	Princessa Crossroads	680,000 square feet of business park and retail use, 925 residential units, and an extension of Via Princessa.	Proposed
24	Sand Canyon Resort	Hotel and villas (totaling 384 rooms), spa, restaurants, conference space, and wedding venue.	Proposed

1. "Proposed" projects are those formally submitted to the Planning Division for review. "Approved" projects are those that have received planning entitlements, but are not yet under construction. "Under Construction" projects are those that have received planning entitlements and have pulled requisite grading, building, and other applicable permits.

Source: City of Santa Clarita, December 2019

Once determining the appropriate geographic area of analysis for each impact area, the process for determining whether a project's impacts would be cumulatively considerable is done through two steps. First, there is an assessment as to whether the combined effects from the proposed project, as well as other projects could be cumulatively significant. Second, if the combined effects could be cumulatively significant, there is an assessment to determine if "the proposed project's incremental effects are

cumulative considerable" (*Communities for a Better Environment*, supra, 103 Cal.App.4th at p. 120). Therefore, the analysis would compare the incremental effect of a proposed project against the collective impacts from other projects, and also add the proposed project's incremental impact to the anticipated impacts of other projects (*Communities for a Better Environment*, supra, 103 Cal.App.4th at pp. 117-121). For example, if a lead agency determines that a proposed project's cumulative impacts would be significant when considering the combined impacts from projects A, B, and C, the lead agency must then determine if the proposed project's incremental contribution to the combined significant, cumulative impact would be "cumulatively considerable."

When evaluating the cumulative effects for various types of impacts, consideration is also given to any regulatory programs that require project design or operational measures that would reduce project-level contributions to that cumulative impact. An example of such a program is the set of air pollutant reduction rules established and administered by the South Coast Air Quality Management District to compel individual projects to implement construction controls or design/operational controls to limit emissions of criteria air pollutants. Another example of a programmatic mitigation measure to reduce cumulative impacts is the regional General Construction Permit, administered by the regional water quality control boards, to require various construction control measures to prevent the release of water pollutants from active construction sites.

4.2 CUMULATIVE IMPACT ANALYSIS

The following sections provide a cumulative impacts analysis for each of the impact topics addressed in this EIR. Each section begins with a definition of the geographic area of concern for the impact area, and a description of reasonably foreseeable projects within the geographic area of concern. The combined effects of these projects with those of the proposed project are assessed to determine whether those effects could be cumulatively significant. If so, the proposed project's incremental effects are examined to determine whether they could be cumulatively considerable and if so, to identify measures to reduce or mitigate the project's incremental impact to less-than-cumulatively considerable.

4.2.1 AESTHETICS

Conclusion: Aesthetic impacts associated with the proposed project, when combined with past, present, and future projects, would not be cumulatively significant given the localized nature of aesthetic impacts, the distance between the proposed project and other identified projects, and compliance with required design standards.

Discussion

The project would transform the visual character of the undeveloped project site through extensive landform alteration, construction of low-scale homes in several distinct planning areas, construction of a new segment of Bouquet Canyon Road, and through replacement of existing natural and disturbed landscapes with a variety of new landscape elements and new outdoor lighting fixtures. However, as discussed in **Section 3.1** of this EIR, the project would be visually compatible with neighborhoods of one and two-story single-family homes on the south, west, and north sides and would not have a significant impact on the visual character of public views of the site and surroundings. The proposed project design elements are consistent with the City's development standards and will ensure that the visual character of the fully developed site is of high quality and consistent with the City's Community Character and Design

Guidelines for the Saugus community. No significant aesthetics impacts have been identified for the proposed project.

Further, aesthetic impacts associated with other pending projects that are located miles away from the project site would not contribute to aesthetic impacts due to development of the proposed project. The nearest project identified in **Table 4.0-1** is the Five Knolls and Galloway Senior Housing facility, currently under construction. This project is located along the Santa Clara River, 1.7 miles south of the project site; therefore, the land alterations and changes in visual character and quality on each site would be localized, and there would not be a combined effect on the same visual setting and views As such, the proposed project would not result in cumulatively considerable aesthetics impacts.

Mitigation Measures

No mitigation is required.

4.2.2 AIR QUALITY

Conclusion: The project's emissions would be below all South Coast Air Quality Management District (SCAQMD) regional thresholds for the non-attainment pollutants, which are established for evaluating project-specific and cumulative impacts; therefore, the proposed project would not result in a cumulatively considerable contribution of these pollutant emissions.

Discussion

As discussed in **Section 3.2** of this EIR, the project site is within the South Coast Air Basin (SCAB), which is designated as nonattainment for ozone, PM_{10}, and $PM_{2.5}$. Nonattainment means that the background levels of these pollutants are at times higher than the ambient air quality standards, which were set to protect public health, including the health of sensitive individuals (elderly, children, and the sick). Therefore, when the concentrations of those pollutants exceed the standard, it is likely that some sensitive individuals in the population would experience health effects. Cumulative impacts for air quality consider the effects of the project in combination with similar projects within the South Coast Air Basin boundaries; however, it is impractical to estimate the combined emissions of projects throughout the entire air basin given the size of the area and the number of projects that take place within it. Further, as described in Section 3.2 of this EIR, the SCAQMD established thresholds of significance for VOC and NOx (which are precursors to ozone), PM_{10}, and $PM_{2.5}$. These thresholds were established as indicators of a cumulatively considerable contribution to an existing or potential violation of health-based air quality standards and are the same as project-specific thresholds. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable; therefore, SCAQMD uses the same significance thresholds for project-specific and cumulative impacts. As discussed in **Section 3.2** of this EIR, the project's emissions would be below all SCAQMD regional thresholds for the non-attainment pollutants; therefore, the proposed project would not result in a cumulatively considerable contribution of these pollutant emissions.

Further, the various pollution control strategies set forth in the regional Air Quality Management Plan are designed to reduce regional emissions of those pollutants over time, while ongoing regional growth occurs as forecast in the Southern California Association of Government's Regional Transportation Plan / Sustainable Communities Strategy. To the extent the SCAQMD's control strategies are successful, regional growth can occur, including new land development projects, such as the proposed project, and eventually

the region can achieve the District's key objective, which is attainment status for the four criteria pollutants that are currently in a non-attainment status.

Mitigation Measures

No mitigation is required.

4.2.3 BIOLOGICAL RESOURCES

Conclusion: Impacts on biological resources associated with the proposed project, when combined with past, present, and future projects, would not be cumulatively significant given the localized nature of the project's biological resource impacts; the proposed project's mitigation measures, which address the project's share of biological resource impacts; and compliance with local, state, and federal regulations establishing protections for special-status species.

Discussion

As stated in the Santa Clarita General Plan EIR, at least 65 special-status species have been reported in the City's General Plan planning area and all "natural or semi-natural" habitat types within the City's planning area may potentially support one or more of these species (Santa Clarita, 2020, pg 3.7-37). Further, the General Plan EIR states that implementation of the general plan may result in the potential direct mortality of individuals of candidate, sensitive, or special-status species or loss of habitat occupied by such species. This would result in a substantial adverse effect, either directly or through habitat modification, on species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations (or by the California Department of Fish and Wildlife or the U.S. Department of Fish and Wildlife) (Santa Clarita, 2010). Therefore, the General Plan EIR considered this impact significant at the General Plan level. To avoid or minimize these impacts the General Plan Conservation and Open Space Element contains goals, objectives, and policies that serve to minimize impacts on natural areas, by encouraging policies such as acquiring and preserving habitats in cooperation with conservation groups and concentrating development in previously disturbed areas to prevent sprawl and habitat loss. However, "the proposed goals, objectives, and policies do not provide a mechanism for the compensation of lost habitats when avoidance or minimization of impacts is considered to be infeasible, nor do they mitigate for the direct mortality of individuals of listed, proposed, or candidate species (Santa Clarita, 2010, pg 3.7-44)." Therefore, the General Plan EIR identifies a suite of mitigation measures the further reduce proposed impacts from implementation of the General Plan. Even with these mitigation measures, the General Plan EIR determined that the impacts to special-status species described above, as well as the loss of connectivity between the two units of Angeles National Forest bifurcated by the General Plan planning area would remain significant at the plan level following mitigation. The proposed project would not result in any new or more extensive impacts beyond those contemplated in the General Plan EIR.

Impacts on biological resources are typically limited to an individual project site and possibly the immediate surroundings and would not be substantially compounded by the construction or operation impacts of other, more distant projects. An important exception to this is when a project eliminates a significant portion of a regional wildlife corridor or eliminates one of the few remaining pockets of habitat supporting a sensitive species in the same region.

The proposed project is substantially altering the existing biological resources on the site, by building a residential community and supporting infrastructure improvements on an undeveloped site dominated

by a variety of upland and riverine habitats. As a result, the proposed project could disturb the same kinds of habitats that are disturbed by other related projects displayed in **Table 4.0-1**. However, as discussed in Section 3.3 of this EIR, the habitats that would be disturbed by the proposed project are common in the area, especially in undeveloped areas east and north of the project site, which will likely remain undeveloped due to topographical conditions or their preserved open space status (e.g., Haskell Open Space and Angeles National Forest). The proposed project will be required to implement several mitigation measures to offset or avoid impacts to special-status plants, vegetation communities, wildlife, and wetlands. The project would not eliminate a portion of a regional wildlife movement corridor and would not eliminate one of the few remaining pockets of habitat supporting a sensitive plant or wildlife species that is known to be declining in this region. The nearest other pending project is the Five Knolls and Galloway Senior Housing facility, currently under construction. That project is located along the Santa Clara River, 1.7 miles south of the project site. Neither the proposed project or that senior housing project would encroach into the Santa Clara River and would not affect wildlife movement along or through the river. As such, there would be no combined impact on the same plants or wildlife habitat or on the same state or federal water resources because of the significant physical separation between the two sites. Similarly, there would be no combined impact to the same biological resources because all of the other projects are further away from the project site and distributed at considerable distances throughout the Santa Clarita Valley. Other pending projects that are subject to review under CEQA would be required to conduct biological impact technical analyses and implement appropriate site-specific mitigation measures as appropriate to reduce impacts to biological resources. All new development projects throughout the City's planning area would be required to comply with local, state, and federal laws related to biological resource protection, such as the City's oak tree preservation ordinance and state and federal regulations protecting special-status species. Although some of the other pending projects might result in some impacts to similar types of habitats that would be impacted by the proposed project, the same habitats on the same land would not be affected. With compliance with local, state, and federal regulations protecting special status species, the combined impacts of the proposed project with other, related projects would not be cumulatively significant.

Mitigation Measures

No mitigation is required.

4.2.4 CULTURAL RESOURCES

Conclusion: Impacts on cultural resources associated with the proposed project, when combined with past, present, and future projects, would not be cumulatively significant. Therefore, the project's incremental impacts would not be cumulatively considerable. This is due to the site-specific nature of cultural resource impacts and required compliance with local, state, and federal regulations establishing protections for historic and archaeological resources, as well as human remains.

Discussion

Impacts to cultural and historic resources are typically site-specific and do not combine with the impacts of other projects to result in cumulative impacts involving the same prehistoric or historic resources. As such, the impacts associated with the proposed project would not combine with cultural resource impacts from another project miles away from the project site. The nearest project identified in **Table 4.0-1** is the

Five Knolls and Galloway Senior Housing facility, currently under construction. This project is located along the Santa Clara River, 1.7 miles south of the project site; therefore, even if some prehistoric or historic cultural resources are discovered at that other project site, it would not affect the cemeteries within the project site or involve deposits of the same potential resources that might be discovered within the project site. All other pending projects are located at considerable distances from the project site; therefore, there could be no combined impact to the same cultural resources, such as a village, burial ground, etc.

As stated in Section 3.4 of this EIR, the proposed project would not impact historical resources as defined by CEQA and would implement mitigation measures to reduce impacts associated with the presence of the Chari/Sucaro and Ruiz Cemeteries within the project site to less than significant. Other pending projects listed in **Table 4.0-1** would likely require grading and excavation during construction, which could disturb subsurface archaeological resources or human remains. As a result, the other projects throughout the city could result in cumulatively significant impacts to cultural resources if these resources are not protected upon their discovery. However, these developments would be required to undergo environmental review pursuant to CEQA and would be subject to Section 7050.5(b) of the California Health and Safety Code for treatment of human remains; Section 21083.2 of the CEQA Statute for treatment of archaeological resources; and Chapter 17.64 of the City of Santa Clarita municipal code which establishes protections for historic, cultural, and natural resources of special historic interest. Therefore, because subsurface cultural resources are protected upon discovery by law, the combined effects from the proposed project and related projects would not be cumulatively significant.

Mitigation Measures

No mitigation is required.

4.2.5 ENERGY CONSUMPTION

Conclusion: Impacts resulting from energy consumption associated with the proposed project, when combined with related projects listed in **Table 4.0-1**, would not be cumulatively significant. This is due to the fact that related projects would be required to comply with energy efficiency standards, during both construction and operation, for consumption of electricity, natural gas, and transportation fuels. Compliance with these regulatory standards would avoid wasteful, inefficient, and unnecessary consumption of energy during construction and operation. Furthermore, Southern California Edison Company, the electricity purveyor in the Santa Clarita Valley, is obligated under State law to increase the share of its energy generated by clean, renewable sources to 33% by the year 2020 and to 50% by the year 2050. Therefore, the combined cumulative impact of the project combined with related projects in **Table 4.0-1** would be less than significant.

Discussion

Impacts associated with energy consumption vary depending on the type and scale of an individual project and are therefore analyzed on a project-by-project basis. As stated in **Section 3.5** of this EIR, the proposed project would result in an increase in energy usage associated with electricity, natural gas, and automotive fuel consumption during project construction and operation. When compared to the annual energy consumption of Los Angeles County, the proposed project would result in a negligible increase in county-

wide electricity and natural gas consumption of 0.0028 percent and 0.0014 percent, respectively. Further, automotive fuel consumption for construction and operation of the project would result in a negligible increase in county-wide fuel consumption of 0.0329 percent and 0.0193 percent, respectively. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site preparation, grading, trenching, paving, building construction, and architectural coating. Other energy requirements for construction include bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactures or processed materials such as lumber and glass. For project operation, automotive fuel consumption would consist of vehicle trips generated by the proposed project. Other operational energy consumption would be associated with electricity and natural gas usage (heating, cooling, appliances, electronics, lighting, etc.), as well as energy usage for upkeep of community common areas.

The impact analysis of the proposed project in **Section 3.5** of this EIR determined that the increase in electricity, natural gas, and automotive fuel consumption associated with the proposed project would be negligible and would not result in a substantial increase in demand on regional energy supply requiring significant additional capacity. Further, the analysis determined that energy consumption is restricted by existing regulations governing building and vehicle energy efficiency. Such regulations include the Federal Energy Policy and Conservation Act of 1975, through which the National Highway Traffic and Safety Administration promulgates federal fuel economy standards for vehicle manufacturers and the California Building Code, which includes building energy efficiency standards under Title 24 for various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, photovoltaic solar panels, and lighting. Vehicle energy efficiency standards are a matter of federal regulatory authority, beyond the scope of this project or the actions of private auto owners or local governments like Santa Clarita. California Building Code standards, including 2019 Title 24, Part 6, require new low-scale residential homes permitted on or after January 1, 2020 to comply with new energy efficiency standards, such as mandatory photovoltaic solar panel systems to reduce overall energy consumption to near net-zero levels. Further, the electricity provider, Southern California Edison (SCE), is subject to California's Renewables Portfolio Standard (RPS), which requires SCE to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 50 percent of total procurement by 2030.

Similar to the proposed project, the projects listed in **Table 4.0-1** would also result in increases in overall energy consumption, through electricity, natural gas, and fuel usage during both construction and operation activities. These projects would also be required to comply with Title 24 Part 6 of the California Building Code, with any low-scale residential projects subject to requirements mandating installation of photovoltaic solar panel system. Further, requirements for SCE to procure a greater percentage of renewable energy sources would result in a decreased use of finite energy resources. Regarding construction of the projects listed in **Table 4.0-1**, fuel consumption would be temporary and would not represent a significant demand on energy sources. Construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency and California Air Resources Board engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs, fuel prices, and the energy costs associated with production of building materials such as concrete, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. Therefore, because projects displayed in **Table 4.0-1** would

be required to comply with energy efficiency standards, such as the California Building Code, and because contractors and building owners would be strongly incentivized to avoid wasteful, inefficient, and unnecessary consumption of energy during construction and operation, the cumulative impact of the projects in **Table 4.0-1** would be less than significant.

Mitigation Measures

No mitigation is required

4.2.6 GEOLOGY AND SOILS

Conclusion: Because project-related geotechnical hazard impacts are site-specific, impacts from other pending projects located throughout the Santa Clarita Valley would not be additive, and because all new development projects would be required to comply with building code regulations involving seismic safety design standards and mitigation of unsuitable soil materials, the cumulative effects of the proposed project and related projects would be less than significant.

Discussion

Impacts related to geology and soils are site-specific in nature and are typically assessed on a project-by-project basis. As a result, whether a project would indirectly or directly cause substantial adverse effects, including risk of loss involving the rupture from a known earth quake fault, seismic ground shaking, liquefaction, or landslides depends on the geotechnical conditions of the individual project site. Further, grading activities on any one project site would not directly interact or combine with similar effects involving a project located miles away from the project site. The related projects identified in Table 4.0-1 are all located at significant distances from the project site and thus grading and construction activities would not affect the same land conditions. All projects would be required to comply with California Building Code regulations that are incorporated by reference in to the Santa Clarita municipal code (Chapter 18.01), which mandate that structures be designed/constructed to meet seismic safety standards and to mitigate any unsuitable soil conditions. Therefore, because project-related impacts related to geology and soils are site-specific, and because related projects would be required to comply with building code regulations mandating design in accordance with seismic safety standards and mitigation of unsuitable soils, combined effects of the proposed project and related projects would be less than cumulatively significant.

Mitigation Measures

No mitigation is required.

4.2.7 GREENHOUSE GAS EMISSIONS

Conclusion: GHG emissions from the proposed project, combined with GHG emissions of all other pending development projects in the City's planning area, is not expected to cumulatively have a significant impact on the environment due to required compliance with state and local regulations adopted for the purpose of reducing GHG emissions.

Discussion

Greenhouse gas (GHG) emissions accumulate in the atmosphere from sources around the globe and as concentrations increase, so do the adverse environment impacts associated with global climate change. Because the effects associated with GHG emissions and climate change occur on a global scale, all sources of GHG emissions, including the proposed project, have an incremental environmental impact. If all of the pending development projects throughout the Santa Clarita Valley are implemented as proposed, there would be a substantial increase in the annual levels of GHGs generated in this area, even with required compliance with state and local regulations related to GHG reductions on a case-by-case basis. While a single project may contribute GHG emissions to global GHG concentrations in the atmosphere, it is currently not possible to determine the significance of the project's individual contribution to the cumulative adverse environmental effects. The sheer magnitude of GHG emitting activities in the U.S. and in California suggests that the project's GHG emissions in addition to the GHG emissions from related projects in **Table 4.0-1** would represent a relatively very small proportion of nation- or state-wide GHG emissions.

A project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements to avoid or substantially lessen the cumulative problem within the geographic area of the project.[1] That in mind, the proposed project would be required to comply with federal, state, local regulations that aim to reduce the generation of GHGs, such as those identified in Section 3.7.2 of this EIR, as well as required compliance with Title 24, Part 6 of the California Code of Regulations, CALGreen and the GHG reduction measures in the City's Climate Action Plan (which establishes GHG emissions reduction goals for 2020 targets outlined in AB 32).

Further, as noted in **Section 3.7.5** of this EIR, the project land use and design features were found to be consistent with the plans, policies, regulations and GHG reduction actions/strategies outlined in the 2017 Scoping Plan, 2016-2040 RTP/SCS, and General Plan. Since the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs, the project's incremental contribution to the cumulative impact of GHG increases would not be cumulatively considerable.

Mitigation Measures

No mitigation is required.

4.2.8 HAZARDS AND HAZARDOUS MATERIALS

Conclusion: Impacts involving natural and man-made hazards would be addressed on a case-by-case basis and are typically site-specific and localized in nature. All new development projects are reviewed by the City and the County Fire Department to assess potential hazards related to environmental hazards and hazardous substances and wastes and to impose restrictions, as warranted, to avoid or minimize risks to acceptable levels. Therefore, the combined hazards and hazardous material impacts resulting from the project and related projects would be cumulatively less than significant.

Discussion

[1] See 14 CCR Section 15064(h)(3), which is discussed further in Section 3.7.3 of this EIR.

In general, a residential project rarely generates hazardous emissions or hazardous waste apart from such materials and emissions generated by typical household uses of vehicles, barbecues, fireplaces, combustion powered landscaping equipment, and use of household hazardous chemicals (pesticide, fertilizer, paints, cleaning agents, etc.). Further, if hazardous materials were released from a residential project site, it would most likely be caused by disturbance of contaminated soils or contaminated groundwater from a past use during construction activities. Non-residential projects would also have risks of disturbing existing soil or groundwater contamination, in addition to risks associated with the type and amount of hazardous substances involved in the particular land use. In almost every instance, the environmental and health hazards associated with ground disturbance, construction and subsequent operations of a new development project are localized to the project site and the immediate surroundings, unless the project involves a large-scale facility that handles and/or generates large quantities of volatile hazardous substances and wastes. None of the other pending projects listed in **Table 4.0-1** propose to build such a large-scale facility that would involve large quantities of volatile hazardous substances and wastes.

As discussed in **Section 3.8** of this EIR, the proposed project would not result in significant impacts involving the accidental or regular release of hazardous substances or wastes. An abandoned oil well located near the proposed Bouquet Canyon Road realignment segment would not be near any proposed homes and would lie beneath sufficient ground cover. The proposed project design retains sufficient space to allow for oil rigs and related oil abandonment equipment to maneuver in the event that the abandoned well should leak in the future and require remedial work to plug the leak and re-abandon the well. This would not affect other properties.

As has been noted previously in this section, the nearest other pending project is 1.7 miles away and proposes development of a non-hazardous senior housing facility. Given this distance and the non-hazardous nature of the proposed land use, there would be no cumulative effects involving environmental or human health hazards between the proposed project and that nearest pending project. All other pending projects are also located at considerable distances away from the proposed project; therefore, there would be no combination of impacts involving disturbance of the same ground areas or interactions between operational features.

There are several other pending projects that propose to build industrial spaces that could be occupied by facilities that use, store, transport, and dispose of hazardous materials, which could cumulative increase the community wide risk of accidental releases of such materials that could become a threat to the environment or human health. However, all of those projects and every other new development project would be subject to review by the City of Santa Clarita and the Los Angeles County Fire Department, which would be responsible for assessing potential hazardous material risks associated with each project. If necessary, the projects would be required to comply with federal, state, and local laws which are designed to avoid and minimize adverse impacts on public, health, safety, and the environment. Each project would be subject to environmental review pursuant to CEQA and if significant hazards or hazardous materials are identified, would be required to implement mitigation measures to avoid or reduce the impacts.

Compliance with existing protective regulations governing use, transport, and disturbance of hazardous materials would ensure that the geographic extent of a project's impacts relating to hazards and hazardous materials are limited to a project site itself and would not negatively impact surrounding areas.

Therefore, because the project-specific impacts would be addressed at the project-level and would not be additive in nature, the combined hazards and hazardous material impacts resulting from the proposed project and other pending projects would be cumulatively less than significant.

Wildfire hazards, related impacts involving emergency response and evacuation and whether the combined impacts of the proposed project and other pending projects could directly or indirectly lead to a cumulatively significant risk of loss, injury, or death involving wildland fires is discussed in **Section 4.2.15**, later in this chapter.

Mitigation Measures

No mitigation is required.

4.2.9 HYDROLOGY AND WATER QUALITY

Conclusion: Due to required compliance with state, regional, and local regulations designed to protect surface and groundwater quality, the combined impact of the proposed project and related projects would be cumulatively less than significant.

Discussion

Cumulative impacts for hydrology and water quality consider the impacts of the proposed project and other projects that would discharge into Bouquet Creek, and eventually into the Santa Clara River. The proposed project would change the site through extensive landform modification, such as channelization of Bouquet Creek into a reinforced concrete trapezoidal channel, which would alter the hydrological patterns of the site. Other pending projects in the Santa Clarita area, as identified in **Table 4.0-1** would result in site grading and development of impervious surfaces, which would introduce new sources of water pollutants in site runoff that ultimately discharges into the Santa Clara River.

There are many other pending development projects within the Santa Clara River watershed, which could result in incremental effects on the surface water quality of the Santa Clara River and/or groundwater quality and recharge areas. However, the proposed project and cumulative projects are subject to state, regional, and local/county requirements that are designed to prevent regional development from adversely affecting surface and groundwater water quality. Such requirements include the Los Angeles County MS4 and corresponding Low Impact Development (LID) requirements minimizing runoff volume and peak discharge (techniques to address such requirements are outlined in the County's LID Standards manual), the regional General Construction Permit, Total Maximum Daily Load requirements, and Waste Discharge Permits intended to achieve the water quality objectives established by the Los Angeles Regional Water Quality Control Board's Basin Plan. As described in Section 3.9 of this EIR, the proposed project is complying with these regulations by incorporating stormwater quality design measures, such as infiltration basins and biofiltration basins to provide required stormwater treatment. Future cumulative projects within the Santa Clara River watershed would also be required to comply with these above-described regulations and would be evaluated on a project-by-project basis by the City and County to determine the most appropriate Best Management Practices and other stormwater treatment measures to be implemented on the project site and to verify compliance with the provisions of the General Construction Permit to ensure that construction activities would not significantly impact surface or ground water quality. As such, due to required compliance with state, regional, and local regulations protecting

water quality, the combined impact of the proposed project and related projects would be cumulatively less than significant.

Mitigation Measures

No mitigation is required.

4.2.10 NOISE

Conclusion: Noise impacts are primarily localized to any one project site and effects dissipate as the distance from the project site increases. As there are no other pending projects in the immediate vicinity of the project site, and since the time and intensity of construction activities are regulated by local regulations, there would not be a cumulatively significant impact on short-term noise and vibrations. The cumulative impacts associated with long term operation of the proposed project and related projects would lead to increased traffic on local roadways and a subsequent increase in traffic noise. While the combined impact of the proposed project and related projects would exceed the combined effect threshold of 3.0 dBA (the level at which people with a normal hearing capability can detect a noise level change) at one segment of Golden Valley Road, the proposed project's small incremental effect would not be cumulatively considerable.

Discussion

The cumulative impact analysis for noise considers the proposed project in combination other development projects in the immediate project vicinity. Noise and groundborne vibration impacts from construction activities and typical activities at the fully developed site are primarily localized to any one project site and effects dissipate rapidly as the distance from the project site increases. Therefore, only projects in the immediate vicinity of the project site could combine with the proposed project to result in cumulative significant noise impacts. As noted earlier in this chapter, the nearest other pending project is located 1.7 miles from the project site; therefore, it is too far away to generate construction or operational noise or ground vibrations that would combine with the localized noise and ground vibrations generated by the proposed project.

As discussed further in Section 3.10 of this EIR, the sources of noise associated with the proposed project would be short-term construction-related noise and long-term operational noise. No unique or exceptionally loud construction machinery are proposed to construct the proposed project improvements, and all work would be conducted during those days and hours specified the City's Municipal Code (Chapter 11.44, Noise Limits). Further, Mitigation Measure MM 3.10-1 identifies noise reduction measures to be implemented during project construction, including restricted hours for noise-generating construction activities on the project site; equipping construction machinery (fixed or mobile) with mufflers; and staging construction equipment in areas that would create the greatest distance between the equipment and nearby, noise-sensitive receivers. The fully built and operational project site would not generate additional residential noise sources that would result in a significant increase in local ambient noise levels. As such, the project's construction and onsite operational noise impacts would not be cumulatively considerable.

Cumulative impacts associated with traffic-generated noise have been assessed based on the project's contribution to the forecast future traffic volumes for the traffic impact study area network, which are

derived from the of the Santa Clarita Valley Consolidated Traffic Model (SCVCTM), as explained in **Section 3.12**. A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to "existing" conditions. This comparison accounts for the traffic noise increase generated by a project combined with the traffic noise increase generated by projects in the cumulative project list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

- *Combined Effect*. The cumulative with project noise level ("Future With Project") would cause a significant cumulative impact if a 3.0 dBA increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use. Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.
- *Incremental Effects*. The "Future With Project" causes a 1.0 dBA increase in noise over the "Future Without Project" noise level.

A significant impact would result only if both the combined (including an exceedance of the applicable exterior standard at a sensitive use) and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the proposed project and growth due to occur in the project site's general vicinity would contribute to cumulative noise impacts. **Table 4.0-2**, below, lists the traffic noise effects along roadway segments in the project vicinity for "Existing," "Future Without Project," and "Future With Project" conditions, including incremental and net cumulative impacts.

TABLE 4.0-2
CUMULATIVE NOISE SCENARIO

Roadway Segment	Existing	Future Without Project	Future With Project	Combined Effects	Incremental Effects	Future With Project Noise Level Exceeds LU 60 dBA CNEL "Acceptable" Noise Standard?	Cumulatively Significant Impact?[1]
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference In dBA Between Existing and Future With Project	Difference In dBA Between Future Without Project and Future With Project		
Bouquet Canyon Road							
Newhall Ranch to Seco Canyon	69.7	70.1	70.2	0.5	0.1	Yes	No
Seco Canyon to Plum Canyon	67.0	67.2	67.4	0.4	0.2	Yes	No
Plum Canyon to Copper Hill	63.4	65.2	65.6	2.2	0.4	Yes	No
Copper Hill	62.8	64.8	64.8	2	0.0	Yes	No
Newhall Ranch							
Bouquet Canyon to Golden Valley	70.0	71.4	71.4	1.4	0.0	Yes	No
Golden Valley							

Roadway Segment	Existing	Future Without Project	Future With Project	Combined Effects	Incremental Effects	Future With Project Noise Level Exceeds LU 60 dBA CNEL "Acceptable" Noise Standard?	Cumulatively Significant Impact?[1]
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference In dBA Between Existing and Future With Project	Difference In dBA Between Future Without Project and Future With Project		
Newhall Ranch to Plum Canyon	63.4	67.1	67.2	3.8	0.1	Yes	No
Plum Canyon							
Bouquet Canyon to Golden Valley	62.6	64.2	64.4	1.8	0.2	Yes	No
White Canyon							
Golden Valley	64.5	64.6	64.7	0.2	0.1	Yes	No
Benz Road							
Bouquet Canyon to Copper Hill	51.9	52.4	52.8	0.9	0.4	No	No
Copper Hill							
Seco Canyon to Haskell Canyon	66.2	67.3	67.3	1.1	0.0	Yes	No
Haskell Canyon to Benz Road	62.3	64.3	64.5	2.2	0.2	Yes	No
Benz Road to David Way	59.6	61.8	61.8	2.2	0.0	Yes	No
Seco Canyon							
Copper Hill to Bouquet Canyon	63.2	63.6	63.6	0.4	0.0	Yes	No
David Way							
Copper Hill to Bouquet Canyon	55.2	57.5	57.5	2.3	0.0	No	No

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Notes:

1. *A cumulative impact would occur if the Combined and Incremental Effects criterion are exceeded, and the modeled noise level exceeds the City's traffic noise standard.*

Source: Noise modeling is based on traffic data within the Bouquet Canyon Residential EIR Traffic Impact Analysis, (see Appendix J of this EIR)

As shown in **Table 4.0-2**, the only exceedance would be at Golden Valley Road, between Newhall Ranch Road and Plum Canyon Road, where the combined effects criteria of 3.0 dBA is exceeded. However, the project's incremental effect at this segment is negligible (0.1 dBA) and below the level of perception; the large majority of the projected increase in roadway noise in that road segment is due to traffic growth from other projects and areawide influences Therefore, the project's long-term roadway noise impact would not be cumulatively considerable.

Mitigation Measures

No mitigation is required.

4.2.11 PUBLIC SERVICES

Conclusion: There are adequate levels of fire protection, public safety/law enforcement, public parklands, public schools and other governmental resources and facilities to accommodate the demands of the proposed project, without reducing the level of service to existing neighborhoods and communities. Compliance with local and regional requirements

mandating that new development provide support for police, fire, school, and parks and recreation resources, through dedications or development impact fees, would ensure that cumulative impacts associated from the combined effects of the proposed project and other pending projects on public services would be less than significant.

Discussion

Fire

In general, additional development within the service area of the Los Angeles County Fire Department (LACFD), which includes all of Santa Clarita and surrounding unincorporated portions of Los Angeles County, could lead to an increased strain on existing Fire Department resources. As discussed in **Section 3.11.1**, the LACFD determined that the proposed project would not result in a significant impact on their resources or abilities to maintain desired levels of service and that no new fire stations or other fire department facilities would be required to address the project's impacts. The LACFD manages a Developer Fee Program, which collects a fee from development projects to fund acquisition, construction, improvement, and equipping of fire station facilities in order to maintain service levels. Furthermore, all new development projects within the LACFD's service area would be required to meet City or County fire safety building codes and requirements mandating adequate fire protection measures, such as site access requirements, fire flow, and fuel modification. Therefore, the existing regulations and development impact fee programs in place would adequately respond to cumulative impacts associated with fire service in the Santa Clarita Valley area and cumulative impacts would be less than significant.

Law Enforcement and Public Safety

In general, additional development within the Los Angeles County Sheriff's Department (LASD) North Patrol Service Division, which includes Santa Clarita and portions of unincorporated Los Angeles County, could lead to an increased strain on existing Sheriff's Department resources. The North Patrol Service Division of the LASD maintains one station (the Santa Clarita Valley (SCV) Station), located at the intersection of Magic Mountain Parkway and Valencia Boulevard, to serve a population of approximately 293,000 residents. As described in Section 3.11.2 of this EIR, the SCV Station's estimated response times for emergent, priority, and routine calls for service from the project site are 5.7 minutes, 13.1 minutes, and 63.7 minutes, respectively. These are better than industry standards of 10 minutes for emergent calls and 20 minutes for priority calls, but below the standard of 60 minutes for routine calls. To maintain service levels, the City of Santa Clarita collects a Law Enforcement Facilities Mitigation Fee (Section 17.51.010(B) reviewed annually), which "mitigate[s] adverse impacts due to the inadequacy of law enforcement facilities that might otherwise occur due to new development." Correspondence with the LASD indicates that the SCV Station is currently understaffed and does not have enough space to accommodate additional sworn personnel needed to maintain desired service levels within the Valley. However, LASD is currently constructing a new station located approximately five miles south of the project site, which will replace the existing SCV Station, and is targeted for completion in 2021. Although the combined impact of the proposed project and other projects listed on **Tables 4.0-1** would result in an increase in demand for Sheriff services, the impact would not require the provision of new or physically altered Sheriff station facilities beyond the new station currently under construction. Therefore, the combined impact from the project and related projects would be cumulatively less than significant as

service demands would be met through currently planned facility upgrades and the collection of revenues from the proposed project and the related projects.

Schools

As stated in **Section 3.11.3** of this EIR, the Saugus Union School District (SUSD), which serves students in transitional kindergarten through sixth grade and the William S. Hart Union High School District (WHUSD), which serves students in seventh grade through twelfth grade, provide public school services to residents of the project vicinity. The four campuses within these districts that serve this area are Plum Canyon Elementary, Highlands Elementary, Arroyo Seco Junior High School, and Saugus High School. As discussed in **Section 3.11.3**, all of these facilities have available capacity, except for Arroyo Seco Junior High (grades 7-8), which is 128 students above capacity and Saugus High School, which is nearly at capacity as of February 2019. There are no existing or pending projects listed in **Table 4.0-1**, other than the proposed project, that are located within the attendance areas for the schools affected by the proposed project (Arroyo Seco Junior High School and Saugus High School) that are at or above capacity. Therefore, there would not be a cumulative impact on the capacity of Arroyo Seco Junior High and Saugus High School beyond the impacts associated with the proposed project. As such, the capacity deficit would remain at 128 students above capacity at Arroyo Seco Junior High School and nearing capacity at Saugus High School.

As discussed in **Section 3.11.3** of this EIR, Section 17620 of the California Education Code and Government Code Section 65995 state that school districts are authorized to collect fees for mitigation of the impact of new development on enrollment. Therefore, required payment of the amounts specified in these regulations by projects located within the SUSD and WHUSD would sufficiently mitigate the cumulative impact of these projects on the capacities of local school facilities to a less than significant level.

Parks

As discussed in **Section 3.11.4**, the proposed project would result in the addition of approximately 1,098 new residents that would utilize the parks and recreation facilities owned and maintained by the City.[2] Likely, residents of the proposed project would utilize parks and recreation facilities close to the project site, such as Copper Canyon Park, Bouquet Canyon Park, and David March Park. The City currently provides approximately 1.8 acres of park per 1,000 residents, which is below the City's General Plan goal of 5 acres per 1,000 residents. The addition of proposed project residents would decrease the citywide ratio of park acres per resident. In accordance with the requirements of the Santa Clarita Municipal Code Section 17.51.010(E), the project applicant would be required to dedicate land, pay in-lieu fees, or a combination of both to address the increase in use of existing park and recreation facilities. As reported in **Section 3.11**, the proposed project does not have 5 acres available for dedication and would instead pay in-lieu fees towards the planned expansions of Copper Canyon Park, Bouquet Canyon Park, and David March Park. These expansions would cover the parkland needs created by the development of the proposed project. The proposed project would not require the provision of new or physically altered parks beyond the planned expansions of Copper Canyon Park, Bouquet Canyon Park, and David March Park.

[2] The calculation of the service population is based on 3.0 persons per household for the City of Santa Clarita as reported by the California Department of Finance. Source: State of California, Department of Finance. May 2019. *Table 2: E-5 City/County Population and Housing Estimates, 1/1/2019*. Website: http://www.dof.ca.gov/forecasting/demographics/Estimates/E-5/, accessed June 5, 2019.

Of the projects listed in **Table 4.0-1**, the following projects involve residential development and would therefore contribute to the demand on parkland and recreation facility demand: Aliento Neighborhood (project #1), Five Knolls and Galloway senior housing (#3), Newhall Crossing (#8), River Village Area D (#10), Valencia Town Center Square (#12), Vista Canyon Ranch (#13), Master's University Master Plan (#14), Sand Canyon Plaza (#16), 8th Street subdivision (#17), Dockweiler 21 (#19), Mancara (#20), Placerita Ranch (#22), and Princessa Crossroads (#23). This would result in a total of 4,672 residential units (including the proposed project), resulting in a population increase of 14,016 people under cumulative conditions.[3] This increase in population would lead to a total population of 232,119, when added to the Santa Clarita population of 218,103 persons, as reported as by the California Department of Finance in 2019. Based on the City's current acreage of city parks provided in Section 3.11.4 of this EIR (393.6), the ratio of parkland per 1,000 residents under cumulative conditions would decline to from 1.81 to 1.71 acres per thousand persons, which is below the City's General Plan target of 5 acres per thousand persons. When considering the City's other owned and jointly-owned open space assets (totaling 10,801 acres of land), however, the ratio of parkland per 1,000 residents climbs to 43 acres per 1,000 residents, well above the City's target of 5 acres per 1,000 residents. As noted in **Section 3.11.4.5** of this EIR, the project would be required to pay in-lieu parkland dedication fees, which would fully offset project level impacts on the supply of neighborhood and community parks in the city. Further, other pending residential projects within the City listed in **Table 4.0-1** would also be subject to the City park dedication requirements if the projects would not be able to dedicate enough park space on-site. Therefore, compliance with park dedication requirements would result in less than significant cumulative impacts involving the citywide inventory of public parkland.

Mitigation Measures

No mitigation is required.

4.2.12 TRANSPORTATION AND TRAFFIC

Conclusion: Forecast cumulative-with-project traffic conditions for the Interim Year 2028 scenario indicate significant congestion impacts at nine intersections. Mitigation measures are proposed for all intersections to provide additional traffic capacity and to improve traffic flows. The project would be responsible for installation of some of these improvements in conjunction with project buildout and for payment of its fair share of the cost of future improvements. As a result, the project's impact would be reduced to less than cumulatively considerable, and implementation of all of the recommended measures at the appropriate times in the future would reduce cumulative impacts to less than significant.

Discussion

The Traffic Impact Analysis (TIA) conducted for this EIR includes a list of 66 projects in the City of Santa Clarita and surrounding areas of unincorporated Los Angeles County that is derived from the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The list of land uses is derived from the approved General Plans of the County and the City, and is provided in **Table 4.0-3**, below. This database is regularly updated

[3] The calculation of the service population is based on 3.0 persons per household for the City of Santa Clarita as reported by the California Department of Finance.

as specific projects are proposed and thus is a comprehensive list of cumulative projects. These data help inform the 2028 Interim Year Cumulative Conditions Traffic volumes derived by the SCVCTM.

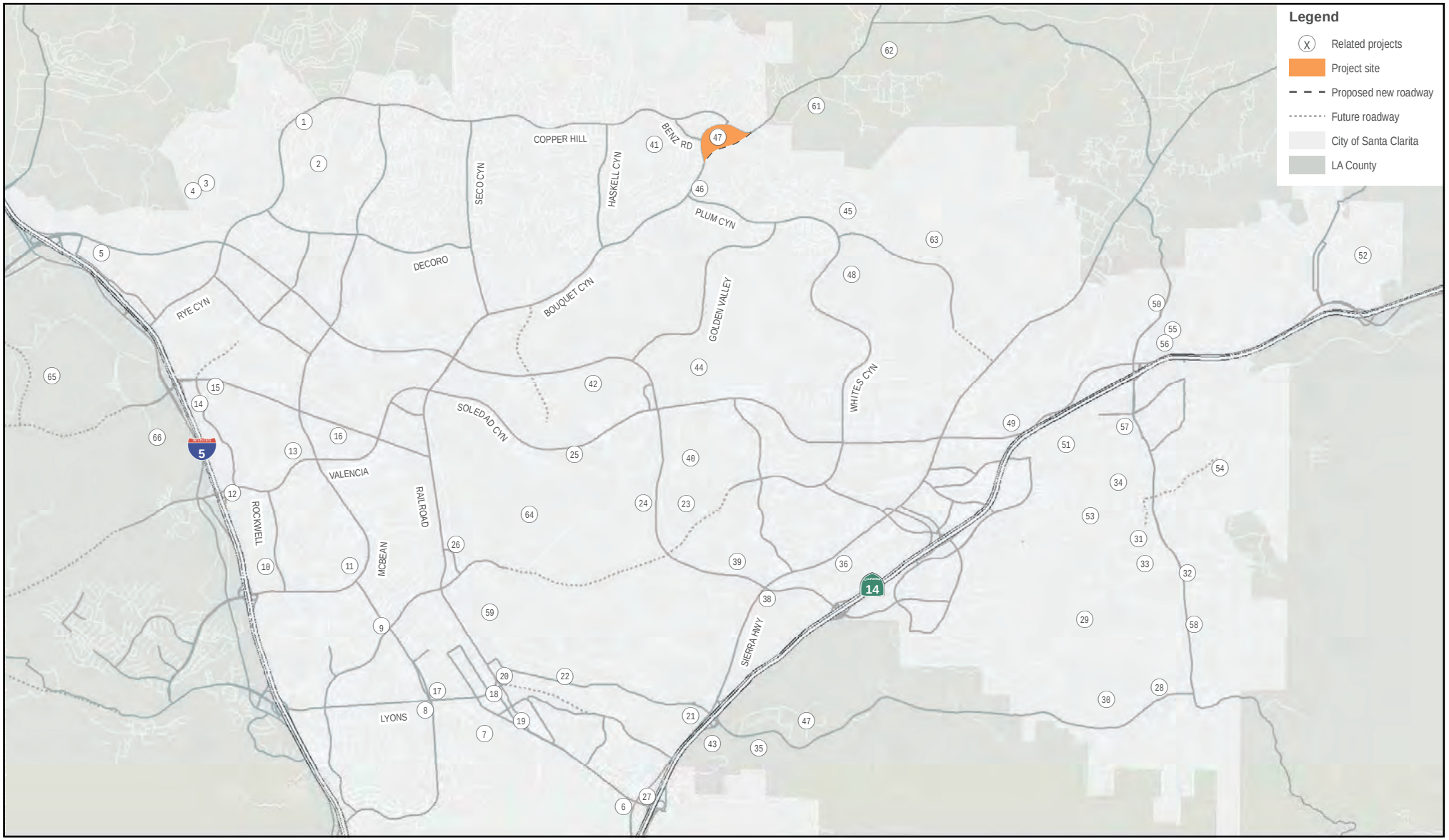
TABLE 4.0-3
CUMULATIVE PROJECTS ADDRESSED IN THE TRAFFIC IMPACT ANALYSIS

Number	Project Name	Description (TSF = Thousand Square Feet)
1	Oakmont (West Creek)	85 TSF and 95-bed senior care facility
2	Avanti	(West Creek) 92 single-family residential units
3	Trinity School Expansion	74.6 TSF school (TK-12)
4	So Cal Innovation Park	535 TSF commercial/industrial
5	Homewood Suites	185-room hotel
6	Gates King/Needham Ranch	4,400 TSF industrial/office space
7	8th Street Residential	11 single-family residential units
8	Valley Street Condos	5 single-family condominium units
9	Orchard Wiley Medical	41 TSF medical office building
10	UCLA Archives	Phase 3 134 TSF archive facility
11	Henry Mayo Hospital	330 TSF medical facilities 200 TSF building & parking structure
12	Valencia Gas Station	Gas station & 3 TSF retail
13	Element by Westin/Oliver	134-room hotel & 4 TSF restaurant
14	Residence/Springhill/HIE	290-room hotel
15	Tourney Place Building 6	46 TSF office building
16	VTC Square	60 apartment units & 10 TSF commercial
17	OLPH	21 TSF church & parking lot
18	Newhall Crossings	47 apartments & 21 TSF commercial
19	Luxen Hotel	42-room hotel
20	Laemmle Theatre	7-screen movie theater (approx. 500 seat)
21	Dockweiler 21 Residential	96 single-family residential condos
22	Master's University Residential Master's University Master Plan	42 single-family detached condos 240 TSF college campus expansion
23	Princessa Crossroads	925 single-family residential units 680 TSF commercial
24	Sheriff Station	57 TSF station
25	Habitat for Heroes	78 multi-family residential units
26	Oak Ridge Industrial Oak Ridge Commercial	300 TSF commercial/industrial business park 30 TSF commercial
27	Chinquetera	91 TSF commercial
28	Terry & Julie Homes	4-lot residential subdivision
29	Sultus	4-lot residential subdivision
30	Spirit Hill	4 single-family residential units
31	Sand Canyon Estates	18 single-family residential units
32	Sand Canyon Estates	4 single-family residential units
33	Bill Rex Residential	4-lot residential subdivision
34	Kehoe	2-lot residential subdivision
35	Aliento	404 single-family residential units & 95 senior units
36	Friendly Gas and Market	Gas station & 3 TSF retail
37	Disney & ABC Studios	556 TSF indoor studio facilities
38	Park Vista	182 single-family residential units
39	Veluzat GVR Condos	9 single-family detached condominium units
40	Centre Pointe Warehouse	58 TSF warehouse/office

Number	Project Name	Description (TSF = Thousand Square Feet)
41	Dentec	95 single-family residential units
42	River Village	1,089 residential units
43	Five Knolls	639 residential units
44	Rent-a-Bin	60 TSF recycling facility
45	Tr 73065 (KB Home)	Commercial center (size TBD)
46	Plum Bouquet Retail	10 TSF retail building
47	Bouquet Canyon (Proposed Project)	484 residential units on 57 acres
48	Tr 46018	203 single-family residential units
49	Soledad Office	100 TSF medical office building
50	PWP Properties Condos	14 multi-family residential units
51	Vista Canyon Ranch JPI Apartments Gensler Building Parking Structure	950 TSF commercial & 1,100 residential units 480 apartment units 60 TSF 3-story office building 622 parking stalls in 5 levels
52	Providence Healthcare	23 TSF commercial & 37 TSF medical office
53	Ted Robinson	40 single-family residential units
54	Mancara	109 single-family residential units
55	Sand Canyon Plaza	119 single-family residential units 461 multi-family residential units 140-bed assisted living 60 TSF commercial
56	Canyon Brook	35 single-family residential units
57	Sand Canyon Resort	217-room hotel, villas & conference center
58	Iron Canyon	4 single-family residential units
59	Placerita Ranch/Ravello	322 single-family residential units
60	Whittaker/Porta Bella	1,244 single-family residential units 1,677 multi-family residential units 2,900 TSF commercial office/retail
61	Overland 1 Tr 52192	75 single-family residential units
62	Overland 2 Tr 52193	234 single-family residential units
63	Skyline Ranch	1,260 single-family residential units
64	VTTM 73858 Residential	183 single-family condominium units 228 apartment units
65	Mission Village	4,055 residential units 1,555 TSF mixed-use/commercial
66	Entrada South	1,574 residential units 435 TSF office 280.2 TSF retail

Source: Table 2-2, Traffic Impact Analysis, Stantec Consulting Services, Inc., March 2020 (available as Appendix J of this EIR)

Figure 4.0-1 shows the general location of the projects listed in **Table 4.0-3**.



Michael Baker INTERNATIONAL

N

Other Pending Projects Included in Cumulative Traffic Forecasts

Source: Stantec, December 2019

Figure 4-1

As discussed in **Section 3.12** of this EIR, the following intersections are forecast to be significantly impacted by the project under Year 2028 forecast conditions:

1. Bouquet Canyon Rd and Vasquez Canyon Rd;
3. New Bouquet Canyon Rd and Old Bouquet Canyon Rd West;
6. Kathleen Ave and Copper Hill Dr;
7. Benz Rd and Copper Hill Dr;
14. Golden Valley Rd and Plum Canyon Rd;
16. Seco Canyon Rd and Bouquet Canyon Rd;
17. Bouquet Canyon Rd and Newhall Ranch Rd;
19. Golden Valley Rd and Newhall Ranch Rd; and
21. New Bouquet Canyon Rd and Old Bouquet Canyon Rd East.

Intersection traffic flow and capacity enhancing improvements are identified in the TIA, and in **Section 3.12.5**, under **Impact 3.12.5a** to mitigate the combined impacts from the proposed project and the 66 projects included in **Table 4.0-3** and reduce congestion impacts to less than significant levels. The project would be required to pay fair share fees to offset it's proportionate share of the significant impacts that would be addressed by these traffic improvements. As shown in Table 3.12-8, the year 2028 with project and mitigation scenario shows a reduction in delay (seconds/vehicle) during one or both peak hours for all of the impacted intersections identified above. Further, the proposed mitigation measures would result in all intersections operating at a LOS D or better, apart from the intersection of Bouquet Canyon Road/Newhall Ranch Road (LOS E in both peak hours) and Golden Valley Road/Newhall Ranch Road (LOS F in both peak hours). The proposed mitigation measures at those two intersections would result in reduced delays during the AM and PM peak hours. Implementation of all of the proposed intersection improvements would reduce cumulative congestion impacts to less than significant.

No significant project level impacts were identified with respect to geometric design hazards, conflicts with transit, bicycle or pedestrian plans or programs, and the project would not contribute to significant cumulative impacts of those types. Provision of a secondary emergency access to Bouquet Canyon Road, for project residents in Planning Areas 1, 2, and 3, as required by **Mitigation Measure 3.12-13**, is a project level issue only.

Mitigation Measures

Refer to Mitigation Measures MM 3.12-5 thru 3.12-12.

Level of Significance After Mitigation

Cumulative impacts at the nine impacted intersections would be reduced to less than significant.

4.2.13 TRIBAL CULTURAL RESOURCES

Conclusion: The proposed project would be required to implement mitigation measures to ensure proper identification of tribal cultural resources during excavation work and proper

recovery and disposition of any significant resources that may be recovered. As such, the project would not contribute to cumulative impacts on tribal cultural resources.

Discussion

Impacts to Tribal cultural resources are typically site-specific and do not combine with the impacts of other projects to result in cumulative impacts. The nearest project to the project site identified in **Table 4.0-1** is the Five Knolls and Galloway Senior Housing facility, currently under construction. This project is located along the Santa Clara River, 1.7 miles south of the project site. All other projects are at longer distances away from the proposed project. Given this spatial separation, it is unlikely that the any tribal cultural resource materials that might be found at that site would be composed of identical materials that may be found within the project site, although there is a chance that the materials could be associated with the same tribal ancestry.

As stated in **Section 3.13** of this EIR, the proposed project would not have a significant impact on tribal cultural resources as defined by CEQA with implementation of Mitigation Measure **MM 3.13-1**. This mitigation measure reflects the City's required compliance with Assembly Bill 52 (PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 5097.94), and the culmination of tribal consultation with the Fernandeño Tataviam Band of Mission Indians. The mitigation measure provides for grading monitoring by a qualified tribal representative, who would have responsibility to identify potential tribal cultural resources (TCRs), divert construction work while resources are being evaluated, and determine appropriate methods for recovery and disposition of any TCRs that might be found during earth-moving activities. As such, the project would not contribute to cumulative impacts on tribal cultural resources.

Other pending and future projects in the Santa Clarita area could result in cumulatively impacts to tribal cultural resources if these resources are not protected upon their discovery. However, these other projects would also be subject to compliance with the provisions of AB 52 involving Native American notification and consultation, and would be subject to compliance with Section 7050.5(b) of the California Health and Safety Code for treatment of human remains that might be discovered during excavation work. Continued compliance with these regulatory standards will avoid significant cumulative impacts to tribal cultural resources.

Mitigation Measures

No mitigation is required.

4.2.14 UTILITIES AND SERVICE SYSTEMS

Conclusion: The proposed project would not require construction or expansion of a utility system, because the sewer system (Bouquet Canyon Road Trunk Sewer and Santa Clarita Valley Joint Sewerage System), stormwater drainage system (LADWP), water supply system (Santa Clarita Water Division and Santa Clarita Valley Water Agency), and dry utility system (electrical, natural gas, and telecommunications systems) have adequate capacity to serve the project. Further, these systems would likely also have adequate capacity to serve pending future projects within their service areas, which would be confirmed through City- and utility provider-managed design review processes and through collection of impact fees, if necessary. If a proposed project is inconsistent with City or utility provider planning documents, then an analysis of the utility demand compared to the demand of what would

be allowed under existing planning documents would be required, and if the projected utility demand would substantially exceed what would normally occur, mitigation measures or a project alternative could be imposed to reduce or offset that additional demand impact. Therefore, cumulative impacts associated from the combined effects of the proposed project and other pending projects on utilities would be less than significant.

Discussion

Wastewater Treatment and Infrastructure

The project proposes to annex to the Sanitation Districts of Los Angeles County (SDLAC), which provides wastewater collection and treatment services throughout the Santa Clarita Valley. Specifically, the project would construct an off-site sewer to connect to the Bouquet Canyon Trunk Sewer, located at the intersection of Bouquet Canyon Road and Festividad Drive south of the project site. This trunk sewer has a capacity of 12.3 mgd and conveyed a peak flow of 3.5 mgd when last measured in 2012. This trunk sewer leads to the Santa Clarita Valley Joint Sewerage System (SCVJSS) which has a treatment capacity of 28.1 mgd, and provides primary, secondary, and tertiary treatment. Therefore, the cumulative impacts analysis herein considers the impacts of the project site and projects listed on **Table 4.0-1** that discharge wastewater to this trunk sewer, as well as projects in the larger area that discharge to the SCVJSS.

As discussed in **Section 3.14** of this EIR, the project was analyzed by the SDLAC, who estimated total wastewater flow for the project based on land use. The fully developed projectwould generate 0.074 mgd in total wastewater flow, which would represent a negligible share of the total capacity of the SCVJSS and would thus result in a minor impact on system capacity. There are no projects listed in **Table 4.0-1** that would discharge into the 12.3 mgd capacity trunk sewer at Bouquet Canyon Road and Festividad Drive, so cumulative impacts on the capacity of this trunk sewer would not exceed project-related impacts. With approximately 9.7 mgd of available capacity in the SCVJSS, there appears to be sufficient capacity to handle the wastewater discharges from the entire set of other pending projects listed in **Table 4.0-1**. This would be confirmed on an incremental basis, as every project proposing a connection to a sewer main owned by SDLAC must be approved by SDLAC and pay a connection fee prior to receiving approved building permits from the City. Therefore, because the City and the SDLAC would review site-specific development plans to determine potential impacts on the wastewater system (i.e., the SCVJSS or specific trunk sewer mains), and projects would be required to pay a connection fee to mitigate impacts of the development, the cumulative impact of the project and other projects discharging to the Bouquet Canyon trunk sewer and the SCVJSS would be less than significant.

Water Supply and Infrastructure

As stated in **Section 3.14-2** of this EIR, the project site is served by the Santa Clarita Valley Water Agency (SCV Water), and its Santa Clarita Water Division (SCWD). As such, cumulative analysis considers the projects listed on **Table 4.1-1** that are located within the SCWD and SCV Water's service area (Placerita Ranch, Five Knolls and Galloway Senior Housing, Princessa Crossroads, Park Vista, and the Aliento Neighborhood). The Castaic Lake Water Agency's 2016 Urban Water Management Plan for the Santa Clarita Valley takes future water demands of proposed development projects (identified through the City's General Plan) into account when planning for near term and long term water supply needs, as shown in **Table 3.14-2** of this EIR. The project would result in a total water demand of 338.9 acre-feet per year in

an average rainfall year, which would not require additional water transmission infrastructure or the acquisition of additional water supplies, per communication with SCV Water. Other, future projects within the SCWD's service area of the SCV Water service area that are subject to review under CEQA would be reviewed by the City to determine if the project is consistent with the City's General Plan, which would help determine if the project's water demand would be within the existing projections included in the latest Urban Water Management Plan. If a proposed project is inconsistent with the City's land use policies, then an analysis of the water demand compared to the demand of what would be allowed under the adopted land use policies would be required, and if the projected water demand would substantially exceed what would normally occur, mitigation measures or a project alternative could be imposed to reduce or offset that additional water demand impact. Each individual project's interior and exterior water systems must comply with the City's water conservation standards, as set forth in the Municipal Code and administered through the City's building permit process. The UWMP is updated on 5-year cycles to enable updated forecasts of water demand and reliability of water supplies and account for changes in actual development patterns and updated growth forecasts. Therefore, with regular UWMP updates, compliance with the City's General Plan and Municipal Code, as well as implementation of project-specific mitigation measures that may be warranted for project's with extraordinary water demands, cumulative impacts to water supplies and infrastructure would be less than significant.

Storm Water Drainage

As stated in **Section 3.14.3** of this EIR, the project site is currently undeveloped, so the project would require new drainage facilities to manage stormwater generated from the developed site. The proposed project would include a new drainage channel which would run parallel to Bouquet Creek and would be designed to contain 100-year and other higher intensity storm flows, and to modify the existing Federal Emergency Management Agency (FEMA) floodplain mapping to confine the limits of the 100-year flood hazard zone to this channel area. Bouquet Creek would be enhanced to more efficiently carry existing stormflows that originate upstream through the site and into off-site storm drain facilities nearby, on the opposite side of Bouquet Canyon Road near Hob Avenue. All elements of the proposed project storm drainage network will be designed to meet or exceed the design criteria set forth in the Los Angeles County Department of Public Works (LACDPW) Hydrology Manual and Sedimentation Manual. As the proposed project is the only project listed on **Table 4.0-1** that would discharge runoff into Bouquet Creek, the cumulative impact of the list of projects identified in **Table 4.0-1** would not exceed project-related impacts discussed in **Section 3.14.3** of this EIR. As noted in **Section 3.14.3**, the hydrology study prepared for this project determined that peak rates of developed site runoff that flows into the existing municipal storm drainage network outside of the project site would be less than under current conditions, as required by the LACDPW. The project would not contribute to adverse cumulative impacts involving municipal storm drainage facilities.

Dry Utilities

The project site is currently vacant, so electric, natural gas, and telecommunications infrastructure is currently not provided to the site. Upon implementation of the proposed project, electrical and natural gas infrastructure would be provided to the project site by Southern California Edison (SCE), and Southern California Gas Company (SoCal Gas), respectively. Telecommunications infrastructure would be provided by AT&T, Spectrum (formerly Time Warner Cable), and Dish Network. Existing dry infrastructure facilities in the project vicinity include overhead electrical power lines along the Bouquet Canyon Road site

frontage, SoCal Gas transmission lines located in Bouquet Canyon and Copper Hill Roads, and telecommunication services that are provided to residential neighborhoods surrounding the project site to the north, west, and south.

As stated in **Section 3.14.4** of this EIR, no major upgrades to the electrical system are anticipated as a result of this project because overall regional projections set forth by energy purveyors anticipate that energy demand will decline. Further, a portion of each home's electrical power demand would be met with on-site solar photovoltaic panels pursuant to Section 110.10 of the California Energy Efficiency Standards (Title 24, Part 6), which requires installation of on-site photovoltaic panels for low-rise residential buildings permitted on or after January 1, 2020. Should SCE determine that upgrades to existing electrical energy infrastructure would be necessary to meet the cumulative demand increases from the projects identified in **Table 4.0-1**, such off-site upgrade projects would be undertaken by SCE and would be subject to environmental review pursuant to CEQA. Attempting to estimate what environmental impacts may result from such electrical utility infrastructure improvements without knowledge of when and where the improvements would take place would be speculative. Construction associated with service connections to existing electric utility infrastructure could result in air quality (dust), noise, and/or circulation impacts. Any traffic disruptions associated with telecommunication utility activities within the travel lanes would be addressed through routine traffic control measures. Further, cumulative dust and noise impacts associated with construction of the telecommunication connection points are addressed within the range of project construction impacts in the Air Quality and Noise sections of this cumulative impact analysis, above. As such, cumulative impacts would be less than significant.

As discussed further in **Section 3.14.4**, natural gas usage in California is expected to decline at a rate of 1.4 percent per year from 2016-2035, resulting from only moderate growth in the natural gas vehicle market and overall declines in other segments, such as residential users. Specifically, residential demand is expected to decrease at a rate of 0.5 percent over the same time period. SoCal Gas anticipates a decrease in total natural gas demand throughout its service territory of 0.5 percent per year between 2015 and 2035. Nevertheless, should SoCal Gas determine that upgrades to existing natural gas infrastructure would be necessary, resulting from either the demand of the proposed project or cumulative demand increases, such off-site upgrade projects would be undertaken by SoCal Gas and would be subject to environmental review pursuant to CEQA. Attempting to estimate what environmental impacts may result from such natural gas utility infrastructure improvements without knowledge of when and where the improvements would take place would be speculative. Construction associated with service connections to existing electric utility infrastructure could result in air quality (dust), noise, and/or circulation impacts. Any traffic disruptions associated with telecommunication utility activities within the travel lanes would be addressed through routine traffic control measures. Further, cumulative dust and noise impacts associated with construction of the telecommunication connection points are addressed within the range of project construction impacts in the Air Quality and Noise sections of this cumulative impact analysis, above. As such, cumulative impacts would be less than significant.

For telecommunication infrastructure, existing residential uses directly south, west, and north of the project site are currently served by AT&T, Spectrum (formerly Time Warner Cable), and Dish Network. The proposed project would install underground cables to enable connections within each planning area to telecommunications services from one of the local providers listed above. The expansion of existing internet, telephone, or cable service infrastructure is not anticipated as a result of the proposed project, other than to construct connection points serving each of the planning areas. Impacts associated with

connections to projects listed in **Table 4.0-1** would be temporary and short term, occurring only for portions of a normal construction work day and only in those areas where utility improvements are being constructed. Any traffic disruptions associated with telecommunication utility activities within the travel lanes would be addressed through routine traffic control measures. Further, cumulative dust and noise impacts associated with construction of the telecommunication connection points are addressed within the range of project construction impacts in the Air Quality and Noise sections of this cumulative impact analysis, above. As such, cumulative impacts would be less than significant.

Mitigation Measures

No mitigation is required.

4.2.15 WILDFIRE

Conclusion: The proposed project, as well as the other pending projects identified in Table 4.1-1 would be required to comply with all applicable building safety codes and Los Angeles County Fire Code regulations pertaining to fire prevention and suppression, such as providing adequate site access and circulation, constructing homes with fire resistant building materials and ember-resistant features and implementing a fuel management / modification plan. As a result, development of the proposed project and other pending projects located in a VHFHSZ would reduce the amount of flammable landscape that could expand and accelerate wildfires and would expand water system infrastructure and emergency vehicle access into and through each site, all of which would reduce wildland fire hazards, compared to existing conditions. Further, the City of Santa Clarita's Hazard Mitigation Plan provides a sufficient framework for emergency responders to identify the location and severity of threats to homes and businesses and make decisions regarding where to focus response and evacuation efforts. Given these circumstances, the combined effects of the proposed project and the related projects on wildfire hazards would not be cumulatively significant.

Discussion

The project site is located within a Fire Zone as designated on the City of Santa Clarita Fire Zone Map, as well as located within a Very High Fire Hazard Severity Zone (VHFHSZ) on the California Department of Forestry and Fire Protection Local Responsibility Maps. In general, VHFHSZs are located in natural areas, or areas characterized by low-density development due to a combination of dry weather conditions, the presence of flammable native vegetation, and hilly terrain. Steep terrain allows for flames to quickly spread during wildland fires and poses difficulty for fire suppression due to access problems for firefighting equipment and crews. As such, the fire risks posed by the development projects identified in **Table 4.0-1** would depend on site specific characteristics, such as vegetation cover, terrain, previous disturbance, emergency vehicle access, availability of water for fire suppression, and distance from the fire station(s) serving that area. Fifteen of the 24 pending projects included on **Table 4.0-1** (1, 2, 3, 7, 10, 11, 13, 14, 16, 17, 19, 20, 21, 22, and 23) are located within a VHFHSZ, with the closest project (Five Knolls project) located approximately 1.7 miles south of the project site. Given the considerable distances between the proposed project and the other projects located in a VHFHSZ, there would be little, if any, potential for an ignition at one site to result in or combine directly with ignition at another site. Fire risks associated with these projects would be similar to fire risks posed by the proposed project, such as accidental ignition

during construction (e.g., sparks associated with construction activities, fuel leaks, overheating equipment, or heated exhausts), and project operation i.e. placement of more homes within a VHFHSZ.

The proposed project would not result in significant impacts related to wildland fires involving emergency evacuation, as described in Section 3.15 of this EIR. Based on the layout of the proposed development plan and the points of ingress/egress from Bouquet Canyon Road to the various planning areas on site, the routes that project residents would take for an emergency evacuation would include Copper Hill Road, Benz Road, Bouquet Canyon Road, and Plum Canyon Road. As stated above, the closest pending project is the Five Knolls project, which is located north of the Santa Clara River, south of the Five Knolls Drive and Golden Valley Road intersection. Residents of the Five Knolls project could evacuate west from Golden Valley Road to Newhall Ranch Road, which they could then take west or south; or they could evacuate east on Golden Valley Road, which would head north to Plum Canyon Road. As stated in Section 3.15 of this EIR, only a portion of the proposed project's residents (Planning Areas 1, 2, and 3) would evacuate using Bouquet Canyon Road south and a smaller portion would then turn onto Plum Canyon Road. Similarly, it is likely that only a portion of the Five Knolls Project's residents would evacuate east onto Golden Valley Road and an even smaller portion would follow Plum Canyon Road to the east. Nevertheless, even if all 140 homes associated with the Five Knolls Project were to evacuate one automobile each onto Golden Valley Road, then onto Plum Canyon Road at the same time as vehicles from the proposed project evacuate onto Plum Canyon Road, then the Five Knolls project would result in a 0.07 increase in the volume to capacity ratio for Plum Canyon Road (see **Table 3.15-1** for calculation methodology), which would result in a total volume to capacity ratio of 0.63. This volume to capacity ratio is well below saturation levels; therefore, impacts on evacuation routes would be less than significant.

As discussed in **Section 3.15** of this EIR, the proposed project would not result in significant impacts related to wildland fires, involving emergency evacuation, conflicting with the City's emergency response system, exacerbate wildfire risks and expose occupants to pollutant concentrations associated with wildfire, or exposure of people to risks associated with post-fire slope instability or drainage changes. Potential impacts involving exacerbation of wildfire conditions would be mitigated to less than significant with implementation of mitigation measures **MM 3.15-1** through **MM 3.15-3**, which would require development of a Construction Fire Management Plan; fuel modifications and landscape irrigation during construction; and development of an Emergency Vehicle Access Plan during construction. Further, the proposed project is required to comply with all applicable building safety codes and Los Angeles County regulations pertaining to fire prevention and suppression for projects located in a VHFHSZ, such as requirements for incorporating fire resistant building materials, sprinkler systems, specified water pressures for fire hydrants, adequate internal circulation and site access for emergency vehicles, and fuel management/modification requirements. The other pending projects identified in **Table 4.0-1** that are located in a VHFHSZ would also be required to comply with the above regulations to mitigate site-specific wildlife fire impacts. Development of the proposed project site would not affect the potential for wildfire conditions in a different part of the Santa Clarita valley, or vice versa. Construction of new projects on undeveloped land in a VHFHSZ would effectively reduce the wildfire fuel in the area and slow the spread of fire by replacing an existing flammable landscape with managed, fire resistant landscapes, residential structures, pressurized water systems, and hardscapes designed to resist ignition. All other pending projects included on **Table 4.0-1** that are located within a VHFHSZ would also be required to implement similar site and building design features to eliminate wildland hazards and build in a fire-resistant manner.

Finally, Section 3.15 of this EIR details the City's Hazard Mitigation Plan, which provides a framework for communications, decisions and actions by emergency response personnel for wildfire emergencies. The command structure would assess local conditions to identify locations and severity of threats to homes and businesses and any other land uses that put people in the path of a wildfire. Based on those assessments, decisions would be made on where to focus fire response efforts, initiate calls for back-up assistance and assignment of additional resources, and when/where to implement emergency evacuations if no other options are deemed viable. The City's existing emergency response system, including the manner in which emergency evacuations are initiated and managed, would be sufficient to address emergency evacuation scenarios in the event of future wildfires in the Santa Clarita valley that would require evacuation. Therefore, the cumulative effect of the proposed project and related projects identified in **Table 4.0-1** would not adversely affect the emergency response protocols established in the City's Hazard Mitigation Plan.

Therefore, because wildland fire risks depend greatly on site-specific characteristics, such as fuel load, terrain, and weather conditions; because related projects located in a VHFHSZ would be required to comply with all applicable building safety codes and Los Angeles County regulations pertaining to fire prevention and suppression for projects located in a VHFHSZ; and because the City of Santa Clarita's Hazard Mitigation Plan provides a sufficient framework for how emergency responders can identify and respond to wildfire threats, the combined wildland fire impacts of the proposed project and the related projects would be less than significant.

Mitigation Measures

No mitigation is required.

5.0 ALTERNATIVES

5.0 ALTERNATIVES

5.1 PURPOSE AND SCOPE

Section 15126.6 of the CEQA Guidelines requires an evaluation of a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the proposed project but would avoid or substantially lessen any of the significant effects of the project. This evaluation shall include an assessment of the comparative merits of the alternatives. Infeasible alternatives need not be considered.

In line with the primary purpose of an EIR, which is to examine the environmental consequences of a proposed project and to identify ways to mitigate or avoid the significant effects of that project, the discussion in this chapter is focused on project alternatives that are capable of avoiding or substantially lessening any significant effects of the proposed project, even if the alternatives would impede, to some degree, the attainment of the project objectives or would be more costly. The project's objectives were identified in **Chapter 2, Project Description**, and are repeated below:

a. Provide a range of housing units in distinct neighborhoods, to expand the opportunities for homeownership in the Saugus area in particular, and Santa Clarita in general.

b. Build high-quality homes that will have strong appeal for home buyers.

c. Deliver new homes in a timely manner to capture a portion of the local housing demand, while economic conditions are favorable.

d. Implement the Santa Clarita General Plan Element land use policies to create a residential community at the project site, at a lower density than authorized by those policies.

e. Build a planned new segment of Bouquet Canyon Road, as identified in the Santa Clarita General Plan Circulation Element, to replace a substandard segment and improve traffic flow along this heavily traveled route.

f. Minimize grading of a significant ridgeline, while providing the necessary amount of grading to construct the new segment of Bouquet Canyon Road in the preferred alignment.

g. Construct site improvements that achieve a desirable community character which will be compatible with and enhance the residential character of surrounding neighborhoods.

h. Alleviate existing flood hazards along the path of Bouquet Creek, to benefit the project site and downstream areas.

5.2 SUMMARY OF POTENTIALLY SIGNIFICANT PROJECT IMPACTS

Environmental impacts that could occur as a result of building the proposed project are examined throughout Chapter 3 of this Draft EIR. The analyses presented in the various topics in Chapter 3 determined that the proposed project would have a number of adverse or significant impacts, without mitigation measures. It is noted that, in all cases, the potentially significant impacts would be avoided, reduced, or offset to a level of less than significant through the mitigation measures identified for each of these effects. A list of the impact topics where adverse impacts of likely community concern were identified, as well as those that would be significant without mitigation, is provided below, as a basis for development of alternatives that would reduce one or more of the most substantial project impacts, while still achieving most, if not all of the project's primary objectives.

Aesthetics

There is a prominent ridgeline features in the western part of the site, along Bouquet Canyon Road, that is designated as a Significant Ridgeline in the Conservation and Open Space Element of the City's General Plan. There are corresponding policies to conduct a rigorous evaluation of development proposals that would alter such prominent topographic features. Accordingly, the project's impacts due to grading of this ridgeline are examined in detail in Section 3.1 of this EIR.

The proposed alterations to the significant ridgeline in the western part of the site, while extensive, would not be considered a significant impact, because this is not the most visually prominent ridgeline feature in this area and the visible changes would be limited to motorists along the adjacent segment of old Bouquet Canyon Road and nearby homes, as opposed to changing a scenic feature within a scenic vista that is enjoyed by a large mobile or stationary viewing audience located along a scenic travel corridor. The project would substantially change the visual character of the site through topographical alterations and removal of natural open space features that would be replaced by a new community of low-scale homes, with highly visible manufactured slopes, a variety of building masses, a different and more extensive landscape palette, and outdoor lighting fixtures that do not presently exist.

Air Quality

During the grading phase, emissions from diesel-powered machinery and trucks would exceed the regional threshold for oxides of nitrogen (NOx), which is a precursor to ozone and a criteria pollutant of concern. This impact represents a conflict with the 2016 AQMP. The significant level of emissions results from the scale and magnitude of the proposed mass grading plan, which requires an intensive application of diesel-powered machinery and trucks to achieve the entire grading program within the proposed time frame.

Biological Resources

The proposed alterations to Bouquet Creek and adjoining floodplain landscape features would result in temporary and permanent impacts to Waters of the U.S. and California streambed resources. Proposed grading for the new segment of Bouquet Canyon Road and adjacent residential areas would result in loss of a population of sensitive plants (slender mariposa lily), loss of native oak trees, and loss of habitat potentially suitable for the burrowing owl, a sensitive raptor species. During site-clearing activities, removal of trees and other vegetation could result in destruction of active migratory bird nests and harm to the nesting birds, which are protected under federal and state laws.

Cultural Resources

Earth-moving work during the grading phase could potentially damage archaeological resources that might occur within the affected soil disturbance areas, throughout the project site. Earthwork for the cul-de-sac and nine homes proposed in the northern part of Planning Area (PA) 1 and along the main ridgeline could potentially disturb remains of two cemeteries known to have been located in this area.

Geology and Soils

Extensive alterations to the existing geological and soils conditions would occur during the proposed mass grading activities, and a variety of measures would be required to mitigate unstable conditions involving landslides, expansive and collapsible soils, liquefaction, and strong seismic ground motions, as required

by the City's Building Code and as specified in the project's geotechnical report. Further evaluation of a fault rupture feature is required to determine whether any use restrictions would be warranted in the event the fault is found to be active.

Hazards and Hazardous Materials

The project proposes construction of new homes and a portion of the new segment of Bouquet Canyon Road near a previously abandoned oil well. Soil contamination in that area was not detected during environmental site assessments; however, precautions are warranted to conduct additional tests during site development to ensure that there is no significant contamination that could threaten nearby new homes.

Hydrology and Water Quality

Without compliance with existing regulatory standards, the project could generate a variety of water pollutants during the construction process and over the long term on the fully developed site. During construction, water pollutants could be generated through removal of existing vegetation and topsoil and exposure of loose soils that could erode and be carried into downstream waters during rainstorms or during high winds, and a variety of water contaminants could be generated through accidental spills of construction wastes and fuels. The fully developed site would include extensive impervious surface areas that would substantially increase runoff compared to existing conditions, and the residential community would generate new sources of water pollutants in the urban runoff that would be conveyed into the proposed engineered storm drain system, which would outlet into off-site channels that flow into the Santa Clarita River.

Noise

Construction activities would occur near existing homes, some as near as 30 feet from the construction area, which would generate significant temporary noise increases affecting the noise environment of those homes.

Transportation and Traffic

The fully developed and occupied residential community would generate approximately 3,092 vehicle trips a day, including 215 in the morning peak hour and 290 in the late afternoon peak hour. This traffic would result in significant congestion impacts at two intersections in the existing conditions scenario, and significant congestion impacts at nine intersections in the 2028 scenario. A variety of intersection improvements such as new traffic signals, traffic signal synchronization, and increased capacity for through and turning movements would be required to improve levels of service to meet the City's performance standards.

Tribal Cultural Resources

Earth-moving activities could potentially damage or destroy resources associated with the Fernandeño Tataviam Band of Mission Indians, which has an extensive ancestral history throughout the Santa Clarita Valley. While no such resources have been identified on-site, remains of tribal cultural resources could potentially be discovered when the site is cleared and soil is disturbed.

Wildfire

Most of the existing vegetation on-site is highly flammable, and the entire site is classified as a Very High Fire Hazard – Local Responsibility Area, due to topography, vegetation, high seasonal winds and temperatures, dry conditions, proximity to other wildland fire hazard areas, and lack of water infrastructure and vehicular access within the project site. During construction, there could be accidental ignitions of flammable materials within the project site, from various sources, which could spread quickly and become a serious conflagration that threatens neighboring homes.

Cumulative Impacts

Significant cumulative impacts were identified only for traffic, for near-term and long-term conditions, because the project's traffic combined with existing traffic volumes and forecast increases from other pending projects and area-wide growth would continue to create more congestion and declining levels of service at several intersections in the project area.

5.3 ALTERNATIVES CONSIDERED AND REJECTED

5.3.1 FEWER HOMES

An alternative development plan that produces fewer homes could reduce the size of the impact footprint within the project site, thus reducing impacts to the natural landforms and the existing landscape elements that provide habitat for a variety of sensitive and non-sensitive wildlife and plant species, as well as impacts to a natural drainage course that provides a water resource and floodplain values. Such an alternative would also reduce demands for public services and utilities, compared to the project, and reduce the level of traffic impact on the surrounding streets and highways network.

A "fewer homes" alternative has been rejected, pursuant to Section 15092(c) of the CEQA Guidelines, which states:

> *With respect to a project which includes housing development, the public agency shall not reduce the proposed number of housing units as a mitigation measure if it determines that there is another feasible specific mitigation measure available that will provide a comparable level of mitigation*.

As noted earlier, mitigation measures have been identified for all potentially significant impacts that would reduce the level of the project's impacts to less than significant. None of those measures would require reducing the number of proposed housing units. Since sufficient mitigation approaches are available to reduce the project's impacts to less than significant without reducing the number of homes, a "fewer homes" alternative is not further considered.

5.3.2 OTHER TYPES OF LAND USES

Based on the project objectives and the City's land use policies that govern the project site, any other type of land use such as a commercial center, industrial development, crop or animal farming, major utility facility, park or recreation facility, or institutional or educational facility would not address the project objectives or implement the City's land use policies that are intended to facilitate development of a residential community at the project site. Further, any kind of land use intended for conservation of the existing open space resources or conversion to some type of public or nonprofit use would require purchase of the site, which is under private ownership. No offers to purchase the site for such purposes

are known to exist and acquisition of the project site by a public or nonprofit entity is considered infeasible at this time. As such, any alternative involving different land uses is not further considered.

5.3.3 ALTERNATIVE LOCATIONS

The project applicant owns or has written permission to act on behalf of the property owners for properties within the project site. The applicant has proposed a development plan that would achieve the objectives identified earlier, in Section 5.1. Given these objectives, a suitable site could only be located within the Santa Clarita Valley. Since the applicant does not own or control other sites in Santa Clarita, their development objectives could not be met on another site. Any alternative site composed of undeveloped land in the Santa Clarita Valley is likely to contain natural landscape and landform elements that would require substantial alteration to convert to a residential community of approximately 375 homes with supporting infrastructure and landscaping and recreational amenities. While the specific landscape composition and topographical character would vary from site to site, it is likely that another site of comparable or suitable size in proximity to all required infrastructure systems to support the proposed development objectives would result in similar impacts to the natural environment and would have similar impacts on public services, utilities, and the transportation network. As such, it is unlikely that relocating the proposed project to some alternative site in the Santa Clarita Valley would avoid most of the potentially significant impacts that have been identified at the subject site.

5.4 ALTERNATIVES SELECTED FOR EVALUATION

5.4.1 ALTERNATIVE 1: NO PROJECT/NO DEVELOPMENT

It is considered unlikely that the subject site would remain undeveloped and unchanged for a long period of time, since there continues to be a strong demand for new for-sale housing throughout the Santa Clarita Valley and the project site is designated for residential development in the Santa Clarita General Plan. Further, the site is located in an area where there are many already developed neighborhoods of single-family homes, and all utility infrastructure and public services required to support hundreds of new homes are available in the vicinity of the project site. If the proposed project were not to proceed, it is difficult and speculative to estimate what period of time might go by before another residential development project would be proposed or how that project would be configured, including the number and types of new homes. It is presumed that any alternative development plan would include the same proposed new segment/alignment of Bouquet Canyon Road, since this is identified in the Circulation Element of the General Plan as an important improvement for this busy arterial roadway. The No Project Alternative could be defined as a residential community of 100 to 500 new homes, which may include some combination or a complete allocation of for-sale and for-rent housing units, all at market pricing or possibly including an affordable component. The configuration of the development plan could vary substantially, depending on the number and type of housing units, the extent of clustering and intensities, and the preservation of open space features, etc. Drainage, roadways, wet and dry infrastructure, and recreational amenities could vary considerably, depending on the same factors. Grading and home construction could also proceed in various ways, over different periods of time.

Because there are so many potential configurations of a different residential community that could be developed in concert with the City's land use policies, it would be speculative to select any particular alternative scenario for a hypothetical discussion. Therefore, for the purpose of comparative analysis, a No Project/No Development Alternative is defined as no change in the existing site conditions.

5.4.2 ALTERNATIVE 2: REDUCED GRADING

Extensive grading of the prominent ridgeline and adjoining slopes that occur in the western edge of the site is proposed to construct the alignment of the new segment of Bouquet Canyon Road and to develop adjacent areas with residential neighborhoods. This ridgeline feature is identified in the Santa Clarita General Plan Conservation and Open Space Element as a Significant Ridgeline and subject to restrictive development policies established to govern development on such prominent landforms. Comments were submitted to the City during the EIR scoping process expressing concern over the proposed grading of this ridgeline and the resulting changes in the visual character of the project site. As discussed in Section 3.2, Air Quality, grading-related emissions for the proposed project would exceed the regional threshold of significance for NOx, prior to mitigation through more stringent construction control measures.

The proposed alignment and geometric aspects of the new segment of Bouquet Canyon Road cannot be substantially altered, because of design criteria involving vehicle speeds, motorist visibility, and creating the most direct connection between the ends of the existing curved alignment of this road. Given this set of design criteria and that the western part of the new road segment must cross through the southern part of the on-site prominent ridgeline and slopes, complete avoidance of that ridgeline feature is considered to be infeasible. However, if the prominent ridgeline grading were limited only to that necessary to build the proposed roadway alignment and four-lane geometry, without consideration to providing for residential development opportunities in that same area, some reduction in the total alteration of that ridgeline could be achieved and thus more of that ridgeline could be preserved, compared to the proposed project. Extensive hillside grading is also proposed to develop the cul-de-sac with 12 homes in PA-1A.

To eliminate some of the ridgeline and other hillside grading in PAs 1 and 1A, some of the homes in PA-1 and all of the homes in PA-1A could be relocated to another part of the site, in order to maintain the same total number of proposed dwelling units. One such area that provides such an opportunity is the relatively flat land located in the north/central part of the site that would be retained as open space in the proposed project. Some level of grading would be required to create building pads, internal streets, and utility infrastructure in that area, but it would be less extensive than the proposed grading for PAs 1 and 1A. It is roughly estimated that several homes within PA-1 and all 12 homes in PA-1A could be relocated to the northern flatter area. Another option would be to relocate the homes from PAs 1 and 1A to one or more of the other PAs. This alternative development concept is the Reduced Grading Alternative and is intended to reduce aesthetic and air quality impacts associated with the proposed project development and grading plan.

5.4.3 ALTERNATIVE 3: REDUCED ALTERATIONS TO BOUQUET CREEK, OAK TREES, AND SENSITIVE HABITAT

Several natural landscape elements found on the undeveloped site are considered to have important biological resources values, and in some cases, aesthetic values. Bouquet Creek is an ephemeral stream that flows east to west through the northern edge of the site, supporting riparian habitat such as mule fat and giant reeds. It is a tributary to the Santa Clarita River, 1.9 miles downstream to the south. A 100-year floodplain has been mapped by the Federal Emergency Management Agency along Bouquet Creek. During the EIR scoping process, the City received several comments expressing concerns about alterations to the creek and its natural resource values, including wildlife habitat, potential fish habitat, and drainage/flood control functions. The project site also provides habitat for several types of sensitive wildlife species, and a population of a sensitive plant species was found on-site, mostly within an area to be graded for the

proposed new segment of Bouquet Canyon Road. Sixty-four oak trees meeting the criteria for protection set forth in the City's Oak Tree Preservation Ordinance were identified on-site.

The entire reach of the creek through the project site would be altered by the proposed project to provide enhanced drainage capacity during rainstorms, and it would be restored to pre-project contours and revegetated with a native plant palette. A new, concrete-lined flood control channel would be constructed parallel to and just south of Bouquet Creek to capture and convey higher intensity storm flows and contain site runoff during a 100-year storm. All existing landscape elements within the proposed footprint and edges of the flood channel would be removed and replaced with a different plant palette. The proposed project design would result in a permanent loss of 0.19 acres and a temporary loss of 0.46 acres of non-wetland Waters of the United States (WUS) and a permanent loss of 9.33 acres and a temporary loss of 0.47 acres of California streambed. These are considered to be significant impacts, prior to mitigation.

In addition to the loss of WUS and streambed resources, the project would eliminate 26 protected oak trees and encroach significantly into one other protected oak tree, and would remove habitat that could support sensitive wildlife species, including the burrowing owl, and an area supporting a population of the slender mariposa lily, classified as a rare plant species by the California Native Plant Society and the California Department of Fish and Wildlife. These impacts are also considered significant, prior to mitigation.

Alternative 3, Reduced Alteration to Bouquet Creek, Oak Trees and Wildlife Habitat, would consist of a modified development plan that would preserve more of the open spaces on-site that support WUS and streambed resources, oak trees, and sensitive plants and wildlife. While this could be accomplished in a variety of ways, for the purpose of this analysis, this alternative would modify the proposed plan as follows:

- The last 2 to 4 homes at the end of the proposed cul-de-sac in PA-1A would be relocated to one of the other PAs, so that the required fuel modification zones outside of the remaining homes would not extend into the cluster of oak trees that would be impacted by the proposed plan. The northern tip of PA-2 would be moved southward, to avoid impacts to a cluster of oak trees nearby that would be eliminated due to fuel modification zones requirements to protect those closest homes. A different mixture of housing types might be required to maintain or increase the number of homes in PA-2.
- The entirety of Bouquet Creek through the project site would be preserved in its current condition, except for the eastern end where the new Bouquet Canyon Road segment would be bridged across, and there would be temporary impacts while that bridge was constructed. Buffer areas composed of appropriate native plant communities would be provided along both sides, to enhance the wildlife habitat and movement values. This would avoid any permanent impact to WUS and substantially reduce the extent of impact to streambed and riparian resources that occur in that area. This would also likely eliminate or substantially narrow and modify the alignment of the flood control channel that would parallel the creek, in the proposed plan. Elimination or narrowing/realignment of the flood channel would allow for more homes to be built in PA-2, as noted above, but would require substantial modifications to the proposed drainage system to provide an alternate means of conveying 100-year storm flows and lesser storm flows from the developed site.

5.5 COMPARATIVE ASSESSMENT OF IMPACTS

The following assessment compares the impacts identified for the proposed project with the impacts of the three alternatives defined above, for all impact topics examined in Chapter 3 and with respect to cumulative impacts, as discussed in Chapter 4. This provides a comprehensive comparative assessment and recognizes that there can be benefits or disadvantages concerning impact topics, even if it doesn't involve a significant impact, per se.

Aesthetics

In Alternative 1, there would be no changes to the existing topography and landscape and thus no changes in the aesthetic character of the project site. This would eliminate all of the changes in the visual character of the site and surroundings that would result from the proposed project. In Alternative 2, there would be less excavation into the southern reach of the prominent ridgeline and no alteration of the slopes behind (east of) the Canyon Center commercial site, thus reducing the visual impact of those landform alterations, compared to the proposed project. In Alternative 3, the visual impact of grading the prominent ridgeline on-site would be the same as with the proposed project, but there would be less visible alteration of the slope area behind the Canyon Center. Relocation of homes from PAs 1 and 1A in Alternatives 2 and 3 would have a minor effect involving visibility of the relocated homes and would not result in more severe aesthetic impacts compared to the proposed project.

Air Quality

Alternative 1 would result in no air quality impacts. By eliminating grading for some of the homes in PA-1 and all of the grading for PA-1A, and relocating those homes to the central, flatter part of the site, Alternative 2 would reduce the total amount of earthwork, compared to the proposed project, and thus reduce daily and total construction emissions during the site clearance and grading phases. By eliminating grading for the southernmost lots in proposed PA-1A, Alternative 3 would likely reduce grading emissions, compared to the proposed project. The other modifications to the development areas would affect grading of PA-2 and the area between PAs 2 and 3. More precise analysis of grading and drainage alternatives would be needed to determine whether there could be any substantial differences in grading emissions as a result of Alternative 3. With the same number and a comparable mixture of homes and a comparable volume of traffic as in the proposed project, Alternatives 2 and 3 would generate a similar amount of criteria air pollutants for all of the same area sources, energy sources, and mobile sources.

Biological Resources

Alternative 1 would preserve the existing landscape conditions and thus avoid all of the proposed project impacts to the existing biological resources on-site. Alternative 2 would reduce impacts to non-sensitive vegetation communities located on the southern periphery of the significant ridgeline and increase impacts to non-sensitive vegetation communities in the north/central part of the site. Potential impacts to burrowing owl would be similar and impacts to slender mariposa lily would be nearly as extensive as with the proposed project, with a few individual plants avoided in the southwestern ridgeline area. Alternative 3 would avoid most of the proposed project impacts to streambed and WUS values along Bouquet Canyon Creek, reduce the number oak tree removals within fuel modification zones, and have similar potential impacts to burrowing owl habitat as well as to slender mariposa lilies. There could be different impacts to other biological resources, however, depending on the extent of changes to the

drainage system, due to reducing the size of the proposed drainage channel that would parallel Bouquet Creek.

Cultural Resources

Alternative 1 would avoid any impacts to potential cultural resources. Alternative 2 would involve the same grading footprint in the vicinity of the Ruiz and Chari/Suraco cemetery sites and would have a similar potential for accidental disturbance of unknown resources that may occur within the proposed development areas. By preserving Bouquet Creek in its present condition and reducing the extent of parallel drainage channel improvements compared to the proposed project, Alternative 3 could reduce potential impacts to unknown cultural resources.

Energy Consumption

Alternative 1 would avoid any impacts involving energy consumption. Energy consumption during construction of Alternative 2 could be lower than the amount required for the proposed project, due to a reduction in grading of the significant ridgeline area. Energy consumption during construction of Alternative 3 could be similar to or possibly lesser than the proposed project, due to a reduction in hillside grading and reduced earthwork involving alterations to Bouquet Creek and construction of a parallel drainage channel. With the same number of homes and a comparable volume of vehicular traffic as the proposed project, Alternatives 2 and 3 would consume a similar amount of energy over the long term, to provide electricity and natural gas within homes and to power automobiles and trucks operated by residents, visitors, and vendors.

Geology and Soils

Alternative 1 would avoid any impacts involving earthwork and construction. All of the same types of geological and soils conditions would need to be addressed through similar project design and construction measures for the proposed project and Alternatives 2 and 3. There would be less hillside grading in Alternatives 2 and 3 and thus less need for slope buttresses and other related remedial measures that would be required for the proposed project. Alternative 2 would involve the least amount of alterations to the significant ridgeline, followed by Alternative 3. Any of these three development alternatives would be affected in the same way by the potential fault feature near the proposed alignment of the new segment of Bouquet Canyon Road. Restrictions on any home building within a defined distance of that feature would be required for any alternative that proposes homes near that feature.

Greenhouse Gas Emissions

Alternative 1 would avoid any impacts involving generation of greenhouse gas emissions. By eliminating grading for some of the homes in PA-1 and all of the grading for PA-1A, and relocating those homes to the central, flatter part of the site, Alternative 2 would reduce the total amount of earthwork, compared to the proposed project, and thus reduce daily and total construction emissions during the site clearance and grading phases. By eliminating grading for the southernmost lots in proposed PA-1A, Alternative 3 would likely reduce grading emissions, compared to the proposed project. The other modifications to the development areas would affect grading of PA-2 and the area between PAs 2 and 3. More precise analysis of grading and drainage alternatives would be needed to determine whether there could be any substantial differences in grading emissions as a result of Alternative 3. With the same number and comparable mixture of homes and a similar volume of traffic as in the proposed project, Alternatives 2

and 3 would generate a similar amount of greenhouse gas emissions, from all of the same area sources, energy sources, and mobile sources.

Hazards and Hazardous Materials

Alternative 1 would avoid any potential impacts involving disturbance of soils that may be contaminated by a previously abandoned oil well, and would avoid any impacts involving transport, use, or disposal of hazardous materials and wastes that would occur with a new residential land use. Any development alternative that includes the proposed new segment of Bouquet Canyon Road would occur near the previously abandoned oil well and be subject to the same precautionary measures during construction that are identified for the proposed project in mitigation measure 3.8-1. Over the long term, there would be no difference in minor impacts involving transport, use, and disposal of minor volumes of common household hazardous wastes between the proposed project and Alternatives 2 and 3, since very similar residential land uses would be built.

Hydrology and Water Quality

Alternative 1 would avoid any impacts involving changes to the existing surface hydrology and water quality at the project site. With a comparable level of disturbance to the site overall, and the same alterations to Bouquet Creek and adjoining land, Alternative 2 would have similar construction and long-term impacts and require the same types of best management practices and water quality control measures as for the proposed project. The same features would be required for the Construction General Permit in either scenario, and the same kinds of permanent drainage and water quality design features would be required for the Urban Stormwater Mitigation Plan (USMP) in both cases, since the same disturbances to WUS would occur and the same types and similar volumes of runoff from developed areas would occur, with the same primary drainage infrastructure through the Bouquet Canyon Creek floodplain. The same type of Clean Water Act permit, with the same types of water quality protection measures, would be required for the proposed project and Alternative 2, since the same disturbances to WUS would occur. Locations and sizing of water quality basins for Alternative 2 would differ from the proposed project, since some of the homes in PA-1 would be relocated to the north/central part of the site and would require different drainage infrastructure in that area.

By preserving Bouquet Creek in its present condition and reducing the size of the parallel flood control channel, Alternative 3 would reduce the level of impact to WUS and thus avoid or significantly reduce the scope of the U.S. Army Corps of Engineers' permitting oversight required under the Clean Water Act. A different drainage system would need to be engineered and this might result in some different drainage and water quality control features in the USMP for Alternative 3, compared to the proposed project. Impact significance would likely be similar for both scenarios, since the same composition of site runoff and the same kinds of runoff control and treatment measures would likely be necessary for Alternative 3 as with the proposed project.

Noise

Alternative 1 would avoid all of the construction and operational noise impacts that would occur with the proposed project. Construction impacts would be similar for the proposed project and Alternatives 2 and 3, since the same construction activities would occur at the same distances from the nearest sensitive receptors surrounding the project site, and the same noise reduction measures would be required. Long-

term impacts would also be similar for all three development scenarios, since the same number and a comparable mixture of homes and amenities would be built, covering much of the same development footprint, and the same noise sources and noise levels would occur on- and off-site.

Population and Housing

Alternative 1 would not create any new housing and thus no additional population. Alternatives 2 and 3 would create approximately the same number of new housing units, although there might be some differences in the mixtures of housing types which would affect the average household size. Overall, any differences in the total resident population on-site would be negligible between the proposed project and the other two development scenarios.

Public Services

Alternative 1 would avoid any impacts to public services. Since the demand for public services is dependent on the type and intensity of the proposed land use(s), and the number and mixture of homes would be comparable for the proposed project and Alternatives 2 and 3, there would be a similar level of less than significant impact involving public services for all of these development scenarios.

Transportation and Traffic

Alternative 1 would avoid any short-term or long-term traffic impacts. The same number and a comparable mixture of homes would be built and the same new segment of Bouquet Canyon Road would occur, for the proposed project and for Alternatives 2 and 3. It is likely that with either of these alternatives, there would need to be an additional vehicular connection to existing Bouquet Canyon Road on the north side to serve different residential sites in the north/central part of the site, whereas the proposed project would close that segment of Bouquet Canyon Road and provide public open space and trail amenities and no new homes. Nonetheless, the peak hour and daily volumes and basic distribution of traffic, and thus the impacts on the surrounding streets and highway network, would be similar for the proposed project and Alternatives 2 and 3. As such, the same range and timing of mitigation measures would likely be required for all three development scenarios.

Tribal Cultural Resources

Alternative 1 would avoid any impact to tribal cultural resources that may occur within the project site. While there would be somewhat different development footprints between the proposed project and Alternatives 2 and 3, the potential for occurrence of tribal cultural resources somewhere on-site is identical and thus the potential to encounter potential resources would likely be similar for any of these development scenarios. Because Alternative 3 would preserve Bouquet Creek and some of the floodplain area to the south of the creek, that may have a reduced potential to encounter tribal cultural resources, which are commonly found in proximity to water sources. The same mitigation measure to be required for the proposed project requiring Native American and archaeological monitoring during grading would be applied to any development scenario.

Utilities

Alternative 1 would avoid any impacts involving utility demand or infrastructure improvements. The same number of homes and a comparable mixture of housing types would be built with the proposed project and Alternatives 2 and 3, thus the same level of demand for water, sewer, storm drainage, energy, and

telecommunications infrastructure would be required. Given the locations of existing utility infrastructure outside of the project site, the same off-site utility connections would be required for all three scenarios. Annexation to the Los Angeles County Sanitation Districts to discharge wastewater into the Districts' conveyance and treatment system would be required for any of these three scenarios, and for any type of project of comparable scale that does not provide its own on-site wastewater collection and treatment facilities.

Wildfire

Alternative 1 would retain all of the existing site conditions and thus all of the steep slopes, flammable vegetation, lack of water infrastructure, lack of on-site roadways for emergency fire response crews, exposure to seasonal high winds and temperatures, and proximity to open lands containing wildland fire hazards would remain and the project site's exposure to wildland fire hazards would not change and would remain significant. Alternative 2 would preserve more of the significant ridgeline area in the southern part of the site and preserve less open space in the north/central part of the site; therefore, there could be a somewhat higher level of fire hazard due to preservation of steep slopes and flammable brush cover on those slopes, compared to the proposed project. The same precautions would be required to prevent and minimize opportunities for accidental fires during construction, for the project or Alternative 2. All of the same standards for development in a Very High Fire Hazard Severity Zone (VHFHSZ) that apply to the proposed project would apply in this alternative, and it is likely that similar fuel modification zones and structural design measures to eliminate flammable plant materials, provide a pressurized water system, use ignition-resistant building materials, and provide an internal circulation network that would accommodate fire engines and crews would be required and implemented for Alternative 2. Volumes of automobiles from evacuating project residents and resulting impacts on emergency evacuation routes and the manner in which the City's emergency responders would handle a wildfire emergency would be the same or highly similar for the project or Alternative 2. The overall level of wildland fire hazard would be reduced to a similar level, compared to existing conditions, for the project or Alternative 2.

Alternative 3 would preserve Bouquet Creek and adjacent floodplain area that contains flammable vegetation and would also preserve more oak trees within the fuel modification thinning zones, compared to the proposed project. This alternative would also preserve some of the steep slope area in the southern end of PA-1A, and thus the existing conditions that could rapidly ignite during a spreading wildfire might not be eliminated to the same extent in that part of the site as they would with the proposed project, which would grade that area and build homes in accordance with the building standards for development in a VHFHSZ. Fuel modification requirements may extend into the undeveloped southern extent of Alternative 3; therefore, a reduction in wildland fire hazards could be similar to the reduction occurring with the proposed project. The same precautions would be required to prevent and minimize opportunities for accidental fires during construction, for the project or Alternative 3. All of the same standards for development in a VHFHSZ that apply to the proposed project would apply in this alternative, and it is likely that similar fuel modification zones and structural design measures to eliminate flammable plant materials, provide a pressurized water system, use ignition-resistant building materials, and provide an internal circulation network that would accommodate fire engines and crews would be required and implemented for Alternative 3. Volumes of automobiles from evacuating project residents and resulting impacts on emergency evacuation routes and the manner in which the City's emergency responders would handle a wildfire emergency would be the same or highly similar for the project or Alternative 3.

The overall level of wildland fire hazard would be reduced to a similar level, compared to existing conditions, for the project or Alternative 3.

Cumulative Impacts

Alternative 1 would result in no contribution to any cumulative impacts. As discussed in Chapter 4, no significant cumulative impacts are anticipated during project construction, as there are no nearby projects that could be under construction at the same time that could add to the localized impacts generated by the project's construction activities. These circumstances would apply to Alternatives 2 and 3, as well; therefore, each of the three development alternatives would result in the same, less than significant cumulative impact during construction. As discussed in Chapter 4, the project would not add to cumulative impacts involving aesthetics, cultural resources, geology and soils, hydrology and water quality, or tribal cultural resources, since these types of impacts are site-specific. With the same number of new homes and a comparable mixture of housing types for the proposed project and Alternatives 2 and 3, and assuming site development in the same time frame, all long-term impacts resulting from the number and types of homes and the corresponding levels of impact for air pollution, greenhouse gas emissions, utilities, energy sources, public services, and traffic would be similar and the scope and intensity of cumulative impacts would be the same for all three development scenarios. The interactions or absence thereof between the proposed project, Alternatives 2 and 3, and other pending projects considered in the analysis of cumulative impacts would be the same. The level of cumulative impact, therefore, would be the same for any of the development alternatives assessed in this chapter.

Table 5.0-1, below, summarizes the determinations concerning the comparison of impacts between the proposed project and the three alternatives.

Table 5.0-1
SUMMARY COMPARISON OF THE IMPACTS OF ALTERNATIVES

Impact Topics	Proposed Project	Alternative 1-No Project/No-Development	Alternative 2-Reduced Grading	Alternative 3-Reduced Alteration of Creek, Oak Trees, Sensitive Habitat
Aesthetics	LS	Ø	<	<
Air Quality	LSM	Ø	<	=
Biological Resources	LSM	Ø	=	<
Cultural Resources	LSM	Ø	=	<
Energy Consumption	LS	Ø	=	=
Geology/Soils	LSM	Ø	<	<
Greenhouse Gas Emissions	LS	Ø	=	=
Hazards and Hazardous Materials	LSM	Ø	=	=
Hydrology/Water Quality	LSM	Ø	=	<
Noise	LSM	Ø	=	=

Impact Topics	Proposed Project	Alternative 1-No Project/No-Development	Alternative 2-Reduced Grading	Alternative 3-Reduced Alteration of Creek, Oak Trees, Sensitive Habitat
Population and Housing	LS	Ø	=	=
Public Services	LS	Ø	=	=
Transportation/Traffic	LSM	Ø	=	=
Tribal Cultural Resources	LSM	Ø	=	=
Utilities	LS	Ø	=	=
Wildfire	LSM	Ø	=	=
Cumulative Impacts	LSM	Ø	=	=

Acronyms: LS = Less Than Significant. LSM = Less Than Significant With Mitigation.
Symbols: = is similar to project impact, > is greater than project impact, < is less than project impact, Ø is no impact
Environmentally Superior Alternative

Based on the preceding analysis, the No Project/No Development Alternative would have the least impact, as it would not alter the existing conditions and would not result in any of the short-term or long-term impacts that would occur as a result of the proposed project or the other development alternatives. Section 15126.6(e)(2) of the State CEQA Guidelines requires that in those instances in which the No Project Alternative would be environmentally superior, the EIR must also identify which of the other alternatives would have the least environmental impact. Among the development alternatives, Alternative 3 would be considered environmentally superior, as it would have a lesser level of impact than the project for five types of impacts, whereas Alternative 2 would have a lesser level of impact for three types of impacts. Both Alternatives 2 and 3 would have reduced impacts compared to the proposed project with respect to aesthetics and geology/soils. Alternative 2 would have the least impact involving grading-related air pollutant emissions. Alternative 3 would have the least impact involving removal of biological and cultural resources and alteration of the existing floodplain along Bouquet Creek.

6.0 OTHER REQUIRED TOPICS

6.0 OTHER REQUIRED TOPICS

6.1 GROWTH INDUCING EFFECTS

Section 15126.2(e) of the State CEQA Guidelines requires an EIR to:

> *Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth.*

Economic or population growth can be induced directly, through construction of new housing or a major employment or transportation center, or indirectly, through removal of impediments to growth. Removing impediments to growth occurs as a result of improving, extending, or installing infrastructure, such as water, sewage, gas, or electrical lines in areas where none of this exists, or by expanding the capacity of such existing infrastructure, which can support increased development in the area. Changing existing land use policy can potentially induce growth. For example, amending a local General Plan to allow for conversion of open space land to some form of urbanized land use removes a policy "impediment" that can foster growth in the affected area.

Growth inducement is not regarded as necessarily beneficial or detrimental. The purpose of examining growth inducing potential is to determine whether that growth inducement could result in extensive new growth that had not been planned and which could result in significant direct or indirect environmental impacts.

Direct Effects

The primary objective of this project is to construct and sell 375 new homes to individual homeowners. Constructing and selling these residences would directly increase the number of homeowners in the City. Further, it would increase the total population of the City by 1,098 people, based on the City's current average household size of 3.00 persons per household (DOF 2019). The number and types of homes included in the project would be consistent with the existing Land Use Element of the City of Santa Clarita General Plan as well as the zoning designations of the project site, which consists primarily of Urban Residential 2 (UR2), Urban Residential 5 (UR5), and Neighborhood Commercial (CN) zones, in addition to areas within the Open Space (OS) and Public/Institution (PI) zones. This project represents planned growth that has been envisioned in the City's General Plan.

Indirect Effects

Economic Spin-Offs

These new households would represent additional spending power that could result in an increased demand for local commerce, such as restaurants, service stations, grocery stores, and more. This increased demand could result in a growth in local employment. There are numerous developed commercial sites within a convenient distance of the project site that can meet the typical local shopping, dining, entertainment, and commercial service demands of this project. As such, the increased consumer buying power associated with the future project residents would not likely induce additional development of commercial properties, and almost certainly would not result in development of a large shopping center or some form of major employment center.

Infrastructure Improvements

The project would connect to an existing water main in adjacent segments of Bouquet Canyon Road that are maintained by the Santa Clarita Valley Water Agency and would connect to an existing Los Angeles County Sanitation District trunk sewer approximately two miles from the project site. Southern California Edison would provide electricity through connections to existing transmission facilities located in Copper Hill Drive and Bouquet Canyon Road. Southern California Gas Company would provide natural gas to the project through connections to existing transmission facilities located in Copper Hill Drive and Bouquet Canyon Road. Since these utility improvements would be sized specifically to meet the proposed project's demands, with no additional capacity that could support development of surrounding undeveloped lands, they would not be growth inducing.

Construction of the new segment of Bouquet Canyon Road would create a more efficient travel route for this existing arterial roadway. This new road segment could provide an opportunity for access to undeveloped properties on the south side that currently have no street access. Due to the large new manufactured slopes that would also be built with the new roadway segment, possible connections between the new Bouquet Canyon Road and undeveloped lands immediately south would be highly limited and thus the potential for induced growth of those lands is considered to be low.

Land Use Policy

The proposed project does not induce growth through a change in existing policy. The project site is currently designated by the Santa Clarita General Plan Land Use Element as a mixture of UR2, UR5, CN, OS, and PI zones. The project site primarily consists of the UR2 zone (which allows for a maximum density of 5 dwelling units per 1 acre), UR5 zone (which allows for a maximum density of 30 dwelling units per 1 acre), and CN zone (which allows for a single-family or multifamily development with a Conditional Use Permit (CUP)). Approval of a Conditional Use Permit will be required for the proposed clustering of dwelling units to create a more compact form of development while reducing the extent of land alteration to create the new residential neighborhoods. The areas on the project site that are zoned OS and PI would be used for the alignment of the new segment of Bouquet Canyon Road, to follow the general alignment identified in the Santa Clarita General Plan Circulation Element. The proposed mixture of attached and detached for-sale homes in distinct neighborhoods is consistent with the City's existing land use policies that envision development of a residential community on the project site; therefore, the proposed project represents planned growth at this location. Because the project would not change any of the City's land use policies, either on or offsite, it would not result in potential growth inducement involving a change in existing land use policy.

6.2 SIGNIFICANT, IRREVERSIBLE ENVIRONMENTAL CHANGES

As required by the State CEQA Guidelines, Section 15126.2(d), this section examines the potential for significant and irreversible environmental changes that could result from implementation of the proposed project, during the initial and continued phases over time. This includes potential effects involving the use of nonrenewable resources, the permanent commitment of the site and the proposed improvements to establish the proposed land use, irreversible damage from environmental accidents that could be associated with the project, and whether the commitment of resources for the proposed project is justified.

6.2.1 USE OF NON-RENEWABLE RESOURCES

Non-renewable resources are resources that are finite or are renewed so slowly as to be considered finite. Residential development projects with typical construction materials and methods and of a similar size and building intensity commonly consume non-renewable resources during construction in the form of fossil fuels to power construction equipment and vehicles; copper, aluminum, and other metals; sand and gravel; construction materials that contain petroleum products such as plastics; and wood. Wood, converted into lumber for construction purposes, is a slowly renewable resource, however the rate of renewal is so slow as to consider it nonrenewable for purposes of the discussion in this section.

Non-renewable resources would also be consumed throughout the long-term operating life of the proposed project. Petroleum-based fuels would be used to power automobiles, natural gas would be used to power water and space heating devices, and coal and petroleum-based fuels may be burned to generate a portion of the electricity in the electrical grid that would service the project site and its surroundings.

Water, while an important natural resource, is not considered to be a non-renewable resource. Water is regularly replenished by the natural hydrological cycle. Because the Santa Clarita Valley and most of California is subject to recurring drought cycles, water is regarded as a limited resource that requires strong conservation measures to maintain adequate water supplies for normal and emergency applications.

6.2.2 COMMITMENT OF THE SITE AND NON-RENEWABLE RESOURCES TO THE PROPOSED USE

Due to the project's proposed development of 375 residences as well as the associated infrastructure, the project would result in a significant, virtually permanent commitment of the site, and a significant investment of community-scale urban infrastructure to build a residential community for current and future generations. It would require an extensive level of effort and funding to remove the proposed site improvements in order to return the land to open space, create some form of agricultural land use or to convert it to another type of urbanized land use or mixture of uses. Such a level of effort and reinvestment to convert an already developed community of this size to another land use is considered both rare and unlikely.

6.2.3 POTENTIAL ENVIRONMENTAL ACCIDENTS

A portion of the relatively flat central/northern part of the project site was used for crop and hog farming purposes between 1928 and 1981. This suggests that pesticides and other agricultural chemicals could be present in the soils of this area. However, soil testing demonstrated that there are no significant concentrations of any former chemical fertilizers, pesticides, or other hazardous substances in the area where farming was conducted. As such, soil disturbance during project excavation work would not result in irreversible environmental damage (see Section 3.8 Hazards and Hazardous Materials of this DEIR for an explanation of the soil testing and results).

There is an abandoned dry oil and gas well on the project site, located roughly mid-way along the proposed new segment of Bouquet Canyon Road, in a slope/landscape zone between the roadway and the nearest proposed homes. This well was properly abandoned due to poor production in 1988, in compliance with the then-current standards of the California Department of Conservation Division of Oil Gas and Geothermal Resources (DOGGR). Testing conducted in December 2018 determined that this well

was not leaking. Since the well is located along the right-of-way for the proposed Bouquet Canyon Road realignment, and the grading plan for the proposed project would put the top of the well casing within the acceptable 5 to 10 feet below ground level, re-abandonment of the well would not be necessary. The well would be maintained with proper access that would allow a well-servicing rig and any other necessary equipment to reach the well from the proposed realignment of Bouquet Canyon Road. With implementation of mitigation measure MM 3.8-1, which requires the testing of the well for leakage and the soils around the well for the presence of hydrocarbons, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials from the oil/gas well into the environment.

Finally, the proposed project is for a for-sale residential community that is comprised of 375 single-family homes, recreation facilities, public trails and a park, surface and below-surface wet and dry utilities infrastructure, and a drainage channel to treat runoff and enhance local flood protection. None of these components pose a risk of environmental accidents that could result in irreversible environmental damage.

6.2.4 JUSTIFICATION FOR IRRETRIEVABLE COMMITMENT OF RESOURCES

As noted in Sections 6.2.1 and 6.2.2, implementation of the proposed project would require a significant investment of both renewable and non-renewable resources that would be irretrievable, given the extraordinary difficulty in building the proposed residential community, then later removing it to build some other type of land use or convert the site back to open space. The level of natural and manufactured resources that would be committed to the proposed project would be typical of similar communities of this size and scale. As discussed in Chapter 3.5 Energy, the project would not involve wasteful or inefficient methods of consuming energy during construction or over the long-term operating life. None of the building materials anticipated for this project would be unique, rare, in short supply, or require creation of new resource extraction sites or new manufacturing and delivery channels. The project site is currently designated in the City of Santa Clarita General Plan as a mixture of UR2, UR5, CN, OS, and PI zones. The type and intensity of this proposed residential community would be consistent with the City's General Plan land use policies and corresponding development standards. Further, the proposed re-alignment of Bouquet Canyon Road is consistent with the City's General Plan Circulation Element. The proposed new homes would provide a range of opportunities for home ownership in the Saugus area of Santa Clarita that would help meet local and regional housing needs. Based on all of these considerations, the irretrievable commitment of renewable and non-renewable resources is justified.

6.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

Pursuant to Section 15128 of the CEQA Guidelines, this section identifies the range of environmental topics and issues that were determined in the initial scoping process to have no effects or effects that would be less than significant. As such, they are not further examined within this EIR. Please refer to Appendix A of this Draft EIR, where the explanations for these findings are provided in the Initial Study, and confirmed through the public scoping process. Effects found not to be significant, organized by topic and CEQA significance threshold, include:

Agriculture and Forestry Resources

Ag(a) The project would not convert Prime 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(b) The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.

Ag(c) The project would not 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(d) The project would not result in the loss of forestland or conversion of forestland to non-forest use.

Ag(e) The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forestland to non-forest use.

Air Quality

AQ(e) The project would not create objectionable odors affecting a substantial number of people.

Biological Resources

BR(f) The project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

BR(g) The project would not affect a Significant Ecological Area (SEA) or Significant Natural Area (SNA) as identified on the City of Santa Clarita ESA Delineation Map.

Cultural Resources

CR(d) The project would not disturb any human remains, including those interred outside formal cemeteries.

Geology and Soils

GS(a)(i) The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.

GS(e) The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

GS(i) The project would not result in the destruction, covering, or modification of any unique geologic or physical feature.

Hazards and Hazardous Materials

HM(a) The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

HM(c) The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

HM(d) The project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

HM(e) The project would not be located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and would therefore not result in a safety hazard for people residing or working in the project area.

HM(f) The project would not be within the vicinity of a private airstrip and would therefore the project would not result in a safety hazard for people residing or working in the project area.

HM(g) The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

HM(i) The project would not expose people to existing sources of potential health hazards (e.g., electrical transmission lines, gas lines, oil pipelines).

Hydrology and Water Quality

WQ(l) The project would not modify a wash, channel creek, or river other than as listed in sections WQ(a) through WQ(k).

WQ(m)(vii) The project would not impact stormwater management by having the proposed project include provisions for the separation, recycling, and reuse of materials both during construction and after project occupancy.

Land Use and Planning

LU(a) The project would not disrupt or physically divide an established community (including a low-income or minority community).

LU(b) The project would not 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(c) The project would not conflict with any applicable habitat conservation plan, natural community conservation plan, and/or policies by agencies with jurisdiction over the project.

Mineral and Energy Resources

MR(a) The project would not 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.

MR(b) The project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Noise

N(e) The project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, therefore the project would not expose people residing or working in the project area to excessive noise levels.

N(f) The project would not be within the vicinity of a private airstrip; therefore, the project would not expose people residing or working in the project area to excessive noise levels.

Population and Housing

PH(a) The project would not induce substantial 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(b) The project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (especially affordable housing).

PH(c) The project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Public Services

PS(a)(v) The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios,

response times, or other performance objectives for miscellaneous public services such as libraries, general government centers, courts, senior centers, etc.

Recreation

R(a) The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

R(b) The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Transportation/Traffic

TT(c) The project would not 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.

Utilities and Service Systems

US(a) The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

US(f) The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

US(g) The project would comply with federal, state, and local statutes and regulations related to solid waste.

7.0 REFERENCES

7.0 REFERENCES

3.1 AESTHETICS

Integral Communities. 2019. Bouquet Canyon View Simulations.

Santa Clarita, City of. 2001. Santa Clarita Beautification Master Plan.

_____. 2009. Santa Clarita Community Character and Design Guidelines.

_____. 2011a. General Plan Conservation and Open Space Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP.html.

_____. 2011b. General Plan Land Use Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP.html.

3.2 AIR QUALITY

J. L. Sullivan, R. E. Baker, B. A. Boyer, R. H. Hammerle, T. E. Kenney, L. Muniz, T. J. Wallington, *CO_2 Emission Benefit of Diesel (versus Gasoline) Powered Vehicles*, 2004, https://pubs.acs.org/doi/abs/10.1021/es034928d, accessed August 20, 2019.

EPA (U.S. Environmental Protection Agency), *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed August 20, 2019.

The Weather Channel, Santa Clarita CA Monthly Weather, https://weather.com/weather/monthly/l/91350:4:US, accessed April 12, 2019.

OFR (National Archives and Records Administration's Office of the Federal Register, Electronic Code of Federal Regulations), *Title 40: Protection of Environment Part 1039 – Control of emissions from new and in-use nonroad compression-ignition engines*. Accessed on October 22, 2019, at https://www.ecfr.gov/cgi-bin/text-idx?SID=5bd49186c6de428e7d6446a56baab96c&mc=true&node=pt40.36.1039&rgn=div5#se40.36.1039_1101.

ICCT (International Council on Clean Transportation), TransportPolicy.net, *US: Nonroad: Emissions.* Accessed on October 22, 2019, at https://www.transportpolicy.net/standard/us-nonroad-emissions/.

SJVAPCD (San Joaquin Valley Air Pollution Control District), 2014. Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party in Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

SCAQMD (South Coast Air Quality Management District), *2016 Air Quality Management Plan*, http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed April 17, 2019.

SCAQMD (South Coast Air Quality Management District), *CEQA Air Quality Handbook*, November 1993.

SCAQMD (South Coast Air Quality Management District), *Final Localized Significance Threshold Methodology*, July 2008.

Sikand, *Earthwork Exhibit-Bouquet Canyon Project,* September 30, 2019.

Stantec, *Bouquet Canyon Residential EIR Traffic Impact Analysis*, December 6, 2019.

WEBSITES/PROGRAMS

California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/, accessed on April 12,2019.

California Air Resources Board, *AQMIS2: Air Quality Data*, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed on April 12, 2019.

Environ International Corporation and the South Coast Air Quality Management District, *California Emissions Estimator Model (CalEEMod) Version 2016.3.2*, 2017.

Google Earth, 2019.

3.3 BIOLOGICAL RESOURCES

American Ornithologists' Union. 2018. AOU checklist of North and Middle America birds. http://checklist.aou.org/taxa/.

Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. 2003. *Revised checklist of North American mammals north of Mexico.* Occasional Papers of the Museum, Texas Tech University 223.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson manual: Vascular plants of California.* 2nd ed. University of California Press, Berkeley.

CDFW (California Department of Fish and Wildlife. 2012. Staff Report on Burrowing Owl Mitigation). https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843.

_____. 2017. California Natural Diversity Database and Rarefind. California Department of Fish and Wildlife: Sacramento, California. Accessed June 12, 2017. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

_____. 2018. California Natural Diversity Database and Rarefind. California Department of Fish and Wildlife: Sacramento, California. Accessed October 17, 2018. https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

_____. 2018. California Natural Community List. California Department of Fish and Wildlife: Sacramento, California. Accessed October 8, 2019. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CNPS (California Native Plant Society). 2017. Inventory of rare and endangered plants of California. California Native Plant Society. Accessed June 12, 2017. http://www.rareplants.cnps.org/.

_____. 2018. Inventory of rare and endangered plants of California. California Native Plant Society. _Accessed October 18, 2018. http://www.rareplants.cnps.org/.

_____. 2019. CNPS rare plant ranks. https://www.cnps.org/rare-plants/cnps-rare-plant-ranks. Accessed on March 14, 2019.

Emmel, T.C. and J.F. Emmel. 1973. "The Butterflies of Southern California." *Natural History Museum of Los Angeles County, Science Series* 26: 1-148.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual." Technical report Y-87-1. Vicksburg, MS U.S. Army Engineer Waterways Experiment Station. 100 pp.

HELIX Environmental Planning, Inc. 2019a. Bouquet Canyon Project (Tentative Tract No. 82126) Biological Technical Report.

_____. 2019b. Letter to Randy Nichols, Response to Comments on the Bouquet Canyon (PP26346) Biological Technical Report. June 6.

Holland R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, State of California, Department of Fish and Game, Sacramento, 156 pp.

Natural Resources Conservation Service. 2017. Web Soil Survey. United States Department of Agriculture (USDA). Accessed June 12, 2017. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.Aspx.

Oberbauer, T. 1996. Terrestrial vegetation communities in San Diego County based on Holland's Descriptions, San Diego Association of Governments, San Diego, CA.

Richmond, J.Q., Jacobs, D.K., Backlin, A.R., Swift, C.C., Dellith, C., and Fisher, R.N. 2014. "Ephemeral stream reaches preserve the evolutionary and distortional history of threespine stickleback in the Santa Clara and Ventura River watershed of southern California." *Conservation Genetics* 16:85-101.

Santa Clarita, City of. 1990. Oak Tree Preservation and Protection Guidelines. Accessed November 19, 2018. https://www.santa-clarita.com/home/showdocument?id=10121.

_____. 2011a. General Plan Land Use Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP.html.

_____. 2011b. General Plan Conservation and Open Space Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP.html.

_____. 2013. Oak Tree Preservation. Ordinance No. 17.51.040. City of Santa Clarita Municipal Code. Adopted April 25, 1989, revised 2013. Accessed November 19, 2018. https://www.codepublishing.com/CA/SantaClarita.

Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. A Manual of California Vegetation. 2nd Ed. Sacramento: California Native Plant Society.

South Coast Wildlands. 2008. South Coast missing linkages: A wildland network for the South Coast ecoregion. http://www.scwildlands.org/reports/SCMLRegionalReport.pdf.

Taggart, T.W. 2016. The Center for North American Herpetology: The Academic Portal to North American Herpetology. http://www.cnah.org/.

USACE (U.S. Army Corps of Engineers). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERCD/EL TR-06-16. Vicksburg, MS, U.S. Army Engineer Research and Development Center.

3.4 CULTURAL RESOURCES

Elsasser, A.B. 1978. Development of Regional Prehistoric Cultures. In *California*, edited by Robert F. Heizer, pp. 37-57. *Handbook of North American Indians* vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Erlandson, Jon M. 1994. *Early Hunter-Gatherers of the California Coast*. New York, Plenum Press.

_____. 1997. "The Middle Holocene along the California Coast." In *Archaeology of the California Coast during the Middle Holocene*, edited by J. M. Erlandson and M. A. Glassow. pp. 61–72. Perspectives in California Archaeology, Vol. 4, J. E. Arnold, series editor. Institute of Archaeology, University of California, Los Angeles.

ESA. 2008. North Los Angeles/Kern County Recycled Water Project Final Project Environmental Impact Report. Prepared for Los Angeles County Waterworks District 40 Los Angeles County Waterworks District 40.

Fernandeño Tatavium Band of Mission Indians. 2018 *Heritage*. http://www.tataviam-nsn.us/heritage/. Accessed June 2018.

Gallegos, Dennis R. 2002. "Southern California in Transition." In *Catalysts to Complexity: Late Holocene Societies of the Southern California Coas*t, edited by J. M. Erlandson and T. L. Jones, pp. 27–40. Perspectives in California Archaeology, Vol. 6, J. E. Arnold, series editor. Institute of Archaeology, University of California, Los Angeles.

Golla, Victor. 2007. "Linguistic Prehistory." In *California Prehistory: Colonization, Culture, and Complexity*, edited by T. L. Jones, and K. A. Klar, pp. 71–82. AltaMira Press, New York.

Historic Resources Group. 2009. *City of Santa Clarita Historic Preservation Survey & Planning Analysis*. Prepared for the City of Santa Clarita.

Johnson, John R., and David D. Earle. 1990. "Tataviam Geography and Ethnohistory." *Journal of California and Great Basin Anthropology*, Vol. 12, No. 2, pp. 191-214.

King, Chester and Thomas C. Blackburn. 1978. "Tataviam." In *California*, edited by Robert F. Heizer, pp. 535-537. *Handbook of North American Indians* vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

McDonald, Meg, and James D. Eighmey. 2004. "Late Period Prehistory in San Diego." In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Prepared for the Metropolitan Wastewater Department, City of San Diego. ASM Affiliates, Encinitas, CA.

Miller, Wick R. 1986. "Numic Languages." In *Great Basin*, edited by W. L. D'Azevedo, pp. 98–112. *Handbook of North American Indians* vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

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

Owen, Shelley Marie. 1995. Cultural Resources Survey and Impact Assessment for the Cajon/EPTC Pipeline Project Located in Portions of Los Angeles, San Bernardino and Orange Counties, California, EIP.

Associates, Pasadena. Report on file at the South Central Coastal Information Center. California State University, Fullerton.

Parks, Marion. 1929. "In Pursuit of Vanished Days: Visits to the Extant Historic Adobe Houses of Los Angeles County." *Historical Society of Southern California Annual*, Vol. 14 No 2. https://scvhistory.com/scvhistory/files/hssc1929parks/hssc1929parks.pdf.

Reynolds, Jerry. 1990. [unknown title]. *Newhall Signal & Saugas Enterprise* 22 June 1990: 1 and 5. Santa Clarita.

_____. 1998. *History of the Santa Clarita Valley*. Accessed October 1, 2018, https://scvhistory.com/scvhistory/signal/reynolds/contents.html.

The San Fernando [Calif.] Sun. 1929. "Old Suraco Hacienda is Relic of Pioneer Days." Date approximate. San Fernando, CA.

Santa Clarita, City of. 2003. Gate-King Industrial Park, Final Environmental Impact Report. State Clearinghouse Number 2001021121. Prepared with the assistance of Impact Sciences, Inc., Camarillo, CA.

_____. 2011. City of Santa Clarita General Plan, https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP. Html.

Santa Clarita Valley Historical Society. 2018a. *Ruiz-Suraco Adobe*. Accessed on October 1, 2018. https://scvhistory.com/scvhistory/us3001.htm.

_____. 2018b. *Juan Bautista Suraco*. Accessed on October 1, 2018, https://scvhistory.com/scvhistory/tlp1501.htm.

Stickel, E. Gary. 1978. Los Angeles-Long Beach Harbor Areas Prehistory and Early History, Los Angeles County, California. U.S. Army Corps of Engineers, Los Angeles District.

Sutton, Mark Q. 2009. People and Language: Defining the Takic Expansion into Southern California. *Pacific Coast Archaeological Society Quarterly* 41(2&3):31-93.

Szabolcsi, Katalin. 2000. "Searching for Tataviam Answers." *The Signal*, October 29, 2000.

Van Horn, David M. 1980. *Archaeological Survey Report: The 2,575-Acre Tres Hermanos Ranch in San Bernardino and Los Angeles Counties, California*. Archaeological Associates, Costa Mesa. Report on file at the South Central Coastal Information Center. California State University, Fullerton.

Wallace, William J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology* 11:214-230.

Warren, Claude N. 1967. "The San Dieguito Complex: A Review and Hypothesis." *American Antiquity* 32:168-185.

_____. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." In *Archaic*

Prehistory in the Western United States, edited by C. Irwin-Williams, pp. 1–14. Eastern New Mexico Contributions in Anthropology 1(3). Portales, New Mexico.

Warren, C.N., G. Siegler, and F. Dittmer. 2004. "Paleoindian and Early Archaic Periods." In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*.

Prepared for the Metropolitan Wastewater Department, City of San Diego. ASM Affiliates, Encinitas, California.

3.5 ENERGY CONSUMPTION

California Air Resources Board, EMFAC2017 v1.0.2., https://www.arb.ca.gov/emfac/2017/, Accessed August 19, 2019.

California Department of Tax and Fee Administration, Net Taxable Gasoline Gallons, http://www.cdtfa.ca.gov/taxes-and-fees/MVF-10-Year-Report.pdf, accessed July 9, 2019. (California Department of Tax and Fee Administration 2019)

California Energy Commission, 2019a. Supply and Demand of Natural Gas in California, https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html, accessed July 9, 2019.

_____. 2019b. Electricity Consumption by County, http://ecdms. energy.ca.gov/elecbycounty.aspx, accessed August 19, 2018.

_____. 2019c. Gas Consumption by County, http://ecdms.energy. ca.gov/gasbycounty.aspx, accessed August 19, 2018.

_____. 2019d. Building Energy Efficiency Standards, https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed July 9, 2019.

California Public Utilities Commission, California Energy Efficiency Strategic Plan, January 2011.

Green Santa Clarita, http://greensantaclarita.com/residents/energy-efficiency/, accessed August 22, 2019.

Southern California Edison, 2018 Sustainability Report, May 2019.

U.S. Energy Information Administration, 2019a. Table F32: Total energy consumption, price, and expenditure estimates, 2017, https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_te.html&sid=CA, accessed by June 26, 2019.

_____, 2019b. California State Profile and Energy Estimates, https://www.eia.gov/state/?sid=CA, accessed July 9, 2019.

3.6 GEOLOGY AND SOILS

CDMG (California Division of Mines and Geology). 1998. Seismic Hazard Zone Report for the Mint Canyon 7.5-Minute Quadrangle, Los Angeles County, California, CDMG Seismic Hazard Zone Report 018.

_____. Note 46, Guidelines for Geologic/Seismic Considerations in Environmental Impact Reports, (currently in revision).

CGS (California Geologic Survey). 2008. California Department of Conservation. Guidelines for Evaluating and Mitigating Seismic Hazards in California: CGS Special Publication 117A.

_____. 2019a. California Department of Conservation. Alquist-Priolo Earthquake Fault Zones. Accessed October 23, 2019. https://www.conservation.ca.gov/cgs/alquist-priolo#.

_____. 2019b. California Department of Conservation. California Earthquake Hazards Zone Maps. Accessed November 8, 2019. https://maps.conservation.ca.gov/cgs/EQZApp/app/.

Santa Clarita, City of. 2015. Department of Building and Safety. Local Hazard Mitigation Plan.

_____. 2011. Santa Clarita General Plan, Conservation and Open Space Element.

LACDWP (Los Angeles County Department of Public Works. 2010. Construction Site Best Management Practice (BMPs) Manual. http://dpw.lacounty.gov/cons/specs/BMPManual.pdf.

_____. 2013. Geotechnical and Materials Engineering Division. Manual for Preparation of Geotechnical Reports Appendix GS 045.0. https://dpw.lacounty.gov/gmed/Manual.pdf.

McLeod, Samuel A. 2019. Natural History Museum of Los Angeles County. Vertebrate Paleontology Records Check for Paleontological Resources for the Proposed Bouquet Canyon Road Project, in the City of Santa Clarita, Los Angeles County, project area (found in Appendix E of this EIR).

Petra (Petra Geosciences, Inc.). 2019. Updated Geotechnical EIR-Level Assessment, Bouquet Canyon Project, Tentative Tract Map 82126, Southerly Adjacent to Bouquet Canyon Road at Copper Hill Drive, City of Santa Clarita, Los Angeles County, California (found in Appendix E of this EIR).

USGS (United States Geological Survey). 2019. Earthquake Hazards Program. Accessed November 8, 2019. https://www.usgs.gov/natural-hazards/earthquake-hazards.

3.7 GREENHOUSE GAS EMISSIONS

CARB (California Air Resources Board), *California's 2017 Climate Change Scoping Plan*, November 2017a, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed April 8, 2019.

California Energy Commission, *2017 Power Content Label Southern California Edison*, file:///H:/pdata/171776/Admin/Reports/Environmental/Technical%20Studies/AQGHG/Resources/SCE_2017_PCL.pdf, accessed August 14, 2019.

CEC (California Energy Commission), *2013 California Energy Efficiency Potential and Goals Study*, Appendix Volume I, August 15, 2013.

CEC (California Energy Commission), *California Greenhouse Gas Emissions for 2000 to 2017,* https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2016/ghg_inventory_trends_00-16.pdf, accessed October 22, 2019.

City of Santa Clarita, *Sustainable Development Programs in Santa Clarita*, 2019a, http://greensantaclarita.com/builders/sustainable-development/#sustainable, accessed August 15, 2019.

EPA (U.S. Environmental Protection Agency), *The Safer Affordable Fuel Efficient (SAFE) Vehicles Proposed Rule for Model Years 2021-2026*, 2018a, https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-proposed, accessed April 18, 2019.

EPA (U.S. Environmental Protection Agency), *Global Emissions by Gas*, https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, 2019a, accessed August 14, 2019.

EPA (U.S. Environmental Protection Agency), *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2017*, April 2019b, https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf, accessed August 14, 2019.

EPA (U.S. Environmental Protection Agency), *Overview of Greenhouse Gas Emissions*, 2019c, https://www.epa.gov/ghgemissions/overview-greenhouse-gases, accessed August 14, 2019.

Federal Register, *Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles*, April 13, 2018a, https://www.federalregister.gov/documents/2018/04/13/2018-07364/mid-term-evaluation-of-greenhouse-gas-emissions-standards-for-model-year-2022-2025-light-duty, accessed April 18, 2019.

IPCC (Intergovernmental Panel on Climate Change), *Climate Change 2014 Synthesis Report*, 2015, https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf, accessed August 14, 2019.

SCRIPPS (Scripps Institution of Oceanography), *Carbon Dioxide in the Atmosphere Hits Record High Monthly Average*, 2018, https://scripps.ucsd.edu/programs/keelingcurve/2018/05/02/carbon-dioxide-in-the-atmosphere-hits-record-high-monthly-average/, accessed October 22, 2019.

Southern California Edison, *The Clean Power and Electrification Pathway*, https://newsroom.edison.com/internal_redirect/cms.ipressroom.com.s3.amazonaws.com/166/files/20187/g17-pathway-to-2030-white-paper.pdf, accessed August 14, 2019.

Southern California Association of Governments, *2016-2040 RTP/SCS*, Chapter 5: The Road to Greater Mobility and Sustainable Growth, April 2016.

Stantec, *Bouquet Canyon Residential EIR Traffic Impact Analysis*, December 6, 2019.

CDOJ (State of California Department of Justice), *Climate Change Impacts in California*, https://oag.ca.gov/environment/impact, accessed December 18, 2019.

3.8 HAZARDS AND HAZARDOUS MATERIALS

California Department of Forestry and Fire Protection. 2011. [Map] *Santa Clarita Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE*. https://osfm.fire.ca.gov/media/5842/santa_clarita.pdf.

Ramboll U.S. Corporation. 2018a. *Phase I Environmental Site Assessment, Assessor's Parcel Numbers 2812-008-002, 2812-008-003, 2812-008-013, 2812-008-021, 2812-008-022, 2812-008-031, 2812-008-900, and 2812-038-002, Santa Clarita, California*.

_____. 2018b. *Results of Limited Soil Sampling, Assessor's Parcel Number 2812-008-022, Santa Clarita, California*.

Santa Clarita, City of. 2011a. Santa Clarita General Plan Land Use Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/2%20-%20Land%20Use%20Element.pdf.

_____. 2011b. Santa Clarita General Plan Safety Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/7%20-%20Safety%20Element. pdf

_____. 2013. *City of Santa Clarita Fire Zone*. https://www.santa-clarita.com /home/showdocument?id=2320.

U.S. Environmental Protection Agency. (n.d.). *Radon – Find Information about Local Radon Zones and State Contact Information*. Accessed June 30, 2019. https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information.

3.9 HYDROLOGY AND WATER QUALITY

California, State of. Department of Conservation (DOC). 1998. Seismic Hazard Zone Report for the Mint Canyon 7.5-Minute Quadrangle, Los Angeles County, California. Seismic Hazard Zone Report 018.

Federal Emergency Management Agency (FEMA), All-Hazard Authorities of the. 1997. The National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, 42 U.S.C. 4001 *et. seq*.

Los Angeles County Department of Public Works (LACDPW). 1986. Memorandum: Level of Flood Protection and Drainage Protection Standards.

Los Angeles County Department of Public Works (LACDPW). 2006a, January. Hydrology Manual.

Los Angeles County Department of Public Works (LACDPW). 2006b, March. Sedimentation Manual.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2014, September 11. Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.

Petra Geosciences, Inc. 2019, October 18.

Ramboll US Corporation. 2018, October

Santa Clarita, City of. 2015a. Hazard Mitigation Plan 2015.

Santa Clarita, City of. Community Development. 2010b. Draft Program EIR for the City of Santa Clarita's Proposed One Valley One Vision General Plan. Section 3.12 Hydrology and Water Quality.

Santa Clarita, City of. Department of Public Works, Engineering Services Division. National Flood Insurance Program and Community Rating System. https://www.santa-clarita.com/city-hall/departments/public-works/engineering-services/floodplain-management/general-information, accessed January 2, 2020.

Santa Clarita Valley Groundwater Sustainability Agency (SCV-GSA). GSA & GSP. https://scvgsa.org/gsa-gsp/, accessed January 14, 2020.

Sikand Engineering Associates. 2020a, January 10. Hydrology Study for Tentative Tract No. 82126.

Sikand Engineering Associates. 2020b, January 13. Urban Stormwater Mitigation Plan for Tentative Tract No. 82126 Bouquet Canyon.

Sikand Engineering Associates. 2020c, Communication between Douglas Farmer, Supervising Engineer and Randy Nichols, of Michael Baker International.

State Water Resources Control Board (SWRCB). 2018. Storm Water Program. https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml, accessed January 2, 2020.

State Water Resources Control Board (SWRCB). 2019. Porter-Cologne Water Quality Control Act.

United States Environmental Protection Agency (USEPA). Amended 2002. Federal Water Pollution Control Act.

3.10 NOISE

Berger, Elliott H., Rick Neitzel, and Cynthia A. Kladden. 2010. *Noise Navigator Sound Level Database with Over 1700 Measurement Values*.

Caltrans (California Department of Transportation). 2013. Transportation and Construction Vibration Guidance Manual. https://dot.ca.gov/programs/environmental-analysis.

Federal Highway Administration. *Highway Construction Noise Handbook*. 2006.

FTA (Federal Transit Administration). 2018. *Transit Noise and Vibration Impact Assessment Manual*. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

Harris, Cyril M. 1979. Handbook of Noise Control.

_____. 1994. *Noise Control in Buildings*.

Hayne, M.J., R.H. Rumble, and D.J. Mee. 2006. "Prediction of Crowd Noise." *ACOUSTICS,* November 2006. https://www.acoustics.asn.au/conference_proceedings/AASNZ2006/papers/p46.pdf.

Kariel, H. G. 1991. "Noise in Rural Recreational Environments." *Canadian Acoustics* 19(5), 3-10.

OPR (Governor's Office of Planning and Research). 2003. General Plan Guidelines.

Integral Communities. 2019. *Bouquet Canyon Santa Clarita California Conceptual Site Plan*.

Santa Clarita, City of. 2011. General Plan Noise Element. https://scvhistory.com/scvhistory/ovov2011_05noise.pdf.

SIKAND. 2019. *Bouquet Canyon Grading Plan*.

Stantec. 2019. *Bouquet Canyon Residential EIR Traffic Impact Analysis – Draft*.

3.11 PUBLIC SERVICES

FBI (Department of Justice, Federal Bureau of Investigation). 2019. UCR Uniform Crime Reporting Statistics – UCR Offense Definitions. Accessed June 4, 2019. https://www.ucrdatatool.gov/offenses.cfm.

Los Angeles County Sheriff's Department. 2013. *LASD Patrol Divisions* [PDF document]. http://shq.lasdnews.net/content/uoa/EPC/LASD_Jurisdiction.pdf.

_____. 2019. *Re: Bouquet Canyon Residential Project NOP follow up* [PDF document].

Los Angeles County Fire Department. 2018. *Comments on the Notice of Preparation of a Draft Environmental Report, "Bouquet Canyon Residential Project* [PDF document].

Santa Clarita, City of. 2018. New Santa Clarita Valley Sheriff's Station Officially Breaks Ground. *City of Santa Clarita City News,* July 25. https://www.santa-clarita.com/Home/Components/News/News/7507/.

_____. 2019. *Parks, Recreation Facilities, Open Space, and Trails Inventory* [PDF document].

State of California, Department of Finance. 2019. Table 2: E-5 City/County Population and Housing Estimates, 1/1/2019. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark* [Excel file]. http://www.dof.ca.gov/forecasting/demographics/Estimates/E-5/.

3.12 TRANSPORTATION/TRAFFIC

County of Los Angeles Department of Public Works. January 1997. Traffic Impact Analysis Report Guidelines.

Institute of Transportation Engineers. 2018. Trip Generation 10th Edition.

Santa Clarita, City of. August 1990. Preliminary Traffic Impact Report Guidelines.

Stantec, March 2020. Bouquet Canyon Residential EIR Traffic Impact Analysis.

3.13 TRIBAL CULTURAL RESOURCES

Avila, Jairo. 2019. Tribal Historic and Cultural Preservation Officer, Fernandeño Tataviam Band of Mission Indians. Letter to Scott Covington, Agent of Developer. June 28.

ESA. 2008. North Los Angeles/Kern County Recycled Water Project Final Project Environmental Impact Report. Prepared for Los Angeles County Waterworks District 40 Los Angeles County Waterworks District 40.

Fernandeño Tatavium Band of Mission Indians. 2018 *Heritage*. http://www.tataviam-nsn.us/heritage/. Accessed June 2018.

HELIX Environmental Planning, Inc. 2019. *Bouquet Canyon Road Project: Cultural Resources Survey and Assessment*.

Johnson, John R., and David D. Earle. 1990. "Tataviam Geography and Ethnohistory." *Journal of California and Great Basin Anthropology*, Vol. 12, No. 2, pp. 191-214.

King, Chester and Thomas C. Blackburn. 1978. "Tataviam." In *California*, edited by Robert F. Heizer, pp. 535-537. *Handbook of North American Indians* vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Sanchez, Katy. 2019. Associate Environmental Planner, Native American Heritage Commission. E-mail to Hai Nguyen, City of Santa Clarita Associate Planner. April 25.

Szabolcsi, Katalin. 2000. "Searching for Tataviam Answers." *The Signal*, October 29, 2000.

3.14 UTILITIES AND SERVICE SYSTEMS

California Gas and Electric Utilities. *2016 California Gas Report.*

CPUC (California Public Utilities Commission). *Natural Gas.* Website, accessed July 23, 2019. http://www.cpuc.ca.gov/natural_gas/

KJC (Kennedy/Jenks Consultants). Adopted June 8, 2016. *2015 Urban Water Management Plan for Santa Clarita Valley,* pg. 3-17.

Letter from Adriana Raza, Customer Service Specialist, Facilities Planning Department, Sanitation Districts of Los Angeles County. Dated October 1, 2018.

Letter from Dirk Marks, Director of Water Resources, SCV Water. Dated May 7, 2019.

L&S (Luhdorf & Scalmanini Consulting Engineers). September 2018. *2017 Santa Clarita Water Report*, pg. 3.

SDLAC (Sanitation Districts of Los Angeles County). 2019a. *More About Us*. Website: https://www.lacsd.org/aboutus/more_about_us/default.asp, accessed May 31, 2019.

———. 2019b. *Wastewater Collection Systems*. Website: https://www.lacsd.org/wastewater/wwfacilities/wcs.asp, accessed May 31, 2019.

———. 2019c. *Saugus Water Reclamation Plant*. Website: https://www.lacsd.org/wastewater/wwfacilities/scvwrp/saugus.asp, accessed May 31, 2019.

———. 2019d. Valencia Water Reclamation Plant. Website: https://www.lacsd.org/wastewater/wwfacilities/scvwrp/valencia_wrp.asp, accessed May 31, 2019.

Santa Clarita, City of. 2011a. General Plan Conservation and Open Space Element. https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP.html.

———. 2011b. General Plan Land Use Element**.** https://www.codepublishing.com/CA/SantaClarita/html/SantaClaritaGP/SantaClaritaGP.html.

———. 2010. *One Valley One Vision Draft Program EIR; Section 3.17 Electricity, Natural Gas, and Telecommunications*.

SCVGSA (Santa Clarita Valley Groundwater Sustainability Agency). 2019. *GSA & GSP*. Website, accessed July 19, 2019, available at https://scvgsa.org/gsa-gsp/

SCV Water. *Your Water Agency.* Website: https://yourscvwater.com/your-district/, accessed May 30, 2019.

SCE (Southern California Edison. 2017 Power Content Label, SCE Power Mix. July 2018

Sikand Engineering Associates, 2020a. Urban Stormwater Mitigation Plan for Tentative Tract 82126 Bouquet Canyon. January 13.

_____, 2020 b. Hydrology Study for Tentative Tract 82126 Bouquet Canyon. January 10.

3.15 WILDFIRE

Cal Fire, 2007. Los Angeles County Fire Hazard Severity Zones in SRA. Accessed July 17, 2019. https://osfm.fire.ca.gov/media/6705/fhszs_map19.pdf

Cal Fire, 2011. Santa Clarita Very High Fire Hazard Severity Zones in LRA. Accessed July 17, 2019. https://osfm.fire.ca.gov/media/5842/santa_clarita.pdf

California Building Standards Commission. 2016 California Fire Code, Title 24, Part 9 of California Code of Regulations.

California Department of Forestry and Fire Protection (Cal Fire), 2019. State Responsibility Area Viewer. Accessed July 17, 2019. https://bofdata.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer/

Los Angeles County. Los Angeles County Code, Chapter 7A – Materials and Construction Methods for Exterior Wildfire Exposure.

Los Angeles County, 2017. Plant Selection Guidelines by Zone. Accessed July 17, 2019. https://www.fire.lacounty.gov/wp-content/uploads/2017/03/fuel-modification-PlantSelectionGuide-Zone.pdf

Los Angeles County, 2019. Fuel Modification Plan Notes. Accessed July 17, 2019. https://www.fire.lacounty.gov/wp-content/uploads/2019/06/Fuel-Modification-Plan-Review-Notes.pdf

National Wildlife Coordination Group (NWGC), 2019. Glossary. Accessed July 17, 2019. https://www.nwcg.gov/glossary/a-z

Santa Clarita, City of. 2011. General Plan Safety Element.

Santa Clarita, City of. 2015. Local Hazard Mitigation Plan.

Sapsis, Dave, 2019. Telephone interview with Dave Sapsis, Wildfire Scientist, Cal Fire. July 19, 2019.

Stantec, Bouquet Canyon Residential EIR Traffic Impact Analysis. December 6, 2019.

OTHER REQUIRED TOPICS

DOF (State of California, Department of Finance). 2019. Table 2: E-5 City/County Population and Housing Estimates, 1/1/2019. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark* [Excel file]. http://www.dof.ca.gov/forecasting/demographics/Estimates/E-5/.

This page intentionally left blank.

8.0 ORGANIZATION AND PERSONS CONSULTED

8.0 ORGANIZATIONS AND PERSONS CONSULTED

The following individuals/agencies provided information during the preparation of this Draft Environmental Impact Report:

CITY OF SANTA CLARITA

Jeff Morrison, Project Development Coordinator

Patrick Leclair, Senior Planner

Hai Nguyen, Associate Planner

Ian Pari, Senior Traffic Engineer

Saugus Union School District

Roseann Zarasua, Director of Fiscal Services

Amy Mosshammer, Fiscal Services

William S. Hart Union High School District

Collyn Nielsen, Chief Administrative Officer

Karen M. Bladen, Supervisor of Accounting

County Sanitation Districts of Los Angeles County

Adriana Raza, Customer Service Specialist

Los Angeles County Sheriff's Department

Maynora G. Castro, Departmental Facilities Planner

Los Angeles County Fire Department

Michael Y. Takeshita, Acting Chief, Forestry Division, Prevention Services Bureau

J. Lopez, Assistant Chief, Forestry Division, Prevention Services Bureau

Wally Collins, FPEA

Native American Heritage Commission

Katy Sanchez, Associate Environmental Planner

Santa Clarita Valley Water Agency

Dirk Marks, Director of Water Resources

Rick Vasilopulos, Associate Water Resource Planner

This page intentionally left blank.

9.0 EIR PREPARATION TEAM

9.0 EIR PREPARATION TEAM

City of Santa Clarita (Lead Agency)

Christina M. Burrows, Associate Attorney
Patrick Leclair, Senior Planner
Hai Nguyen, Associate Planner
Ian Pari, Senior Traffic Engineer

Michael Baker International, Inc. (EIR Consultant)

Name	Title	EIR Role
John Bellas	Department Manager – Environmental	Project Director, Transportation Section
Randy Nichols	Senior Project Manager – Environmental	Project Manager/Editor/Prepare Wildfire and Alternatives Sections
Madonna Marcelo	Senior Environmental Planner/Project Manager	Hydrology/Water Quality Section
Pei-Ming Chou	Senior Environmental Planner	Hazards, Public Services, Utilities Sections
Brent Schleck	Associate Environmental Planner	Aesthetics, Biological Resources Sections
Nathan Levey	Assistant Environmental Planner	General Support
Eddie Torres, INCE	Department Manager - Planning	Quality Assurance – Air Quality, Energy, GHG and Noise
Danielle Regimbal	Environmental Specialist – Air Quality, GHG and Noise	Air Quality and GHG Sections
Pierre Glaze	Environmental Specialist – Air Quality, Energy, GHG, Noise	Energy and Noise Sections
Tom Millington	Project Manager – Regulatory/ Natural Resources	Biological Resources Technical Report peer review and section preparation
Dan Rosie	Ecologist	Biological Resources Technical Report peer review
Anisha Malik	Project Manager – Natural Resources/ Regulatory Permitting	Wildland Fire Behavior of Native Landscapes
Margo Nayyar	Architectural Historian	Cultural and Tribal Cultural Resources Sections
Tom Battaile	Associate Civil Engineer II	Low Impact Development Plan Peer Review

Jessica Pacheco	Associate Civil Engineer II	Hydrology Study Peer Review
Amanda Lukondi	Office Services Manager	Develop Document Template
Linda Broberg	Administrative Assistant	Word Processing
Jim McPherson	Project Manager – GIS	Mapping and Graphics Supervisor
Christina Stege	GIT Specialist	Prepare Report Illustrations