



Enterprise Way

DRAFT EIR



Kimley»Horn

Expect More. Experience Better.

Enterprise Way

Draft EIR

SCH # 2015032086

Table of Contents

1	Executive Summary	1
2	Introduction	2-1
3	Project Description	3-1
4	Introduction to Environmental Analysis	4-1
5	Aesthetics	5-1
6	Air Quality	6-1
7	Biological Resources	7-1
8	Cultural Resources	8-1
9	Geology & Soils	9-1
10	Greenhouse Gas Emissions	10-1
11	Hydrology & Water Quality	11-1
12	Land Use & Planning	12-1
13	Noise & Vibration	13-1
14	Public Services, Utilities & Service Systems	14-1
15	Transportation & Circulation	15-1
16	Alternatives	16-1
17	Other CEQA Considerations	17-1
18	EIR Preparers, Glossary, Acronyms, & Abbreviations	18-1

Appendices

- Appendix 1 Notice of Preparation and Comment Letters
- Appendix 2 Air Quality Technical Analysis
- Appendix 3 Biological Resources
 - A Site Assessment Report
 - B California Red-Legged Frog Survey Report
 - C Rare Plant Survey and Federally Endangered Insect Habitat Assessment Report
 - D Jurisdictional Waters Evaluation Technical Memorandum
 - E Tree Inventory, Assessment, and Protection
- Appendix 4 Geotechnical Investigation
- Appendix 5 Transportation Modelling Data & Analysis
- Appendix 6 Traffic Noise Assessment Study

Appendices documents are available in electronic format and are posted on the City of Scott's Valley website at http://www.scottsvalley.org/planning/current_projects.html.

List of Figures

Note: All figures are included at the end of their respective chapters.

Figure 2-1: The EIR Process

Figure 3-1: Regional Location

Figure 3-2: Project Location

Figure 3-3: Proposed Project Site Plan

Figure 3-4: Hotel Elevations

Figure 3-5a: Hotel First Floor Plan

Figure 3-5b: Hotel Typical Upper Level Plan

Figure 3-6: Hotel Grading and Drainage Plan

Figure 3-7: Hotel Stormwater Plan

Figure 3-8: Hotel Utility Plan

Figure 3-9: Hotel Landscape Plan

Figure 3-10: Townhouse Typical Elevations

Figure 3-11: Townhouse Typical Floor Plans

Figure 3-12: Residential Grading and Drainage Plan

Figure 3-13: Residential Stormwater Plan

Figure 3-14: Residential Utility Plan

Figure 3-15: Residential Landscape Plan

Figure 5-1: Key Viewpoint Locations

Figure 5-2: Key Viewpoints

Figure 7-1: Riparian Habitat and Trees

Figure 9-1: Regional Fault Zones

Figure 9-2: Soils

Figure 11-1: Watersheds

Figure 11-2: Hydrology Resources

Figure 11-3: DWR Groundwater Basins

Figure 12-1: Existing and Proposed General Plan Designations

Figure 12-2: Existing and Proposed Zoning Designations

Figure 13-1: Land Use/Noise Compatibility Matrix

Figure 15-1: Study Intersections & Trip Distribution

List of Tables

Table 1-1: Summary of Significant Impacts of the Proposed Project	3
Table 1-2: Comparison of Alternatives	9
<i>Table 2-1: Permits or Other Actions Required for Proposed Project.....</i>	<i>2-4</i>
Table 5-1: Summary of Impacts and Mitigation Measures – Aesthetics.....	5-14
Table 6-1: Current National and State Ambient Air Quality Standards.....	6-5
Table 6-2: Attainment Status of the North Central Coast Air Basin	6-6
Table 6-3: Ambient Air Quality Data.....	6-7
Table 6-4: MBUAPCD Significance Thresholds for Construction and Operational Emissions	6-15
Table 6-5: Project Daily and Annual Construction Emissions	6-19
Table 6-6: Project Buildout Operational Emissions – Un-Mitigated.....	6-23
Table 6-7: Summary of Impacts and Mitigation Measures – Air Quality	6-25
Table 7-1: Tree Inventory.....	7-15
Table 7-2: Summary of Impacts and Mitigation Measures – Biological Resources.....	7-18
Table 8-1: Summary of Impacts and Mitigation Measures – Cultural Resources	8-11
Table 9-1: Regional Faults and Seismicity.....	9-3
Table 9-2: Summary of Impacts and Mitigation Measures – Geology & Soils.....	9-12
Table 11-1: SVWD Groundwater Production by Aquifer and Recycled Water Usage (afy).....	11-4
Table 11-2: Groundwater Production in the GWRA (afy).....	11-5
Table 11-3: Stormwater Flows for a 10-Year Storm Event	11-12
Table 11-4: Summary of Impacts and Mitigation Measures – Hydrology & Water Quality... ..	11-14
Table 12-2: Summary of Impacts and Mitigation Measures – Land Use & Planning	12-7
Table 12-1: General Plan Consistency Analysis.....	12-8
Table 13-1: Human Response to Different Levels of Groundborne Vibration	13-3
Table 13-2: Significance of Changes in Operational Roadway Noise Exposure.....	13-4
Table 13-3: Typical Construction Equipment Noise Levels.....	13-9
Table 13-4: Summary of Impacts and Mitigation Measures – Noise.....	13-15

Table 14-1: Average Annual Change in Aquifer Storage (AFY) 14-5

Table 14-2: Proposed Project Estimated Student Generation 14-13

Table 14-3: Project Water Demand 14-14

Table 14-4: Proposed Project Estimated Daily Solid Waste Generation 14-17

Table 14-5: Summary of Impacts and Mitigation Measures – Public Services,
Utilities & Service Systems..... 14-19

Table 15-1: Signalized and Unsignalized Intersection LOS Criteria 15-5

Table 15-2: Existing and Cumulative (2030) Transportation Delay & LOS without Project 15-9

Table 15-3: Proposed Project Weekday Trip Generation 15-15

Table 15-4: Existing and Existing + Project Transportation Delay & LOS..... 15-19

Table 15-5: Cumulative and Cumulative + Project Transportation Delay & LOS 15-23

Table 15-6: Summary of Impacts and Mitigation Measures – Transportation and
Circulation 15-25

Table 16-1: Comparison of Significant Impacts: Proposed Project and Alternatives 16-10

1 Executive Summary

This Draft Environmental Impact Report (EIR) has been prepared by the City of Scotts Valley (City) for the Enterprise Way project (proposed project). The City is the “public agency which has the principal responsibility for carrying out or approving the project,” and as such is the “Lead Agency” under the California Environmental Quality Act (CEQA), as defined in CEQA Guidelines Section 15367. CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR is intended to serve as an informational document to be considered by the City and other permitting agencies during deliberations on the proposed project.

This Executive Summary summarizes the requirements of the CEQA Statute and Guidelines, provides an overview of the proposed project and alternatives, outlines the impacts of the proposed project and the recommended mitigation measures, and discloses areas of controversy and issues to be resolved.

1.1 Proposed Project and Decision Overview

1.1.1 Proposed Project Description

The proposed project involves the construction of a hotel and residential townhomes on Santa’s Village Road north of the existing Enterprise Technology Center (aka “Borland”). The currently vacant project site is located on the northern edge of the City of Scotts Valley (the City) in northern Santa Cruz County. On the southwestern portion (2.48 acres) of the project site, the applicant would construct a four-story, 120-room hotel and associated surface parking lot. The hotel would operate under an extended stay, select service model, and each room would have a living area and kitchen space. On 3.87 acres of the project site, the applicant would construct a 50-unit townhouse development comprising three-bedroom, three-story units spread among ten buildings. Each unit would have its own two-car garage at the ground level, and include circulation and visitor parking areas.

1.1.2 Lead Agency CEQA Evaluation Process

This environmental impact report (EIR) has been prepared to evaluate environmental impacts that may result from implementation of the proposed project. The California Environmental Quality Act (CEQA) requires the Lead Agency with discretionary authority over the project to consider the information contained in the EIR prior to taking any discretionary action. This EIR provides information to the Lead Agency and other public agencies, the general public, and decision makers regarding the environmental impacts from the construction and operation of the proposed project. The purpose of the public review of the EIR is to evaluate the adequacy of the environmental analysis in terms of compliance with CEQA.

The City has the authority to take discretionary actions relating to development of the proposed project and may conditionally approve or deny the project permit. This EIR evaluates and mitigates the impacts associated with the proposed project. The EIR also discloses growth-

inducing impacts; impacts found not to be significant; and significant cumulative impacts of past, present, and reasonably anticipated future projects.

1.1.3 Proposed Project Objectives

The following objectives have been identified for the proposed project:

- Develop financially feasible, attached single-family townhouse market-rate residential units to contribute to the region's housing supply.
- Construct a financially feasible hotel in the City of Scotts Valley that leverages proximity to, and is visible from, Highway 17 and contributes Transient Occupancy Tax to the City.
- Activate Santa's Village Road between the approved Polo Ranch project to the north and the existing Enterprise Technology Center campus to the south through the introduction of 24-hour uses.
- Incorporate passive outdoor areas into the housing development for shared use by residents.

1.2 Environmental Analysis

This section summarizes the impacts of the proposed project, which are presented in detail in **Chapters 4 through 15** of the EIR. The primary purpose of an EIR is to identify any significant effects of a project, as proposed. Knowledge of the significant impacts from the proposed project guides the identification of mitigation measures and of alternatives that would reduce these impacts. The alternatives to the proposed project are described in **Chapter 16: Alternatives**.

1.2.1 Impacts of the Proposed Project

The proposed project as a whole would create significant unmitigable impacts in the discipline of transportation. There would also be other significant impacts that could be mitigated to a less-than-significant level, with implementation of recommended mitigation measures. The EIR also identifies other impacts that are adverse but not significant, and would not require mitigation. Following is a summary of the proposed project and cumulative impacts in each discipline.

1.3 Summary of Impacts and Mitigation Measures

Table 1-1: Summary of Significant Impacts of the Proposed Project provides a summary of the significant impacts of the proposed project. The mitigation measures associated with each impact are to be implemented by the project applicant to reduce the environmental impacts to a less than significant level, where possible. In accordance with CEQA, the impacts are classified as follows:

- Class I – Significant and unavoidable impacts

- Class II – Significant impacts that can be reduced to less than significant with mitigation

Table 1-1: Summary of Significant Impacts of the Proposed Project

Impact	Mitigation Measure	Significance After Mitigation
Aesthetics		
Impact AES-1: Substantially alter the visual character of the project site and project area, nor substantially change the scenic vista along southbound Highway 17.	Less than Significant	None required
Impact AES-2: Introduce new light and glare to the project site and project area.	Less than Significant with Mitigation	MM AES-1 Exterior Lighting Control Plan
Impact AES-3: Contribute to cumulatively considerable aesthetic impacts.	Less than Significant	None required
Air Quality		
Impact AQ-1: Construction activities would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants.	Less than Significant with Mitigation	MM AQ-1.1 Reduce fugitive dust MM AQ-1.2 Designate a dust compliance monitor
Impact AQ-2: Long-term operation would generate dust and exhaust emissions of criteria pollutants.	Less than Significant	None required
Impact AQ-3: Increase carbon monoxide concentrations above State and federal standards.	Less than Significant	None required
Impact AQ-4: Contribute to cumulatively considerable air quality impacts.	Less than Significant with Mitigation	MM AQ-1.1 Reduce fugitive dust MM AQ-1.2 Designate a dust compliance monitor
Biological Resources		
Impact BIO-1: Result in a potentially adverse effect on the Carbonera Creek riparian habitat.	Less than Significant with Mitigation	MM BIO-1.1: Riparian Habitat Preservation MM BIO-1.2: Streambed Alteration Agreement MM BIO-1.3: Streambed Alteration Agreement
Impact BIO-2: Cause a direct and/or indirect adverse effect on native trees and associated nesting bird sites.	Less than Significant with Mitigation	MM BIO-2.1: Tree Preservation, Removal, and Replacement MM BIO-2.2: Preconstruction Bird Surveys
Impact BIO-3: Interfere with wildlife movement corridors.	Less than Significant	None required.

Impact BIO-4: Contribute to cumulatively considerable effects on biological resources.	Less than Significant with Mitigation	MM BIO-1.1: Riparian Habitat Preservation MM BIO-1.2: Streambed Alteration Agreement MM BIO-1.3: Streambed Alteration Agreement MM BIO-2.1: Tree Preservation, Removal, and Replacement MM BIO-2.2: Preconstruction Bird Surveys
Cultural Resources		
Impact CR-1: Cause a substantial adverse change to a known archeological resource.	Less than significant with mitigation	MM CR-1.1: Archaeological Testing Program 1 MM CR-1.2: Archaeological Testing Program 2
Impact CR-2: Directly impact a paleontological resource or unique geologic feature.	Less than significant with mitigation	MM CR-2: Paleontological Resource Monitoring
Impact CR-3: Inadvertently disturb human remains.	Less than significant	None required.
Impact CR-4: Contribute to cumulatively considerable effects on cultural resources.	Less than significant with mitigation	MM CR-1.1: Archaeological Testing Program 1 MM CR-1.2: Archaeological Testing Program 2 MM CR-2: Paleontological Resource Monitoring
Geology & Soils		
Impact GEO-1: Trigger or accelerate soil erosion or loss of topsoil.	Less than Significant	None required.
Impact GEO-2: Expose people or structures to substantial safety risks as a result of seismically induced ground shaking, liquefaction, settlement, lateral spreading, and/or surface cracking.	Less than Significant with Mitigation	MM GEO-2: Implement geotechnical report recommendations.
Impact GEO-3: Contribute to cumulatively considerable effects on geology and soils.	Less than Significant with Mitigation	MM GEO-2: Implement geotechnical report recommendations.
Greenhouse Gas Emissions		
Impact GHG-1: Contribute to cumulatively considerable effects on construction-related greenhouse gas emissions.	Less than Significant	None required.
Impact GHG-2: Contribute to cumulatively considerable effects on long-term operations-related greenhouse gas emissions.	Less than Significant	None required.
Hydrology & Water Quality		
Impact HYD-1: Contribute to the depletion of local groundwater supplies or interfere with groundwater recharge.	Less than Significant	None required.
Impact HYD-2: Increase stormwater runoff due to the increase in impervious surfaces.	Less than Significant	None required.

Impact HYD-3: Substantially alter drainage patterns on- or off-site that would result in the storm water transport of pollutants, bacteria, salts, and sediment into downstream facilities.	Less than Significant	None required
Impact HYD-4: Contribute to cumulatively considerable effects on hydrology and water quality.	Less than Significant	None required
Land Use & Planning		
Impact LU-1: Substantially conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	None required
Impact LU-2: Contribute to cumulatively considerable land use impacts.	Less than significant	None required
Noise		
Impact N-1: Cause a temporary or periodic increase in ambient noise levels during construction that would substantially disturb sensitive receptors.	Less than Significant with Mitigation	MM N-1: Construction Noise Reduction
Impact N-2: Result in a substantial permanent increase in ambient noise levels.	Less than Significant	None required.
Impact N-3: Expose project residents and hotel guests to existing and future noise levels in excess of standards established in the City of Scotts Valley General Plan.	Less than Significant with Mitigation	MM N-3.1: Interior Noise Attenuation: Windows MM N-3.2: Interior Noise Attenuation: Building Shell
Impact N-4: Contribute to cumulatively considerable noise impacts.	Less than Significant with Mitigation	MM N-1: Construction Noise Reduction MM N-3.1: Interior Noise Attenuation: Windows MM N-3.2: Interior Noise Attenuation: Building Shell
Public Services, Utilities & Service Systems		
Impact PSU-1: Introduce in a new service population requiring the construction of new or altered police or fire facilities.	Less than Significant	None required
Impact PSU-2: Require construction of new or expanded educational facilities.	Less than Significant	None required
Impact PSU-3: Require new or expanded water treatment facilities.	Less than Significant	None required
Impact PSU-4: Require the construction or expansion of new wastewater treatment facilities.	Less than Significant	None required

Impact PSU-5: Require the construction or expansion of stormwater drainage facilities.	Less than Significant	None required
Impact PSU-6: Generate solid waste that would exceed the capacity of area landfills.	Less than Significant	None required
Impact PSU-7: Contribute to cumulatively considerable public services, utilities and service system impacts.	Less than Significant	None required
Transportation & Circulation		
Impact TR-1: Increase congestion and travel delays on regional and local roadways or exceed an established LOS standard.	Significant and Unavoidable	None identified
Impact TR-2: Substantially increase hazards due to a roadway design feature	Less than Significant with Mitigation	MM TR-2: Traffic Control Plan
Impact TR-3: Contribute to cumulatively considerable transportation and circulation impacts.	Significant and Unavoidable	MM TR-2: Traffic Control Plan

1.3.1 Cumulative Impacts

Under the CEQA Guidelines, “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the environmental impact report (“EIR”) together with other projects causing related impacts.” (14 CCR §15130(a)(1)). This EIR uses a “list of past, present, and probable future projects producing related or cumulative impacts.” (14 CCR §15130(b)(1)(A)). Reasonably foreseeable projects that could contribute to the cumulative effects scenario are described for each relevant resource as described in this EIR.

The cumulative analysis concludes that the impacts of the proposed project, when combined with impacts from past, present, and reasonable future projects would create impacts that would be considered cumulatively significant.

1.3.2 Growth-Inducing Effects

Section 15126.2(d) of the CEQA Guidelines provides the following guidance on growth-inducing impacts: a project is identified as growth inducing if it “could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” Growth-inducing components of the proposed project would relate to labor requirements for construction. Employment would be unlikely to induce growth in the area.

1.3.3 Significant Irreversible Commitment of Resources

Section 15126.2(c) of the CEQA Guidelines defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the proposed project. Irreversible impacts can also result from permanent loss of habitat, damage caused by environmental accidents associated with project construction, or operational resource use. Construction of the proposed project would necessitate some use and long-term conversion of agricultural land and vegetation and habitat removal, and the development of the proposed project would therefore be considered a significant irretrievable commitment of habitat for threatened and endangered species. Build-out of the proposed project would commit nonrenewable resources during project construction and ongoing utility services during project operations. During project operations, oil, gas, and other nonrenewable resources would be consumed. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of long-term project operations. Compliance with all applicable building codes, City policies and goals, and the mitigation measures identified in this EIR would ensure that all natural resources are conserved to the maximum extent possible.

1.4 Areas of Controversy

Pursuant to CEQA Guidelines Section 15132(b)(2), areas of controversy and issues to be resolved that are known to the Lead Agency or were raised during the scoping process for the EIR include:

- Construction- and operational-related air pollutant emissions
- Impacts to biological resources within Carbonera Creek and the adjacent riparian area.
- Project water demand and supply
- Project impacts to surface and ground water
- Project impacts on traffic

1.5 Issues to be Resolved

Section 15123(b)(3) of the CEQA Guidelines requires the summary section of an EIR to identify any "issues to be resolved including the choice among alternatives and how to mitigate significant effects."

The following major issues will be resolved by the Lead Agency in its decision process:

- Determine whether the EIR adequately describes the environmental impacts of the proposed project;
- Choose among alternatives;
- Determine whether the recommended mitigation measures should be adopted or modified; and

- Determine whether additional mitigation measures need to be applied to the proposed project.

1.6 Summary of Alternatives Analysis

Section 15126.6 of the CEQA Guidelines states that an EIR must address “a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” Based on the significant impacts identified in this EIR, along with the proposed project objectives, several alternatives were considered as summarized below and discussed in detail in this EIR.

1.6.1 Alternatives Considered

Alternatives that would avoid or substantially lessen any of the significant effects of the project and that would feasibly attain most of the basic project objectives are discussed below. Each alternative is discussed with respect to its relationship to the proposed project’s objectives. Each alternative, if implemented, would be required to comply with all of the applicant-proposed measures and the mitigation measures described for the proposed project to ensure that the alternative impact conclusions presented below would be achieved.

Alternative A – Residential Only

The Residential Only Alternative would entail construction of residential development. The alternative would meet most of the project objectives, but it would not result in a new hotel proximate to a regional transportation corridor. The environmental impacts of the Residential Only Alternative would be similar to the environmental impacts of the proposed project, although vehicular trip generation would be slightly different due to the differences in uses. In addition, trips could have a different temporal distribution than would the proposed project. Due to avoidance of the riparian area adjacent to Carbonera Creek, impacts to biological resources would be less than under the proposed project.

Alternative B – Existing Zoning

The Existing Zoning Alternative would entail construction of a research and development use, consistent with existing zoning and similar to the use proposed as “Phase II” of the Borland development in 1991. The alternative would meet project objectives related to activation of the Santa’s Village Road corridor and inclusion of development-serving open space, but it would not contribute to regional housing supply or result in the operation of a hotel in proximity to Highway 17. Most construction- and operational-related impacts would be similar to those of the proposed project, although biological resource impacts would be avoided. Alternative B would not expose new residential sensitive receptors to existing freeway noise. The alternative would, however, result in decreased levels of service at local intersections, as well as increased construction-related pollutant emissions.

1.6.2 Alternatives Eliminated from Further Consideration

1.7 Alternatives Eliminated from Further Consideration

A prior application for development of the project site proposed a 74-unit residential development. This alternative was eliminated from further consideration because it would not reduce or avoid impacts of the proposed project. The 74-unit development would encroach on the riparian area, resulting in similar impacts to the riparian area adjacent to Carbonera Creek. In addition, this alternative would likely generate more peak-hour trips than would the proposed project, which would result in longer delays at local intersections, than would the proposed project.

1.7.1 No Project Alternative

Consideration of the No Project Alternative is required by Section 15126.6(e) of the CEQA Guidelines. The analysis of the No Project Alternative must discuss the existing conditions at the time the Notice of Preparation was published, as well as: “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” [CEQA Guidelines Section 15126.6 (e)(2)]. The requirements also specify as the proposal of some other project, this ‘no project’ consequence should be discussed” [CEQA Guidelines Section 15126.6 (e)(3)(B)].

Under the No Project Alternative, construction and operation of proposed project would not occur. The baseline environmental conditions for the No Project Alternative are the same as for the proposed project. The baseline conditions would continue to occur into the future, undisturbed, in the absence of project-related construction activities, unless other development occurred on the site.

1.7.2 Comparison of Alternatives and Environmentally Superior Alternative

Three alternatives to the proposed project were analyzed and are summarized in Table 1-2: Comparison of Alternatives.

Table 1-2: Comparison of Alternatives

Impact	Proposed Project	No Project Alternative	Alternative A: Residential Only	Alternative B: Existing Zoning
Impact AES-2: Introduce new light and glare to the project site and study area.	Class II	NI	Class II	Class II
Impact AQ-1: Construction activities would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants.	Class II	NI	Class II	Class II↑
Impact AQ-4: Contribute to cumulatively considerable air quality impacts.	Class II	NI	Class II	Class II↑

Impact	Proposed Project	No Project Alternative	Alternative A: Residential Only	Alternative B: Existing Zoning
Impact BIO-1: Result in a potentially adverse effect on the Carbonera Creek riparian habitat.	Class II	NI	Class III↕	Class III↕
Impact BIO-2: Cause a direct and/or indirect adverse effect on native trees and associated nesting bird sites.	Class II	NI	Class III↕	Class III↕
Impact BIO-4: Contribute to cumulatively considerable effects on biological resources.	Class II	NI	Class III↕	Class III↕
Impact CR-1: Cause a substantial adverse change to a known archeological resource.	Class II	NI	Class II	Class II
Impact CR-2: Directly impact a paleontological resource or unique geologic feature.	Class II	NI	Class II	Class II
Impact CR-4: Contribute to cumulatively considerable effects on cultural resources.	Class II	NI	Class II	Class II
Impact GEO-2: Expose people or structures to substantial safety risks as a result of seismically induced ground shaking, liquefaction, settlement, lateral spreading, and/or surface cracking.	Class II	NI	Class II	Class II
Impact GEO-3: Contribute to cumulatively considerable effects on geology and soils.	Class II	NI	Class II	Class II
Impact N-1: Cause a temporary or periodic increase in ambient noise levels during construction that would substantially disturb sensitive receptors.	Class II	NI	Class II	Class II
Impact N-3: Expose project residents and hotel guests to existing and future noise levels in excess of standards established in the City of Scotts Valley General Plan	Class II	NI	Class II	Class III↕
Impact N-4: Contribute to cumulatively considerable noise impacts	Class II	NI	Class II	Class III↕
Impact TR-1: Increase congestion and travel delays on regional and local roadways or exceed an established LOS standard	Class I	NI	Class I	Class I

Impact	Proposed Project	No Project Alternative	Alternative A: Residential Only	Alternative B: Existing Zoning
Impact TR-2: Substantially increase hazards due to a roadway design feature	Class II	NI	Class II	Class II
Impact TR-3: Contribute to cumulatively considerable transportation and circulation impacts	Class I	NI	Class I	Class I
<p>Notes:</p> <p>Class I = Significant and Unmitigable Impact</p> <p>Class II = Less than Significant with Identified Mitigation Measures</p> <p>Class III = Less than Significant</p> <p>NI = No Impact</p> <p>↑ = Impact of Greater Severity than Under the Proposed Project</p> <p>↓ = Impact with Lesser Severity than Under the Proposed Project</p>				

Pursuant to the CEQA Guidelines, Alternative A would be the Environmentally Superior Alternative. This alternative would avoid the significant impacts to biological resources adjacent to Carbonera Creek. Although this alternative would not reduce noise impacts as substantially as would Alternative B, this alternative would generate fewer peak-hour trips and result in better intersection levels of service and reduced air pollutant emissions, as compared to Alternative B.

None of the alternative analyzed would avoid the significant unavoidable traffic impacts associated with development of the project site.

2 Introduction

This Environmental Impact Report (EIR) has been prepared to evaluate environmental impacts associated with the proposed Enterprise Way project (proposed project) in Scotts Valley, CA. CR&E Management and City Ventures, the project applicants (or together, the “applicant”) have submitted an application to the City of Scotts Valley for a General Plan Amendment, Zone Change, Planned Development (Zoning) Overlay and Permits, Land Division, Use Permit, and Design Review for the approximately 9-acre project site located at 100 Enterprise Way, adjacent to Santa’s Village Road. The proposed project would comprise construction of a 120-room extended stay, select-service hotel, as well as 50 townhouse residential units.

The City of Scotts Valley is the public agency with the principal responsibility for approving the proposed project, and as such is the Lead Agency for this project under the California Environmental Quality Act of 1970 (CEQA) as defined in CEQA Guidelines Section 15367. CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR is intended to serve as an informational document to be considered by the City of Scotts Valley and other permitting agencies during their respective processing of permits for the proposed project.

2.1 Purpose and Intended Uses of the EIR

This EIR has been prepared to evaluate environmental impacts that may result from implementation of the proposed project.

The City has the authority to take discretionary actions relating to development of the proposed project and may conditionally approve or deny the project permit. This EIR evaluates and mitigates the impacts associated with the proposed project. The EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of past, present, and reasonably anticipated future projects.

This EIR will serve as a Project EIR pursuant to the Guidelines for the California Environmental Quality Act (State CEQA Guidelines) (CCR Title 14, Chapter 3, Sections 15000-15387), Sections 15161 and 15168(a)(2), respectively. According to Section 15161 of the State CEQA Guidelines, a Project EIR is appropriate for specific development projects in which information is available for all phases of the project, including planning, construction, and operation.

CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR provides information to the Lead Agency and other public agencies, the general public, and decision makers regarding the environmental impacts from the construction and operation of the proposed project. The purpose of the public review of the EIR is to evaluate the adequacy of the environmental analysis in terms of compliance with CEQA. Section 15151 of the CEQA Guidelines states the following regarding standards from which adequacy is judged:

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

Under CEQA, “The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided” (PRC Section 21002.1[a]). An EIR is the most comprehensive form of environmental documentation identified in CEQA and the CEQA Guidelines and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

As required by State CEQA Guidelines Section 15128, this EIR must identify the effects of the proposed project determined to be significant. This EIR is considered a “full-scope” EIR in which all environmental impact categories identified in the Environmental Checklist Form (CEQA Guidelines Appendix G) are discussed in **Chapters 4 through 15** of this document.

2.2 Overview of Proposed Project

The currently vacant project site is located on the northern edge of the City of Scotts Valley (the City) in northern Santa Cruz County. The proposed project would involve grading of the project site and construction of two separate project components that would operate independently of one another.

On the southwestern portion (2.48 acres) of the project site, the applicant would construct a four-story, 120-room hotel and associated surface parking lot. The hotel would operate under an extended stay, select service model, and each room would have a living area and kitchen space.

On 3.87 acres of the project site, the applicant would construct a 50-unit townhouse development comprising three-bedroom, three-story units spread among ten buildings. Each unit would have its own two-car garage at the ground level, and include circulation and visitor parking areas.

2.3 Purpose and Need for Proposed Project

Since the early 1990s, the vacant project site has been zoned Research and Development/Planned Development (I-RD/PD). In 1992, the project site was approved for a 192,555 sq. ft. commercial office building known as Borland Phase II. Borland International built Phase I (now known as the Enterprise Technology Center) but did not build Phase II, and the property was sold in the summer of 2013. As part of the Borland entitlements, the project site was graded and a significant amount of soil was removed from portions of the project site to accommodate a partially underground parking structure. As such, the project site was significantly disturbed and currently contains non-native grasses.

The project site is surrounded by existing or proposed developments. To serve the approved Polo Ranch residential project to the northeast, Santa's Village Road will be extended adjacent to the project site to provide access to the new residential development, as approved by the City in 2002.

The project applicants intend to develop the project site to provide housing units to increase the supply of for-purchase property in the City of Scotts Valley and the regional economy. In addition, the hotel would provide short- and long-term stay in a visible location with easy access to Highway 17.

2.4 Public Involvement

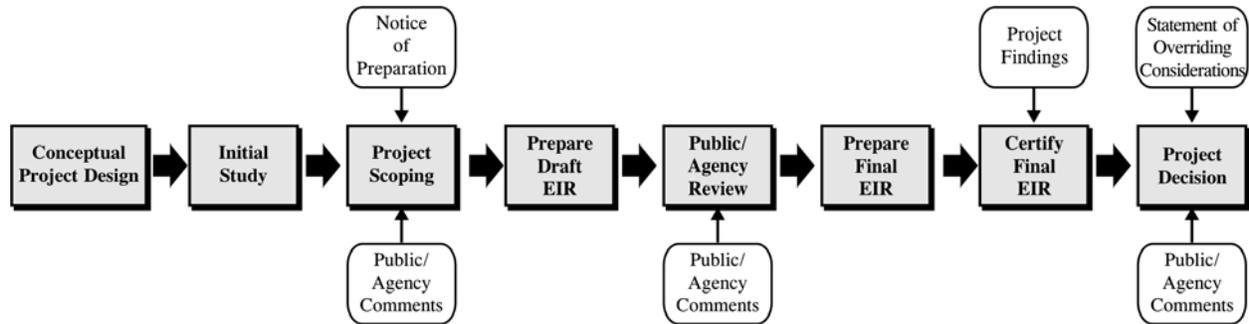
Figure 2-1: The EIR Process, provides a flowchart of the EIR process. CEQA requires the lead agency to provide the public with a full disclosure of the expected environmental consequences of the proposed project and with an opportunity to provide comments. In accordance with CEQA, the process for public participation in the decision-making takes place through the following steps:

- **Notice of Preparation (NOP) and Scoping.** The City of Scotts Valley published an NOP of an EIR on March 25, 2015. No public scoping meeting was held, but comments were received from three state agencies, namely the California Department of Transportation (Caltrans), the California Department of Fish & Wildlife (CDFW), and the Monterey Bay Unified Air Pollution Control District (MBUAPCD).
- **Comments on Draft EIR.** The public comment period for this Draft EIR began on **December 31, 2015**, and will extend to **February 15, 2016**. Written comments may be sent to the City of Scotts Valley at the address below. Comments must be received no later than 5:00 p.m. upon the last day of the comment period.

Ms. Michelle Fodge, Senior Planner
City of Scotts Valley Planning Department
One Civic Center Drive
Scotts Valley, CA 95066

E-mail: mfodge@scottsvally.org
Direct: (831) 440-5632

Figure 2-1: The EIR Process



2.5 Required Permits and Approvals

Table 2-1: Permits or Other Actions Required for Proposed Project, lists the preliminary federal, State, and local permits and authorizations required for the proposed project.

Table 2-1: Permits or Other Actions Required for Proposed Project

Agency	Permit or Regulatory Requirement
State	
California Department of Fish & Wildlife	Streambed Alteration Agreement
Regional Water Quality Control Board	Storm Water Construction General Permit National Pollutant Discharge and Elimination System (NPDES) Permit
Local and Regional	
City of Scotts Valley	General Plan Amendment Zoning Change (Zoning Map Amendment) Planned Development Permit Use Permit Design Review Land Division

2.6 Reader’s Guide to the EIR

2.6.1 Incorporation by Reference

As permitted in Section 15150 of the State CEQA Guidelines, an EIR may reference all or portions of another document that is a matter of public record or is generally available to the public. If information from these documents has been incorporated by reference, the EIR briefly summarizes this information in the appropriate sections of this EIR, describes the relationship

between the incorporated information and the EIR, and identifies how the public may obtain and review these documents.

Some of the information provided in this EIR is based on the following documents:

- Project application materials and technical reports and data
- City of Scotts Valley General Plan
- City of Scotts Valley Municipal Code
- Scotts Valley Water District 2010 Urban Water Management Plan

Copies of project-related documents and the City's General Plan are available on the City's website at: http://www.scottsvalley.org/planning/current_projects.html

The City's ordinances are available at the MuniCode website:
https://www.municode.com/library/ca/scotts_valley/codes/code_of_ordinances.

Copies can also be viewed, upon request, at the Scotts Valley Department of Planning in Scotts Valley (address provided under the Introduction section above).

2.7 EIR Organization

Pursuant to State CEQA Guidelines, Section 15120(c), this EIR contains the information and analysis required by Sections 15122 through 15131. Each of the required elements is covered in one of the EIR chapters and appendices, organized as follows.

- **Executive Summary.** A summary description of the project, the alternatives, their respective environmental impacts and the Environmentally Superior Alternative.
- **Introduction.** A discussion of the background, purpose and need for the proposed project, briefly describing the proposed project, and outlining the public agency use of the EIR.
- **Project Description.** Detailed description of the proposed project.
- **Environmental Analysis.** A comprehensive analysis and assessment of impacts and mitigation measures for the proposed project. This section is divided into separate chapters for each environmental resource and contains the environmental settings and impacts of the proposed project. A description of the approach to cumulative impacts analysis is presented in Chapter 4, and cumulative impacts are analyzed at the end of each environmental resource.
- **Alternatives.** This section provides a description of the alternatives evaluation process, as well as a description of alternatives considered but eliminated from further analysis and the rationale thereof. This section also includes an analysis and assessment of impacts for alternatives retained, including the No Project Alternative.

- **Other CEQA Considerations.** A discussion of growth-inducing effects, long-term implications of the proposed project, and significant environmental effects which cannot be avoided if the proposed project is implemented.
- **EIR Preparers, Glossary, Acronyms, and Abbreviations**
- **Appendices**

Copies of project-related appendices are available on the City's website at:
http://www.scottsvally.org/planning/current_projects.html

3 Project Description

3.1 Introduction

The proposed project involves the construction a hotel and residential townhomes. It would consist of the construction of a 120-room hotel on 2.48 acres, and 50 residential townhomes on 3.87 acres of an approximately 9-acre project site. The hotel would be a four-story complex with surface parking. The residential development would consist of townhomes units of approximately 1,700 square feet (plus approximately 500 square feet of garage space) in three-story buildings. The site would be accessed from Santa's Village Road.

3.2 Project Objectives

3.2.1 Background

Section 15124 of the CEQA Guidelines requires that a clearly written statement of objectives be presented in an EIR to help lead agencies develop a reasonable range of alternatives, and to aid the decision makers in preparing findings of significant effects or a statement of overriding considerations, as necessary.

The project site is currently vacant and was approved in 1992 for a 192,555 sq. ft. commercial office building known as Borland Phase II. Borland International built Phase I (now known as the Enterprise Technology Center) but did not build Phase II, and the property was sold in the summer of 2013.

As part of the Borland project, the project site was graded and a significant amount of soil was removed to accommodate a partially underground parking structure. As such, the project site was disturbed and currently contains non-native grasses.

3.2.2 Project Objectives

Section 15124 of the CEQA Guidelines requires that a clearly written statement of objectives be presented in an EIR to help lead agencies develop a reasonable range of alternatives, and to aid the decision makers in preparing findings of significant effects or a statement of overriding considerations, as necessary. The applicant has identified the following project objectives:

- Develop financially feasible, attached single-family townhouse market-rate residential units to contribute to the region's housing supply.
- Construct a financially feasible hotel in the City of Scotts Valley that leverages proximity to, and is visible from, Highway 17 and contributes Transient Occupancy Tax to the City.
- Activate Santa's Village Road between the approved Polo Ranch project to the north and the existing Enterprise Technology Center campus to the south through the introduction of 24-hour uses.

- Incorporate passive outdoor areas into the housing development for shared use by residents.

3.3 Project Site Description

3.3.1 Project Site Characteristics

Regional Location

The project site is located on the northern edge of the City of Scotts Valley (the City) in northern Santa Cruz County. The City is located on the upland slope of the Santa Cruz Mountains approximately six miles north of Santa Cruz, 30 miles southwest of San Jose and 68 miles south of San Francisco. Primary access to the City of Scotts Valley is via Highway 17, a north-south running regional corridor that connects Highway 1 to the south and Highway 85 and Highway 880 in Santa Clara County to the north. The regional location of the project site is shown in [Figure 3-1: Regional Location](#).

Project Site Location

The 8.7-acre project site is accessed via Santa's Village Road, also known as Enterprise Way (Assessor's Parcel No. 024-031-170). The project site is located north of the entrance to Highway 17 from Santa's Village Road, west of Orchard Run, and northeast of Granite Creek Road. See [Figure 3-2: Project Location](#).¹

Project Site History

The project site is currently vacant and was approved in 1992 for a 192,555 sq. ft. commercial office building known as Borland Phase II. Borland International built Phase I (now known as the Enterprise Technology Center) but did not build Phase II, and the property was sold in the summer of 2013.

Existing Setting

As part of the Borland project, the majority of the project site was graded and possibly compacted, and drains to a storm drain structure. A majority of the project site is highly disturbed and dominated by non-native weedy grassland. Carbonera Creek extends along the southeastern boundary of the project site, and trees and riparian vegetation line the border of the creek.

Pursuant to the approved Polo Ranch residential project, which is located east of the project site across Carbonera Creek, Santa's Village Road will be extended along the project site's

¹ Local and regional roadways in the project site vicinity are offset from cardinal directions. Consistent with City of Scotts Valley practice, Highway 17 and streets parallel are described as running north-south, and perpendicular streets are described as running east-west. These direction naming conventions are used throughout this document.

northern border for approximately 500 feet and then turn in a southeasterly direction before crossing Carbonera Creek. Potable water, recycled water, and sanitary sewer lines currently extend under the future extended Santa's Village Road

Surrounding Land Uses

Highway 17 borders the project site to the north; east of the project site is Carbonera Creek and an area entitled for residential development known as the Polo Ranch; south of the project site is a residential neighborhood; and, the former Borland office complex, now called the Enterprise Technology Center, is located to the west.

3.3.2 Existing General Plan Land Use Designations and Zoning

General Plan Designation

The project site, as well as the Enterprise Technology Center campus to the southwest, are designated Research and Development (R&D) in the General Plan. These are the only properties designated R&D within the City.

Zoning

The project site is zoned Research & Development/Planned Development (I-RD/PD), as is the existing Enterprise Technology Center campus to the southwest. The City's Zoning Code does not establish a specific purpose for the I-RD district.

The purpose of I-L (light industrial) zoning district is to accommodate industrial and industrially related land uses and provide a location for businesses that are inappropriate in commercial or residential zones because of their operations or sizes. Such uses may create noise, odor, dust, or glare, as well as create impacts to traffic, the aquifer, or air quality (Section 17.26.010.). According to Zoning Code section 17.04.201, "research and development" business are those whose function includes information gathering, scholarly or scientific inquiry or investigation, medical research, high technology or the development of computer software.

Planned Development (PD) districts must be combined with a base zoning district, and they are to be individually designed to meet the needs of the property (taking into account topography, vegetation, and other development constraints). , PD districts allow for increased flexibility up to the maximum allowable density. Development must be undertaken pursuant to a "general development plan," which is adopted by the City Council as part of any planned development zoning ordinance (Section 17.38.020).

Properties to the east and southeast are zoned Medium Density Residential Use (R-1-10), with a 10,000-square-foot minimum lot size and Open Space (OS).

3.4 Project Components

The proposed project would entail construction of two separate uses: a 120-room hotel and a 50-unit townhouse development; as well as associated parking and circulation elements. The

property would be subdivided into two parcels; one each for the hotel and residential development. **Figure 3-3: Proposed Project Site Plan** illustrates the site plan of the proposed project. The remaining figures in this chapter are grouped together by project component. **Figures 3-4 through 3-9** present elevations and plans for the hotel. **Figures 3-10 through 3-15** present elevations and plans for the residential development.

3.4.1 Hotel

Under the proposed project, the General Plan would be amended to apply a Service Commercial (C-S) land use designation to approximately 2.48 acres on the southwestern portion of the project site. A Zone Change would be implemented to map this portion of the project site for Service Commercial uses in a Planned Development District (C-S/PD). Hotel uses are conditionally permitted in C-S districts.

The proposed project would entail construction of a four-story, approximately 87,000-square-foot, 120-room hotel, and operate under a select-service, extended-stay model. The ground floor would contain a front desk, lobby with hearth, study, management and sales offices, workroom, meeting room, food serving and preparation rooms, fitness center, and a guest laundry. An outdoor pool, patio, and sport court for hotel guests would be located on the hotel's southeastern side.

The remainder of the first story, as well as the upper three stories, would contain a total of 120 hotel rooms. The rooms would comprise a mix of studios, double-queen studios, and one-bedroom units. Under the extended stay model, each room would have its own bathroom, living space, and kitchen.

The hotel's exterior architecture would be contemporary and incorporate natural finishes, including stone and wood. The façade would be broke into distinctive horizontal and vertical visual elements through a mix of materials (cement fiber siding, cement plaster, and stone) and colors (rocky creek [slate blue], deep maroon, beige, and silver. The building would be 39 feet tall to the roofline, 42.5 feet to the top of the parapet, and approximately 50 feet to the top of the elevator shaft. Where the roof is pitched, it would comprise asphalt shingles.

Figure 3-4: Hotel Elevations includes elevations of the proposed hotel, and floor plans are shown in **Figure 3-5a: Hotel First Floor Plan** and **Figure 3-5b: Hotel Typical Upper Floor Plan**.

3.4.2 Residential Development

On the northern and eastern portions of the project site, the General Plan would be amended to apply a High-Density Residential land use designation to the remaining 3.87 acres of the project site. A Zone Change would be implemented to designate this portion of the project site High-Density Residential in a Planned Development District (R-H/PD).

The project applicant would construct 50 townhouses grouped in ten separate buildings. Each townhouse would be approximately 1,700 square feet and include three bedrooms, plus an

approximately 500-square-foot garage. To provide a sense of visual diversity, each townhouse would be physical distinguished from its neighbors by a mix of colors in both horizontal and vertical wood siding, as well as shingle siding. Building heights would be approximately 27 feet to the eave, and 38 feet to the top of the roof. The pitched roof would comprise shingles. Each unit would have a balcony on the second floor. The ground-floor rear of each unit would have a two-car (side-by-side) garage. Pursuant to a development agreement between the City and the project applicant, the townhouse development is not required to meet any inclusionary or affordable housing obligation, or any other costs associated with the provision of homes at below-market value.

Figure 3-10: *Townhouse Typical Elevations* illustrates elevations of a standard townhouse building, and Figure 3-11: *Townhouse Typical Floor Plan* illustrates a standard floor plan.

3.5 Project Site Design & Engineering

3.5.1 Access, Circulation, and Parking

As part of the already approved Polo Ranch project, Santa's Village Road will be extended from the existing improved cul-de-sac across the project site northward, and then turn southeastward before crossing Carbonera Creek. This improvement is planned for mid-2016 and will be required prior to completion of the proposed project. Primary access to the hotel would be provided from Santa's Village Road at the southwest corner of the project site.

The hotel would be surrounded on the northern, western, and eastern sides by a parking lot and internal circulation area containing 122 spaces, including 5 handicapped-accessible spaces. Loading would occur at the southwestern corner of the hotel building. The Planned Development permit would resolve parking requirements for the hotel. Secondary access to the hotel would be provided along Santa's Village Road, at the northern end of the 2.48-acre hotel site, as well as on the southeast side of the parking lot from the residential development's internal roadways.

The townhouse development would be accessible via three new roadways. Each of the 50 townhouses would have a two-car garage, and two surface parking lots would contain a total of 19 off-street visitor spaces.

3.5.2 Grading

This EIR conservatively assumes that the hotel would require the import of 2,177 cubic yards of soil, and the residential development would require the export of 5,600 cubic yards of soil.

A net of 3,423 cubic yards of soils would be exported from the project site. The residential portion of the proposed project would encroach upon the riparian area to the west of Carbonera Creek channel and require the removal of 18 trees. This removal of riparian trees and vegetation would be require a Streambed Alteration Agreement from the California Department of Fish & Wildlife (CDFW), pursuant to Fish and Game Code §1602. Grading under

the proposed project is shown in Figure 3-6: Hotel Grading and Drainage Plan, and Figure 3-12: Residential Grading and Drainage Plan.

3.5.3 Stormwater Management

The hotel would result in approximately 1.71 acres of net new impervious surfaces, including the hotel roof, parking lot, and pedestrian paths. Stormwater would drain to a series of rain gardens located along the hotel site boundary, the hotel building boundary, and in the hotel parking lot. These rain gardens would be designed to treat and retain runoff for a design storm/rain depth of 2.6 inches. The parking lot would also include approximately 8,200 square feet of permeable paving, which would reduce total stormwater flows.

Runoff beyond the design storms would be collected post-treatment from the rain gardens, piped, and released from the hotel site in two locations: one at the southwestern corner of the site to connect to the existing stormwater collection pipe in Santa's Village Road, and the other at the southeastern boundary of the hotel site to connect to the residential development's storm drainage system.

The residential development would result in 1.79 acres of net new impervious surfaces. In the portions of the project site adjacent to Carbonera Creek comprising approximately 0.3 acres, stormwater would continue to naturally infiltrate and drain toward the creek. Approximately 2.2 acres of the residential portion of the project site would drain to a series of bio-retention areas that would collect water and allow for infiltration. Approximately 0.8 acres of the site would drain directly to an underground stormwater detention vessel located beneath the residential visitor parking. Overflow from the bio-retention areas would also be conveyed to this detention vessel. The vessel would have a control-release mechanism that would connect to the existing off-site drainage system to the south.

Stormwater plans are shown in Figure 3-7: Hotel Stormwater Plan, and Figure 3-13: Residential Stormwater Plan.

3.5.4 Water, Wastewater, and Dry Utilities

Potable and reclaimed water and wastewater conveyance pipelines will be extended under Santa's Village Road as part of the Polo Ranch project. Both the hotel and the residential development would connect to these utility lines. Utility plans are shown in Figure 3-8: Hotel Utility Plan, and Figure 3-14: Residential Utility Plan.

3.5.5 Tree Protection and Removal

The project site contains 65 protected trees of five different species: 42 coast redwoods, 12 cottonwoods, four California bay laurels, three Coast live oaks, two willows, and two sweet gums. The proposed project would require the removal of 18 total trees, including eight cottonwoods two sweet gums, three oaks and five bay laurels. Removal of mature trees would require a Tree Removal Permit pursuant to City of Scotts Valley Municipal Code (Section 17.44.080).

3.5.6 Landscaping and Signage

The hotel site would include a mix of street trees with border landscaping, parking lot shade trees within bioswales, architectural accent trees, screen trees, shrubs, and groundcover. The northern and eastern borders of the parking lot—in between the hotel site and the residential development site—would be lined with a perimeter wall with clinging vines. Approximately 22,000 square feet of the hotel site would be landscaped. See [Figure 3-9: Hotel Landscape Plan](#) and [Figure 3-15: Residential Landscape Plan](#).

The hotel would include three signs indicating that the building is a Residence Inn Marriot. An approximately 6-foot-tall monument sign and flagpole would be located at the hotel site's main entrance, oriented southwest toward approaching traffic along Santa's Village Road. A second sign would be located on the western façade of the building, above the fourth story, directly facing Santa's Village Road and Highway 17. A third sign would be located on hotel's southern façade, at the fourth story, facing the outdoor pool and patio. The hotel applicant would obtain sign permits, and signs would be designed and installed pursuant to Municipal Code Section 17.56.

The residential development would incorporate a mix of large and medium trees along the project site's western and southern borders, as well as medium and small trees adjacent to individual units. The development would include areas dedicated for an orchard with pergola, garden with bocce court and seating area, and grove area with picnic style tables and seating. Pedestrian paths would provide access to the front of each townhouse unit. A 6-foot-high wooden fence would separate the residential development from Highway 17 to the west, and 3-foot-high wooden fences would delineate the private yard of each unit.

3.6 Project Construction

Construction of the hotel and residential portions of the project may occur concurrently or separately. For purposes of environmental review, the proposed project is assumed to be constructed over two separate 14-month periods, each initiated by 10 days of site preparation and 20 days of site grading.

Construction would be limited to between 8:00 a.m. and 6:00 p.m. Monday through Friday; 9:00 a.m. and 5:00 p.m. on Saturday per the City of Scotts Valley Municipal Code Section 17.46.160. Northbound construction traffic from Highway 17 would access the project site via the Santa's Village Road exit, and southbound construction traffic would access the project site via the Scotts Valley Road / Granite Creek Road exit.

3.7 Project Operations and Maintenance

The hotel would be operated as a Residence Inn, a division of Marriott International, Inc. The hotel would be staffed by a general manager, sales staff, maintenance, housekeeping and food service staff for a total of approximately 30 employees, with a maximum of 15 employees on-site at any one time.

The proposed project would include secure enclosed structures to house recycling and trash containers at the northeast corner of the hotel site. The hotel site would be regularly monitored by hotel landscape/maintenance staff to ensure that trash would not collect outside the refuse structures. During construction and operation, trash and other waste would be regularly collected and properly disposed or recycled by a certified waste management company. During hotel operations, hotel management would contract with a waste hauler to provide collection services.

The townhouses would operate as typical residential units. Each unit would have a two-car garage, and 19 visitor parking spaces would be available in the surface lots.

4 Introduction to Environmental Analysis

4.1 Environmental Assessment Methodology

The environmental resource analysis below (by chapter) describes the environmental impacts that would result from the proposed project, as described in Chapter 3. This analysis considers the comments submitted during the scoping process (see [Appendix 1: Notice of Preparation and Comment Letters](#)). References to data and/or technical studies are listed at the end of each chapter.

4.1.1 Methodology

The methodology used to determine impacts consists of three key components, summarized below.

- **Environmental Setting.** The environmental setting describes existing conditions in the project site that may change as a result of the construction and operation of the proposed project. Pursuant to CEQA Guidelines (Section 15125(a)), the environmental setting used for the impact analysis reflects the conditions at the time of the issuance of the Notice of Preparation.
- **Applicable Regulations, Plans, and Standards.** Each issue area includes a description of current public policies, regulations, programs, and standards that apply to the proposed project.
- **Environmental Impacts and Mitigation.** This section evaluates the environmental impacts (including cumulative) of the proposed project based on predetermined, specific significance criteria. In determining the significance of impacts, the assessment considers the ability of existing regulations and other public agency requirements to reduce impacts. If an adverse impact is potentially significant despite existing regulations and requirements, mitigation measures are proposed to reduce or avoid the impact, where feasible. Mitigation measures are required only for significant adverse impacts. Once impacts and mitigation measures, as applicable, are presented, the “level of significance after mitigation” is determined.

4.1.2 Impact Significance

While the criteria for determining whether an impact is significant are unique to each issue area, a uniform classification of impacts is used in this EIR. Each impact is categorized based on the following definitions:

- **Class I:** Significant impact; cannot be mitigated to a level that is less than significant
- **Class II:** Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures
- **Class III:** Adverse impact; but less than significant, so mitigation is not normally recommended

- **Class IV:** Beneficial impact; mitigation is not required
- No impact

4.1.3 Mitigation Measures

Where potentially significant impacts are identified, mitigation measures are identified. Each mitigation measure defines the specific requirements to reduce impacts and defines the timeframe, responsible party, and the mitigation monitoring requirement, if applicable.

Note that due to the location of the proposed uses on the project site, some mitigation measures apply only to the one portion (hotel development or residential development) of the proposed project. Each mitigation measure indicates whether it applies to the hotel development, residential development, or both components of the proposed project.

4.1.4 Mitigation Monitoring

Public Resources Code Section 21081.6 establishes two distinct requirements for agencies involved in the CEQA process. Subdivisions (a) and (b) of the section relate to mitigation monitoring and reporting, and the obligation to mitigate significant effects where possible. Pursuant to subdivision (a), whenever a public agency completes an EIR and makes a finding pursuant to Section 21081(a) of the Public Resources Code taking responsibility for mitigation identified in the EIR, the agency must adopt a program of monitoring or reporting which will ensure that mitigation measures are complied with during implementation of the proposed project.

4.2 Effects Not Found to Be Significant

4.2.1 Agricultural and Forestry Resources

The project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the State Farmland Mapping and Monitoring Program (FMMP). It is designated as Urban and Built-Up Land (DOC, 2012). No Williamson Act contract applies to the project site. The project site does not currently comprise agricultural or forestry uses, and it is designated for Research and Development uses pursuant to the Scotts Valley General Plan and Zoning Ordinance. There would be no impact to agricultural and forestry resources.

4.2.2 Hazards & Hazardous Materials

The project site is not located within two miles of a public airport or public use airport, or within the vicinity of a private airstrip. Likewise, the project site is not located within the area of or within the direct vicinity of an emergency response plan. The project site is surrounded by existing and proposed urbanized areas, and as such is not at risk from wildland fires.

Regarding on-site hazards, the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. From 1968 to 1990, a Chevron Station occupied the parcel to the southwest. This facility is cross- to down-gradient of the project site. After removal of the gas station, groundwater and soil contamination levels were

not detected above their laboratory reporting limits and the Central Coast Regional Water Quality Control Board issued a No Further Action letter in October 1992 (Stantec, 2014).

One “open”² case of a leaking underground storage tank (LUST) site is in the project area (a half-mile radius). The Shell Station at 1 Hacienda Drive, approximately 2,250 feet southwest of the project site, is eligible for closure. The groundwater plume from this LUST does not extend beyond Scotts Valley Drive. The Shell Station is located downgradient from the project site, and the groundwater flow direction is to the southeast (Stantec, 2014). Although there are no records of LUSTs or septic tanks on the project site, accidental discovery of such a tank cannot be entirely ruled out. If such a LUST is found, it would be removed in accordance with procedures set forth in Chapter 6.5 of Division 20 of the State Health and Safety Code, as enforced by the Santa Cruz County of Public Health (Stantec, 2014).

The proposed project’s residential uses may involve use and storage of some materials that are considered hazardous, although these materials are typically limited to everyday use solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be substantially different from household chemicals and solvents already in use throughout the city. Similarly, the proposed project’s hotel would involve storage and use of similarly limited quantities of hazardous materials—such as cleaners, toners, correction fluid, paints, lubricants, cleaners, pesticides and other maintenance materials. Storage and use of such materials would be managed through implementation of a Hazardous Materials Business Plan (HMBP), as required by state and federal regulations.

The proposed project is located within one-quarter mile of existing schools, including Monterey Coast Preparatory Middle & High School, approximately 325 feet north of the project site; Vine Hill Elementary School, approximately 475 feet northwest of the project site; and Baymonte Christian School, approximately one-quarter mile southeast of the project site. As stated above, project construction and operation would not involve the emission of hazardous materials.

Hazards and hazardous materials impacts would be less than significant.

4.2.3 Mineral Resources

The project site lies within Mineral Resource Zone 1 (MRZ-1), as mapped by the California Department of Mines and Geology. MRZ-1 zones are “areas where adequate information indicates that no significant mineral despoils are present, or where it is judged that little likelihood exists for their presence” (DMG, 1999). The project site is not a mineral resource recovery site and therefore there would be no impact to mineral resources.

² An “open” LUST means a location where a release has occurred from an underground storage tank system, and where corrective actions have not been completed to meet the appropriate land use criteria.

4.2.4 Population & Housing

The project site is currently vacant and does not include housing or other structures where people reside. Therefore, the proposed project would not displace housing or people, and it would not necessitate construction of replacement housing elsewhere.

Based on the 2009–2013 U.S. Census American Community Survey, the average household size is 2.67 persons per household in the City of Scotts Valley (U.S. Census, 2015). Applying that factor to the proposed project's 50 residential units, the proposed project would directly result in 134 new residents in the city. One hundred and thirty-four residents would be 57.5 percent of the Association of Monterey Bay Area Government's (AMBAG's) forecasted population growth between 2010 and 2035, but just 3.9 percent of the increase in population between 2010 and the City's planned General Plan buildout. The project site would not extend utility infrastructure to greenfield locations beyond City boundaries. As such, the proposed project would not directly induce substantial, unplanned population growth. Therefore, there would be no impact.

4.2.5 Recreation

The proposed project would not result in a substantial increase in population for the City or region resulting in the substantial deterioration of existing recreational facilities or parks, and would not require the construction of new facilities or parks. Residential development and resulting increases in population would be within the growth projections of the City's General Plan. Pursuant to Municipal Code Section 16.35, the residential development project sponsor shall pay in-lieu fees for the provision of recreational resources. The fee shall be reduced by any applicable credit for the provision of private open space. Therefore, there would be no impact.

4.3 Cumulative Impacts

4.3.1 CEQA Requirements

Under the CEQA Guidelines, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the environmental impact report ("EIR") together with other projects causing related impacts" (14 CCR §15130(a)(1)). CEQA PRC §21000 et seq., an EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable" (14 CCR §15130(a)). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (14 CCR §15164(b)(1)). Together, these projects compose the cumulative scenario which forms the basis of the cumulative impact analysis.

Cumulative impacts analysis should highlight past actions that are closely related either in time or location to the project being considered, catalogue past projects and discuss how they have harmed the environment and discuss past actions even if they were undertaken by another agency or another person. Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, "but the discussion need not provide as great detail as is

provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness, and shall focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact” (14 CCR §15130(b)).

The analysis must be in sufficient detail to be useful to the decision maker in deciding whether, or how, to alter the program to lessen cumulative impacts. Most of these are undergoing, or will be required to undergo, their own independent environmental review under CEQA. Significant adverse impacts of the cumulative projects would be required to be reduced, avoided or minimized through the application and implementation of mitigation measures. The net effect of these mitigation measures is assumed to be a general lessening of contribution to cumulative impacts.

There are two commonly used approaches, or methodologies, for establishing the cumulative impact setting or scenario. One approach is to use a “list of past, present, and probable future projects producing related or cumulative impacts” (14 CCR §15130(b)(1)(A)). The other is to use a “summary of projects contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact” (14 CCR §15130(b)(1)(B)).

This EIR uses the list-based approach to provide a tangible understanding and context for analyzing the cumulative effects of a project. Based on the cumulative project list maintained by the City, cumulative projects would result in approximately 675 residential units, 270,000 square feet of commercial retail space, 5,000 square feet of office space, a fire station, and 250 hotel rooms. The City’s General Plan and other planning documents were used as additional reference points in establishing the cumulative scenario for the analysis.

Cumulative Impact Analysis Methodology

The area within which a cumulative effect can occur varies by resource. For example, air quality impacts generally affect a large area (such as the regional Air Basin), while traffic impacts are typically more localized. For this reason, the geographic scope for the analysis of cumulative impacts is identified for each resource area in the following chapters.

The analysis of cumulative effects considers a number of variables, including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project site and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the proposed project.

In addition, each project has its own implementation schedule, which may or may not coincide or overlap with the proposed project’s schedule. This is a consideration for short-term impacts

from the proposed project. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the proposed project and residential development on the project site that may result from the proposed project.

4.3.2 References

Association of Monterey Bay Area Governments (AMBAG). 2014. *2014 Regional Growth Forecast*. Adopted June 11, 2014.

Department of Conservation (DOC). 2012. *Santa Cruz County Important Farmland 2012*. Available online: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/scr12.pdf>.

Division of Mines and Geology (DMG). 1999. *Generalized Mineral Land Classification Map of the Monterey Bay Production-Consumption Regions – North Half*. Available online: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_99-01/OFR_99-01_Plate-1.pdf.

Stantec Consulting Services Inc. *Phase I Environmental Science Assessment: Scotts Valley 2*. October 3, 2014.

U.S. Census. 2010. DP-1. Profile of General Population and Housing Characteristics: 2010. Scotts Valley city, California. Accessed October 7, 2015.

U.S. Census. 2015. S1101. Households and Families. 2009–2013 American Community Survey 5-Year Estimates. Accessed October 14, 2015.

5 Aesthetics

5.1 Introduction

This section describes effects on aesthetics that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- Project application and related materials, including site plans, building elevations, and landscape plans
- Site photos

The study area, also known as the viewshed, is defined as the area from which the proposed project would be seen both on and immediately surrounding the project site. The current condition and quality of aesthetic resources within the study area were used as the baseline against which to compare aesthetic impacts of the proposed project.

The approach used to evaluate the existing aesthetics conditions consisted of the following steps:

- Reviewing the project application including site plans and elevations, landscape plans, etc.;
- Establishing several representative key viewpoints (KVPs) and photographing the proposed project site from those viewpoints; and
- Conducting detailed field analyses of the project site and surroundings from the representative KVPs.

5.2 Determination of Existing Visual Quality

KVPs are selected to be representative of the most critical locations from which the proposed project would be seen. They are selected based on their usefulness in evaluating existing landscapes and impacts on aesthetics with various levels of viewer sensitivity, in different landscape types and terrain, and from various vantage points. Locations typically considered for the establishment of KVPs include those: 1) along major or significant travel corridors, 2) along local roads, 3) along recreational access off-highway vehicle roads and trails, 4) at key vista points, 5) from publicly accessible vantage points within designated wilderness or other protected areas, and 6) from locations that provide good examples of the existing landscape context and viewing conditions.

When analyzing existing aesthetic conditions, the elements of visual quality, viewer concern, visibility, number of viewers, and duration of view are considered. These parameters are then factored into an overall rating of viewer sensitivity.

Visual Quality. Visual quality is an expression of the visual impression or appeal of a given landscape (e.g. landforms, rock forms, water features, vegetative patterns, and cultural

features). Visual quality is rated from low to high. Landscapes rated low are often dominated by visually discordant human alterations. Landscapes rated high generally are memorable because of the way the individual landscape features combine in a coherent and harmonious visual pattern. Also, those landscapes are typically free from discordant human alterations, so they retain their visual integrity.

Viewer Concern. Viewer concern addresses the level of interest or concern (from low to high) of viewers regarding an area's aesthetic values and the visible change to the landscape. Viewer concern is closely associated with viewers' expectations for a given viewshed (i.e. an area of land visible from a fixed vantage point) and reflects the importance placed on the human perceptions of the intrinsic beauty and visual interest of the existing landscape characteristics. Official statements of public values and goals and adopted local public policy pertaining to aesthetics or visual resources also reflect viewers' expectations regarding a visual setting and are given weight in determining levels of viewer concern.

Land uses associated with designated parks, monuments, and wilderness areas; scenic highways and corridors; recreational areas; conservation areas; and residential areas are generally considered to have high viewer concern. However, existing landscape character may temper viewer concern on some State and locally designated scenic highways and corridors though, in general, people driving for pleasure or engaged in recreational activities tend to have high viewer concern.

Travelers on other highways and roads, including those in rural or agricultural areas, may have moderate or high viewer concern depending on viewer expectations as conditioned by regional and local landscape conditions in these areas.

Commercial uses, including business parks and hotels, typically have low-to-moderate viewer concern, although some commercial developments have specific requirements related to visual quality with respect to landscaping, building height limitations, building design, and prohibition.

Industrial uses and their occupants typically have the lowest viewer concern because employees generally work in utilitarian surroundings with relatively low visual value. However, some areas of lower visual quality and degraded visual character may contain particular views of substantially higher visual quality or interest to the public.

Visibility. Visibility is a measure of how well an object can be seen. Visibility depends on the angle or direction of views; viewing distance; extent of visual screening; and topographical relationships between the object and existing homes, streets, or parks. Visibility takes into consideration any and all obstructions that may be in the sightline, including landforms, trees and other vegetation, buildings, transmission poles or towers, general air quality conditions such as haze, and general weather conditions, such as fog.

Number of Viewers. Number of viewers is a measure of the number of viewers per day who would have a view of a proposed project or a visual resource and can range from low to high. The types of viewers can include residents, employees, motorists, and recreationists.

Duration of View. Duration of view is the amount of time to view a project site or a visual resource. For example, a high or extended view of a project site is one experienced over the course of 2 minutes or more (e.g. in a park). In contrast, a low or brief duration of view is available in a short amount of time — generally less than 10 seconds (e.g. traveling on a public road).

Viewer Exposure. Viewer exposure is a function of three elements previously listed: visibility; number of viewers; and duration of view. Viewer exposure can range from low to high. A partially obscured and brief background view for a few motorists represents low viewer exposure, and an unobstructed foreground view from a large number of residences represents a high viewer exposure.

Visual Sensitivity. Visual sensitivity is derived from three elements previously listed: visual quality; viewer concern; and viewer exposure and is a concluding assessment of an existing landscape's susceptibility to an adverse visual outcome. A landscape with a high degree of visual sensitivity is able to accommodate only a lower degree of adverse visual change without resulting in a significant aesthetic impact. A landscape with a low degree of visual sensitivity is able to accommodate a higher degree of adverse visual change before exhibiting a significant aesthetic impact. Visual sensitivity can range from low to high.

5.3 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by agencies and the public regarding the proposed project were received. No issues related to aesthetics were raised during the scoping period.

5.4 Environmental Setting

This section presents information on aesthetic conditions in the project site vicinity. The current condition and quality of aesthetic resources was used as the baseline against which to compare impacts of the proposed project.

5.4.1 Regional Landscape

Areas of the City of Scotts Valley and its surrounding area offering scenic value are significant open space features. The generally flat valleys along Carbonera Creek, its west branch tributaries, and the Camp Evers tributary form a pocket in the Santa Cruz Mountains within which most of the local urbanization has occurred. Hillsides immediately adjacent to these valleys offer views for residential development in areas including Tabor Drive, Monteville, Granite Creek, Navarra Drive and Whispering Pines, while forested ridgetops—which have remained largely undeveloped and have not been logged—are a focal point for many scenic

views. State Highway 17, which climbs from Santa Cruz on the south into the valley, offers vistas of the area. Scenic winding roads through steep redwood forested canyons border the City on Granite Creek Road, Vine Hill Road, and Bean Creek Road.

There are no officially state designated scenic highways in the County of Santa Cruz; however, Highway 17 is listed as an eligible state scenic highway. In the City's planning area, Highway 17, Graham Hill Road, and Mt. Hermon Road are designated by the City as scenic and worthy of viewshed protection (SVGP, 1994).

5.4.2 Project Site

The project site is relatively flat and has been previously cleared of vegetation. Highway 17 is located west of the project site, the approved Polo Ranch residential development is located to the east, an existing residential neighborhood is located to the southeast, and an existing office park (Enterprise Technology Center [ETC]) is located to the south. Dense vegetation and mature trees line Carbonera Creek.

5.4.3 Project Viewshed

The project site is within the viewshed of surrounding areas; however, there are limited public viewshed points. Existing trees along Highway 17 largely obstruct views of the project site from passing motorists. The project site is within the viewshed of the north end of the ETC, and from the exit/entrance of Santa's Village Road / Highway 17. The project site is obstructed from the viewshed east and south of the project site by trees along Carbonera Creek.

5.4.4 Key Viewpoints (KVPs)

As shown in [Figure 5-1: Key Viewpoint Locations](#) and [Figure 5-2: Key Viewpoints](#), the key viewpoints (KVPs) were selected based on the overall potential for the project site to be within the public viewshed from each KVP.

- KVP 1 – Northbound Highway 17 on/off ramps from Santa's Village Road
- KVP 2 – Northbound Highway 17
- KVP 3 – Southbound Highway 17
- KVP 4 – Santa's Village Road

KVP 1 was selected because this location offers views by motorists as they enter or exit Highway 17 from Santa's Village Road. KVP 2 and KVP 3 were selected as representative views along the heavily traveled Highway 17 corridor. In addition, as discussed below, KVP3 is a prominent vista according to the Scotts Valley General Plan. KVP4 was selected due to its location immediately fronting the project site. (The photo is taken from atop the berm to better indicate views after removal of the berm.) At each KVP a visual analysis was conducted and a discussion of the visual setting for each KVP is presented in the following paragraphs.

KVP 1 – Northbound Highway 17 On/Off Ramps from Santa’s Village Road

Visual Quality: *Low-to-Moderate.* Views from this location are of limited quality. The project site is partially obscured by existing vegetation on the adjacent property, and long-range views are not available.

Viewer Concern: *Moderate.* Although some viewers may appreciate the view at this location, it is unlikely that most viewers are highly concerned about it as drivers are at the location to access Highway 17.

Viewer Exposure: *Moderate.* Vehicles travel at a speed, or momentarily stopped, such that view exposure is brief. A pedestrian sidewalk currently exists on the southern edge of Santa’s Village Road; however, this sidewalk is not frequently used because it leads to a dead-end at the on- and off-ramps.

Visual Sensitivity: *Moderate.* Views are limited to motorists getting off and onto Highway 17, and vehicles travel at speeds under which view exposure is brief.

KVP 2 – Northbound Highway 17

Visual Quality: *Moderate-to-High.* Motorists are exposed to a backdrop of forested hills in the direction of the project site. The view also includes partial glimpses of the existing ETC office buildings located adjacent to and to the south of the project site.

Viewer Concern: *High.* Given that Highway 17 is a State-eligible Scenic Highway and designated as a viewer-sensitive roadway by the County and scenic and worth of viewshed protection by the City, viewer concern is high.

Viewer Exposure: *Moderate.* Highway 17 is a highly used and often congested roadway with speed limits of 55 mph in the vicinity of the project site. Views of the project site from this location are limited due to existing vegetation and the angle of vision from the roadway.

Visual Sensitivity: *Moderate.* The high use and high speeds of Highway 17, existing trees, and angle of view limit views of the project site.

KVP 3 – Southbound Highway 17

Visual Quality: *Moderate-to-High.* Motorists are exposed to a backdrop of forested hills in the direction of the project site. The view also includes partial glimpses of the existing ETC office buildings located adjacent to and south of the project site.

Viewer Concern: *High.* Highway 17 is a State-eligible Scenic Highway and designated as a viewer-sensitive roadway by the County. Immediately north of the project site, southbound Highway 17 is the location of a designated “important vista” according to the General Plan.

Viewer Exposure: *Moderate*. Highway 17 is a highly used and often congested roadway with speed limits of 55 mph in the vicinity of the project site. Views of the project site from this location are limited due to existing vegetation and the angle of vision from the roadway.

Visual Sensitivity: *Moderate*. The high use and high speeds of Highway 17, existing trees, and angle of view limit views of the project site.

KVP 4 – Santa’s Village Road

Visual Quality: *Moderate*. The view includes the project site in the foreground and the mature vegetation in the Carbonera Creek area behind it. The project site shows evidence of previous disturbance.

Viewer Concern: *Low*. The property is private, and the number of viewers from this location is currently very low.

Viewer Exposure: *Low*. Santa’s Village Road is not built out in this location. Although access along this dirt road is not controlled, no-trespassing signs are present at the Santa’s Village Road cul-de-sac. Upon buildout of the Polo Ranch project, which will include the extension of Santa’s Village Road to serve that project, more viewers would be exposed to this view.

Visual Sensitivity: *Low*. As with viewer exposure, viewer sensitivity for this location is low based on the limited exposure.

5.5 Applicable Regulations, Plans, and Standards

5.5.1 Federal

None applicable.

5.5.2 State

In 1963, the California Legislature established the State’s Scenic Highway Program, intended to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

The State Scenic Highways program, established by the Streets and Highways Code, is administered by the California Department of Transportation (Caltrans). The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such.

For Caltrans to grant an eligible route official status as a California State Scenic Highway, the local jurisdiction must implement a Corridor Protection Program by either adopting ordinances, zoning and/or planning policies to preserve the scenic quality of the corridor, or documenting that such regulations already exist in various portions of local codes. Policies to prevent visual degradation of these view corridors might include restriction of dense and continuous

development, reflective surfaces, ridgeline development, extensive cut and fill grading, disturbed hillsides and landscape, exposed earth, and non-native vegetation (Caltrans, 2014).

There are no designated State Scenic Highways in the County of Santa Cruz; however, Highway 17 is listed as an eligible State Scenic Highway.

5.5.3 Local

The City's General Plan notes Highway 17 is scenic and worthy of viewshed protection. The view heading southbound along Highway 17, just north of the project site, is designated as an "important vista" (SVGP, 1994).

5.6 Environmental Impacts and Mitigation Measures

5.6.1 Significance Criteria

The following significance criteria for aesthetics were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

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

Also given consideration are any General Plan goals, policies, or designations that are designed to reduce aesthetic impacts. Conflicts with such laws, ordinances, regulations, and standards can constitute evidence of a significant aesthetic impact. Lastly, a significant aesthetic impact could occur if the proposed project's incremental aesthetic impact would be cumulatively considerable.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

Impact Assessment Methodology

To determine impacts, the impact significance criteria identified above were applied to construction and operation of the proposed project. Impacts are identified as being either short-term or long-term in nature. They are numbered under each impact significance criterion, as are applicable mitigation measures.

An adverse aesthetic (visual) impact occurs within public view when: (1) an action perceptibly changes existing features of the physical environment so that they no longer appear to be characteristic of the subject locality or region; (2) an action introduces new features to the physical environment that are perceptibly uncharacteristic of the region and/or locale; or (3) aesthetic features of the landscape become less visible (i.e. partially or totally blocked from view) or are removed. Changes that seem uncharacteristic are those that appear out of place, discordant, or distracting. The degree of the aesthetic impact depends upon how noticeable the adverse change may be. The noticeability of an adverse aesthetic impact is a function of project features, context, and viewing conditions (e.g. angle of view, distance, primary viewing directions, and duration of view).

The specific factors considered in determining impacts on aesthetics included the following factors:

1. An understanding of the overall visual sensitivity of the proposed project site;
2. The resulting contrast of the proposed facilities or activities with existing landscape characteristics;
3. The degree to which proposed project components would dominate the view of the observer;
4. The extent to which proposed project features or activities would block views of higher value landscape features; and,
5. An understanding of the overall visual change that would occur in the landscape as a result of the proposed project.

These factors are typically used for the evaluation of utility projects. However, given the project site's location in a scenic vista as designated by the Scotts Valley General Plan, these factors were applied to this analysis to provide a conservative framework for analyzing environmental impacts. The components contributing to the assessment of overall visual change are described

below. Elevations of the proposed project are shown in [Figure 3-4: Hotel Elevations](#) and [Figure 3-10: Townhouse Typical Elevations](#).

Visual Contrast

Visual contrast concerns the degree to which a project's visual characteristics or elements (e.g. form, line, color, and texture) differ from the same visual elements in the existing landscape. The degree of contrast can range from low to high. A landscape with forms, lines, colors, and textures similar to those of the proposed project is more visually absorbent; that is, it is more capable of accepting those project characteristics than a landscape in which those elements are absent. Generally, visual absorption is inversely proportional to visual contrast. Visual contrast ranges from low to high. Contrast can also be exacerbated by visible glare off of project components.

Dominance

Dominance is a measure of the proportion of the total field of view occupied by the feature, a feature's apparent size relative to other visible landscape features, and the conspicuousness of the feature due to its location in the view.

A feature's level of dominance tends to be lower in a panoramic setting compared to a setting with confined sightlines with a focus on the feature itself. A feature's level of dominance is higher if it is near the center of the view, elevated relative to the viewer, or has the sky as a backdrop. As the distance between a viewer and a feature increases, its apparent size decreases, and consequently its dominance decreases. The level of dominance ranges from subordinate to dominant.

View Blockage

The extent to which any previously visible landscape features are blocked from view constitutes view blockage or impairment. The view is also impaired when the continuity of the view is interrupted. When considering a project's features, higher quality landscape features can be blocked by lower quality project features thus, resulting in adverse aesthetic impacts. The degree of view blockage can range from none to high.

Visual Change

Visual change is derived from the three components described above—contrast, dominance, and view blockage—and is a concluding assessment as to the degree of change that would be caused by a project. The degree of visual change can range from low to high.

5.6.2 Summary of No and/or Beneficial Impacts

The project site is not located within the viewshed of a state-designated scenic highway; therefore this threshold is not evaluated further.

5.6.3 Impacts of the Proposed Project

Impact AES-1: Substantially alter the visual character of the project site and project area, or substantially change the scenic vista along southbound Highway 17 (Class III).

KVP 1 – On/Off Access to Highway 17 from Santa’s Village Road

Contrast: *High.* The proposed project would result in removal of the berm and existing vegetation at the western edge of the project site, and replacement with a hotel and residential development. This change would present a high degree of contrast from the existing natural landscape, although it would complement the existing adjacent ETC office park development to the south.

Dominance: *High.* The proposed four-story hotel building, as well as its associated parking lot and circulation areas, would dominate the view from this location.

Blockage: *High.* The proposed four-story hotel building would block views to the north and east. The residential component of the proposed project may also block remaining views, although the townhouses’ lack of dominance would preclude a high degree of view blockage.

Visual Change: *High.* Given the proximity of KVP 1 to the project site, the visual change would be relatively high. The changes in topography, landscaping, and presence of built structures would be immediately noticeable.

KVP 2 – Northbound Highway 17

Contrast: *Moderate.* The proposed project would depart from the existing visual character, as well a contrast with the mature vegetation and hillsides to the east. Instead, the post-construction landscape would be visually compatible with the glimpses of the existing ETC office park to the south.

Dominance: *High.* The four-story hotel, fronting onto Santa’s Village Road parallel to Highway 17, would dominate the view from KVP 2. The building’s roofline would extend above the existing vegetation on the west side of Santa’s Village Road. Views of most of the residential buildings would be blocked by the hotel and be inconspicuous, although some would be visible and moderately dominant at the northern end of the project site.

Blockage: *Moderate.* The proposed project would block views of the mature riparian vegetation and hillsides to the east, although the peaks of the hillsides would still be visible. No major scenic resources would be blocked.

Visual Change: *Moderate.* The project site would be occupied by a dominant hotel in the foreground, and residential units to the north and rear of the project site from KVP 2, which would present a contrast to existing conditions. This change, however, would complement the existing adjacent ETC office park south of the project site.

KVP 3 – Southbound Highway 17

Contrast: *Moderate.* The proposed project would contrast with the existing visual character, although most of the residential units would not be visible without turning to view them perpendicularly when directly adjacent to the project site.

Dominance: *Moderate.* The four-story hotel's roofline would extend above the existing vegetation on the west side of Santa's Village Road. Due to existing vegetation in the foreground, as well as the arrangement of the uses of the proposed project, some of the residential units would not be visible from KVP 3. The City-designated "important vista" from just north of the project site, on southbound Highway 17, would not be substantially altered.

Blockage: *Low.* The proposed project would block some views of hillsides to the east and south, although such views are already limited. No major scenic resources would be blocked.

Visual Change: *Moderate.* Based on the above, visual change would be moderate. Existing vegetation, particularly between Highway 17 and the project site, as well as the short duration of the view, would not result in a significant visual change.

KVP 4 – Santa's Village Road

Contrast: *High.* The proposed project would result in a substantial change from the existing visual landscape. The structural straight lines and bulk of the proposed buildings would sharply contrast with the soft features of the existing the open field in the foreground and mature vegetation in the mid-range view.

Dominance: *High.* Given KVP 4's proximity to the project site, the proposed buildings and their associated circulation areas would substantially dominate the view from this location.

Blockage: *Moderate.* Given KVP 4's proximity to the project site, the proposed buildings would block foreground views of the lower mature vegetation on the project site's eastern perimeter, however, the upper portions of the taller trees would remain visible, as would forested background views which are at higher elevations.

Visual Change: *High.* Because KVP 4 is located in such close proximity to the project site and the entirety of the project site would be redeveloped, the visual contrast, dominance, and blockage would be high. The height and bulk of the proposed project would substantially change the view at this location.

Conclusion

Construction of the proposed project would result in moderate-to-high visual change from existing conditions. The man-made built forms of the hotel and townhouses surrounded by landscaping, however, would complement the existing ETC office park to the south, as well as

the approved Polo Ranch residential project to the north. No designated scenic resources or scenic vistas would be substantially affected, although views of some mature vegetation and hillsides would be blocked or obscured.

Therefore, although the proposed project would result in a change to the visual character of the project site, it would be in keeping with the visual character of the project area, and the impact would be Class III, less than significant.

Impact AES-2: Introduce new light and glare to the project site and project area (Class II).

Given the project site is currently vacant, the proposed uses would result in an overall increase in light and glare compared to existing conditions. Exterior project lighting would consist of wall- and pole-mounted fixtures around the perimeters of buildings and parking areas on the project site. Light from these fixtures could spill beyond the project site and result in significant light and glare impacts. Implementation of **Mitigation Measure AES-1: Photometric Plans and Lighting Control**, would reduce the impact to a less-than-significant level (Class II).

Mitigation for Impact AES-2

MM AES-1 Exterior Lighting Control Plan.

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

To minimize the adverse impact associated with light and glare, the project applicants shall submit an exterior lighting control plan for review and approval by the Community Development Director prior to issuance of a building permit for vertical construction.

The applicants shall design and install all permanent exterior lighting and all temporary construction lighting such that: (a) lamps and reflectors are not directly visible from beyond the project site, as is feasible; (b) lighting does not cause excessive reflected glare; (c) direct lighting does not illuminate the nighttime sky; (d) illumination of the project and its immediate vicinity is minimized; and (e) the lighting mitigation plan complies with all relevant local policies and ordinances.

The exterior lighting control plan shall include the following:

- A photometric study that demonstrates spillover horizontal foot-candle (fc) levels do not exceed 1.0 fc at the project site boundary adjacent to the riparian area.
- Identification of the location and direction of light fixtures that take the lighting control requirements into account;

- Lighting design that considers setbacks of project features from the site boundary to aid in satisfying the lighting control requirements;
- Lighting design that incorporates fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
- Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security;
- All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
- Lights in high illumination areas not occupied on a continuous basis shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

5.6.4 Cumulative Impact Analysis

The geographic context for the analysis of cumulative aesthetic impacts includes the project site viewshed and the visual character of its surroundings in the City of Scotts Valley. Cumulative projects considered are those that could be seen in proximity to the project site and taken together would result in a substantial change to the project site viewshed.

Impact AES-3: Contribute to cumulatively considerable aesthetic impacts (Class III).

Almost all of the past, present, and reasonably foreseeable future projects are located beyond the immediate project site vicinity. As stated in **Impact AES-1**, the approved Polo Ranch residential development is located to the east of the project site, across Carbonera Creek. Considered together, these two projects would result in a conversion from the vacant and partially natural landscape to a more man-made, built aesthetic character, which would be a moderate-to-high contrast from existing conditions, but a low contrast from the visual character of adjacent office buildings. The proposed project would be visible from Highway 17 and Santa's Village Road, but combined with other existing and approved projects would not result significant cumulative aesthetic impacts (Class III).

5.6.5 Level of Significance after Mitigation

Table 5-1: Summary of Impacts and Mitigation Measures – Aesthetics summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to aesthetics.

Table 5-1: Summary of Impacts and Mitigation Measures – Aesthetics

Impact	Impact Significance	Mitigation
Impact AES-1: Substantially alter the visual character of the project site and project area, or substantially change the scenic vista along southbound Highway 17.	Less than Significant	None required
Impact AES-2: Introduce new light and glare to the project site and project area.	Less than Significant with Mitigation	MM AES-1: Exterior Lighting Control Plan
Impact AES-3: Contribute to cumulatively considerable aesthetic impacts.	Less than Significant	None required

5.7 References

California Department of Transportation (Caltrans), 2015. State Scenic Highway Program.

Available at:

http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/faq.htm, accessed September 14, 2015.

City of Scotts Valley. 1994. General Plan.

6 Air Quality

6.1 Introduction

This section describes effects on air quality that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- Project application and related materials
- Air quality data provided by the California Air Resources Board (CARB)
- Air quality technical analysis (see [Appendix 2](#))
- State Office of Environmental Health Hazard Assessment (OEHHA)
- California Environmental Quality Act (CEQA) Air Quality Guidelines
- Monterey Bay Unified Air Pollution Control District (MBUAPCD)

6.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scope meetings were, but written comments by agencies and the public regarding the proposed project were received. The following issues related to air quality were raised during the scoping period and are addressed in this section:

- MBUAPCD recommended that the CalEEMod model be used for estimating construction and operation emissions from the proposed project.
- MBUAPCD recommended that the following design measures be incorporated into the proposed project to minimize air quality impacts:
 - Prohibition of wood-burning fireplaces or wood stoves,
 - Increasing building energy efficiency beyond Title 24 requirements,
 - Installation of solar panels, and
 - Installation of electric vehicle charging stations.

6.3 Environmental Setting

This section presents information on air quality conditions in the project site vicinity. The Regional Setting provides information on the baseline conditions in the region. The Project Setting defines the project study area and describes baseline conditions for air quality within.

6.3.1 Climate and Topography

The project site is located within the North Central Coast Air Basin (NCCAB), which includes Monterey County, San Benito County, and Santa Cruz County, composing an area of

approximately 5,159 square miles along the central California coast. MBUAPCD is responsible for local control and monitoring of criteria air pollutants throughout the NCCAB.

The climate of the Basin is determined largely by a high-pressure system that is almost always present over the eastern Pacific Ocean off the West Coast of North America. During winter, the Pacific high-pressure system shifts southward, allowing storms to pass through the region. In Santa Cruz County, coastal mountains exert strong influence on atmospheric circulation and result in generally good air quality, although small inland valleys, such as Scotts Valley, with low mountains on two sides have poorer circulation than at the coast.

Climatological conditions, an area's topography, and the quantity and type of pollutants released commonly determine ambient air quality. The project site is located in Scotts Valley and consists of vacant land adjacent to Highway 17, which is the primary artery through the Santa Cruz Mountains and a major source of mobile emissions.

Climate, or the average weather condition, affects air quality in several ways. Wind patterns can remove or add air pollutants emitted by stationary or mobile sources. Inversion, a condition where warm air traps cooler air underneath it, can hold pollutants near the ground by limiting upward mixing (dilution). Topography also affects the local climate, as valleys often trap emissions by limiting lateral dispersal.

6.3.2 Air Pollutants of Primary Concern

The State and federal Clean Air Acts mandate the control and reduction of certain air pollutants. Under these Acts, the U.S. Environmental Protection Agency (U.S. EPA) and CARB have established ambient air quality standards for certain "criteria" pollutants. Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant emissions, as well as by the climactic and topographic influences discussed above. The primary determinant of concentrations of non-reactive pollutants (such as carbon monoxide [CO] and inhalable particulate matter [PM₁₀]) is proximity to major sources. Ambient CO levels in particular usually closely follow the spatial and temporal distributions of vehicular traffic. A discussion of primary criteria pollutants is provided below.

Ozone. Ozone (O₃) is a colorless gas with a pungent odor. Most ozone in the atmosphere is formed as a result of the interaction of ultraviolet light, reactive organic gases (ROG), and oxides of nitrogen (NO_x). ROG (the organic compound fraction relevant to ozone formation, and sufficiently equivalent for the purposes of this analysis to volatile organic compounds, or VOC³) comprises of non-methane hydrocarbons (with some specific exclusions), and NO_x consists of different chemical combinations of nitrogen and oxygen, mainly NO and NO₂. A highly reactive

³ ROG is equivalent to volatile organic compounds (VOC) per MBUAPCD Rule 101, 2.32

molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO_x levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Given these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant.

Carbon Monoxide. CO is an odorless, colorless, gas. CO causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major cause of CO. CO is also produced by use of wood stoves and fireplaces, which are more frequently used in winter months. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the State CO standard are generally associated with major roadway intersections during peak hour traffic conditions.

Localized CO “hotspots” can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the National Ambient Air Quality Standards (NAAQS) of 35.0 parts per million (ppm) or the California Ambient Air Quality Standards (CAAQS) of 20.0 ppm.

Nitrogen Dioxide. Nitrogen dioxide (NO₂) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. Nitrogen dioxide is an acute irritant. A relationship between NO₂ and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 ppm may occur. Nitrogen dioxide absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM₁₀ and acid rain.

Particulate Matter. Suspended particulate matter (PM) consists of airborne dust particles small enough to remain suspended in the air for long periods. Fine particulate matter includes particles small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulate matter can include materials such as sulfates and nitrates, which are particularly damaging to the lungs. Studies of the health effects resulted in revision of the Total Suspended Particulate (TSP) standard in 1987 to focus on particulates that are small enough to be considered “inhalable,” i.e. 10 microns or less in size (PM₁₀). In July of 1997, a further revision of the federal standard added criteria for PM_{2.5}, reflecting recent studies that suggested that particulates less than 2.5 microns in diameter are of particular concern.

Sulfur Dioxide. Sulfur dioxide (SO₂) is produced by such stationary sources as coal and oil combustion, steel mills, refineries and pulp and paper mills. The major adverse health effects associated with SO₂ exposure pertain to the upper respiratory tract. SO₂ is a respiratory irritant with construction of the bronchioles occurring with inhalation of SO₂ at 5 ppm or more. On contact with the moist mucous membranes, SO₂ produces sulfurous acid, which is a direct

irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects.

Lead. Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed below, metal processing currently is the primary source of lead emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Historically, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, U.S. EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. U.S. EPA completed the ban prohibiting the use of leaded gasoline in highway vehicles in early 1996 (U.S. EPA, 1996). As a result of U.S. EPA's regulatory efforts to remove lead from gasoline, lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 in the transportation sector due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with significant reductions occurring in the metals industries at least in part as a result of national emissions standards for hazardous air pollutants (U.S. EPA, 2013).

U.S. EPA and CARB establish ambient air quality standards for major pollutants at thresholds intended to protect public health. Federal and State standards have been established for ozone, CO, NO₂, SO₂, lead, and PM₁₀ and PM_{2.5}.

Criteria air pollutant NAAQS and CAAQS are provided in [Table 6-1: Current National and State Ambient Air Quality Standards](#). California standards are more restrictive than federal standards for each of these pollutants, except for lead and the 8-hour average for CO.

Table 6-1: Current National and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone (O ₃)	1-Hour	---	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide (NO _x)	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide (SO _x)	Annual	---	---
	24-Hour	---	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
Inhalable Particulates (PM ₁₀)	Annual	---	20 µg/m ³
	24-Hour	150 µg/m ³	50 µg/m ³
Fine Particulates (PM _{2.5})	Annual	12 µg/m ³	12 µg/m ³
	24-Hour	35 µg/m ³	---
Lead (Pb)	30-Day Average	---	1.5 µg/m ³
	Rolling 3-Month Average	0.15 µg/m ³	---

ppm = parts per million;

µg/m³ = micrograms per cubic meter

Source: CARB, 2013; U.S. EPA, 2015

6.3.3 Current Ambient Air Quality

Local air districts and CARB monitor ambient air quality to ensure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. Air quality monitoring stations measure pollutant ground-level concentrations (typically, 10 feet above ground level). Depending on whether the standards are met or exceeded, the local air basin is classified as in “attainment” or “non-attainment.” Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment. [Table 6-2: Attainment Status of the North Central Coast Air Basin](#) summarizes the State and federal attainment status for criteria pollutants in the NCCAB.

Table 6-2: Attainment Status of the North Central Coast Air Basin

Pollutant	State Standard	Federal Standard
Ozone (O ₃)	Non-attainment ¹	Attainment/Unclassified ²
Inhalable Particulates (PM ₁₀)	Non-attainment	Attainment
Fine Particulates (PM _{2.5})	Attainment	Attainment/Unclassified ³
Carbon Monoxide (CO)	Attainment (Monterey County)/ Unclassified (San Benito County)	Attainment/Unclassified
Nitrogen Dioxide (NO _x)	Attainment	Attainment/Unclassified ⁴
Sulfur Dioxide (SO _x)	Attainment	Attainment ⁵
Lead (Pb)	Attainment	Attainment/Unclassified ⁶

Notes:

- (1) Effective July 26, 2007, the CARB designated the NCCAB a non-attainment area for the State ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.
- (2) On October 1, 2015, U.S. EPA adopted a new 8-hour ozone standard of 0.070 ppm. However, U.S. EPA has not yet reviewed recent NCCAB emissions to determine attainment with the current 0.070 ppm standard. Therefore, this attainment status is based upon U.S. EPA's prior 0.075 ppm standard.
- (3) In 2006, the Federal 24-hour standard for PM_{2.5} was revised from 65 to 35 µg/m³. Although final designations have yet to be made, it is expected that the NCCAB will remain designated unclassified/attainment.
- (4) In 2011, EPA indicated it plans to designate the entire State as attainment/unclassified for the 2010 NO₂ standard. Final designations have yet to be made by EPA.
- (5) In June 2011, the CARB recommended to EPA that the entire State be designated as attainment for the 2010 primary SO₂ standard. Final designations have yet to be made by EPA.
- (6) On October 15, 2008 EPA substantially strengthened the national ambient air quality standard for lead by lowering the level of the primary standard from 1.5 µg/m³ to 0.15 µg/m³. Final designations were made by EPA in November 2011.

Non-attainment pollutants are highlighted in **Bold**.

Source: CARB, 2013.

As shown in **Table 6-2: Attainment Status of the North Central Coast Air Basin**, although the NCCAB is in attainment or unclassifiable as to all NAAQs, it is designated as non-attainment with respect to the more stringent State PM₁₀ standard and the State's 8-hour ozone standard.

Ambient air quality is monitored at seven MBUAPCD-operated monitoring stations located in Salinas, Hollister, Carmel Valley, Santa Cruz, Scotts Valley, Watsonville, and Davenport. In addition, the National Park Service operates a station at the Pinnacles National Monument and an industry consortium operates a station in King City. **Table 6-3: Ambient Air Quality Data** summarizes the representative annual air quality data for the project site vicinity over the past 3 years. The nearest monitoring station to the project site is the Scotts Valley High School monitoring station (approximately 0.5 miles to the east northeast).

Table 6-3: Ambient Air Quality Data

Pollutant	2012	2013	2014
Ozone (ppm), Worst 1-Hour	0.076	0.078	0.076
Number of days of State exceedances (>0.09 ppm)	0	0	0
Ozone (ppm), 8-Hour Average	0.061	0.065	0.057
Number of days of State exceedances (>0.07 ppm)	1	0	0
Number of days of Federal exceedances (>0.08 ppm)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average	0.70	-	-
Number of days of above State or Federal standard (>9.0 ppm)	0	-	-
Particulate Matter <10 microns, $\mu\text{g}/\text{m}^3$, Worst 24 Hours	48.9	66.7	45.6
Number of days above State standard (>50 $\mu\text{g}/\text{m}^3$)	0	14.9	0
Number of days above Federal standard (>150 $\mu\text{g}/\text{m}^3$)	0	14.9	0
Particulate Matter <2.5 microns, $\mu\text{g}/\text{m}^3$, Worst 24 Hours	13.8	54.8	49.6
Number of days above Federal standard (>65 $\mu\text{g}/\text{m}^3$)	7	7	7

Source: CARB Aerometric Data Analysis and Measurement System (ADAM) Top Four Summaries from 2012 to 2014.

Given that the NCCAB is designated as non-attainment for State standards for ozone and PM_{10} , these are the primary pollutants of concern for the NCCAB. As indicated in Table 6-3: Ambient Air Quality Data, there were no federal or State ozone exceedances at the nearest NCCAB monitoring station in 2012, 2013, or 2014. The State and federal standards for PM_{10} were exceeded for approximately 15 days in 2013, and the federal standards for $\text{PM}_{2.5}$ were exceeded for 7 days in 2012, 2013, and 2014.

6.3.4 Hazardous Air Pollutants/Toxic Air Contaminants

Both U.S. EPA and CARB regulate hazardous air pollutants (HAPs)/ toxic air contaminants (TACs). According to Section 39655 of the California Health and Safety Code, a TAC is “an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health.” In addition, 189 substances that have been listed as federal hazardous air pollutants (HAPs) pursuant to Section 7412 of Title 42 of the United States Code are TACs under the State’s air toxics program pursuant to Section 39657 (b) of the California Health and Safety Code.

TACs can cause various cancers, depending on the particular chemicals, their type and duration of exposure. Additionally, some of the TACs may cause other health effects with short or long term exposure. The ten TACs posing the greatest health risk in California are acetaldehyde, benzene, 1-3 butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene,

formaldehyde, methylene chloride, perchlorethylene, and diesel particulate matter (DPM). Mobile sources of TACs include freeways and other roads with high traffic volumes, while stationary sources include distribution centers, rail yards, ports, refineries, dry cleaners, and large gas dispensing facilities. The project site is not located near any major sources of TACs. For cancer health effects, the risk is expressed as the number of chances in a population of a million people who might be expected to get cancer over a 70-year lifetime.

6.4 Regulatory Setting

This analysis has been prepared pursuant to California Environmental Quality Act of 1970 and associated Guidelines (Public Resources Code 21000 *et seq.* and California Code of Regulations, Title 14, Chapter 3 sections 15000 – 15387) and in accordance with local, State and federal laws, including those administered by MBUAPCD, CARB, and U.S. EPA. The principal air quality regulatory mechanisms include the following:

- Federal Clean Air Act (FCAA), in particular, the 1990 amendments;
- California Clean Air Act (CCAA);
- California Health and Safety Code (H&SC), in particular, Chapter 3.5 (Toxic Air Contaminants) (H&SC Section 39650 *et. seq.*) and Part 6 (Air Toxics “Hot Spots” Information and Assessment) (H&SC Section 44300 *et. seq.*).
- MBUAPCD’s Rules and Regulations and air quality planning documents:
 - Rule 400 (Visible Emissions), Rule 402 (Nuisance), Rule 425 (Use of Cutback Asphalt)
 - 2012 Triennial Plan Revision - Adopted April 2013 to update the 2008 Air Quality Management Plan
 - 2008 Air Quality Management Plan - Adopted August 2008 for achieving the 2006 California ozone standard
 - 2008 MBUAPCD California Environmental Quality Act Air Quality Guidelines most recently revised February 2008.
 - 2007 Federal Maintenance Plan - Adopted May 2007 for maintaining the 1997 federal ozone standard
 - 2005 Particulate Matter Plan - Adopted December 2005 for particulate matter made in response to Senate Bill 656.

6.4.1 Federal and State

As discussed below, the federal and State governments have been empowered by FCAA and CCAA, respectively, to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. U.S. EPA is the federal agency designated to administer air quality regulation, while CARB is the State equivalent in California. Local control in air quality management is provided by CARB through county-level or regional

(multi-county) air pollution control districts (APCDs). CARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 14 air basins statewide.

Federal Clean Air Act

U.S. EPA is charged with implementing national air quality programs. U.S. EPA's air quality mandates are drawn primarily from the FCAA. The FCAA was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 FCAA amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including non-attainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration program. The 1990 FCAA amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the U.S. The FCAA allows states to adopt more stringent standards or to include other pollution species.

National Ambient Air Quality Standards

The FCAA requires U.S. EPA to establish primary and secondary NAAQS for a number of criteria air pollutants. The air pollutants for which standards have been established are considered the most prevalent air pollutants that are known to be hazardous to human health. NAAQS have been established for the following pollutants: O₃, CO, SO₂, PM₁₀, PM_{2.5}, and Pb.

Title III of the Federal Clean Air Act

As discussed above, HAPs are the air contaminants identified by U.S. EPA as known or suspected to cause cancer, other serious illnesses, birth defects, or death. The FCAA requires U.S. EPA to set standards for these pollutants and reduce emissions of controlled chemicals. Specifically, Title III of the FCAA requires U.S. EPA to promulgate National Emissions Standards for Hazardous Air Pollutants (NESHAP) for certain categories of sources that emit one or more pollutants that are identified as HAPs. The FCAA also requires U.S. EPA to set standards to control emissions of HAPs through mobile source control programs. These include programs that reformulated gasoline, national low emissions vehicle standards, Tier 2 motor vehicle emission standards, gasoline sulfur control requirements, and heavy-duty engine standards.

HAPs tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods. Many HAPs originate from human activities, such as fuel combustion and solvent use. Emission standards may differ between "major sources" and "area sources" of the HAPs/TACs. Under the FCAA, major sources are defined as stationary sources with the potential to emit more than 10 tons per year (tpy) of any one HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources. Mobile source air toxics (MSATs) are a subset of the 188 HAPs. Of the 21 HAPs identified by U.S. EPA as MSATs, a priority list of six HAPs were identified that include: diesel exhaust, benzene, formaldehyde,

acetaldehyde, acrolein, and 1, 3-butadiene. While vehicle miles traveled in the United States are expected to increase by 64 percent over the period 2000 to 2020, emissions of MSATs are anticipated to decrease substantially as a result of efforts to control mobile source emissions (by 57 percent to 67 percent depending on the contaminant).⁴

California Clean Air Act

The CCAA, signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. CARB is the State air pollution control agency and is a part of the California Environmental Protection Agency (Cal EPA). CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California, and for implementing the requirements of the CCAA. CARB oversees local district compliance with California and federal laws, approves local air quality plans, submits the State Implementation Plans (SIPs) to U.S. EPA, monitors air quality, determines and updates area designations and maps, and sets emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

California Ambient Air Quality Standards

The CCAA requires CARB to establish CAAQS. Similar to the NAAQS, CAAQS have been established for the following pollutants: O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, Pb, vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates. In most cases, the CAAQS are more stringent than the NAAQS. The CCAA requires that all local air districts in the State endeavor to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs⁵ in California primarily are regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (Hot Spots Act). As discussed above, HAPs/TACs are a broad class of compounds known to cause morbidity or mortality (cancer risk). HAPs/TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g. dry cleaners). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State and federal level.

AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research,

⁴ Federal Highway Administration, 2006. *Interim Guidance on Air Toxic Analysis in NEPA Documents*.

⁵ TACs are referred to as HAPs under the FCAA.

public participation, and scientific peer review are necessary before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted the U.S. EPA's list of HAPs as TACs. In 1998, DPM was added to CARB's list of TACs. Once a TAC is identified, CARB adopts an Airborne Toxic Control Measure for sources that emit that particular TAC. If a safe threshold exists at which no toxic effect occurs from a substance, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

The Hot Spots Act requires for existing facilities that emit toxic substances above a specified level to prepare a toxic emissions inventory and a risk assessment if the emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

Diesel Exhaust and Diesel Particulate Matter

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This mixture makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB, and are listed as carcinogens either under State Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB reports that recent air pollution studies have shown an association between diesel exhaust and other cancer-causing toxic air contaminants emitted from vehicles and much of the overall cancer risk from TACs in California. DPM was found to compose much of that risk. CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium- and heavy-duty diesel trucks that generate the bulk of DPM emissions from California highways. These include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets regulations, and the heavy-duty diesel truck and bus regulations. In 2011, CARB approved the latest regulation to reduce emissions of DPM and NO_x from existing on-road heavy-duty diesel fueled vehicles.⁶ The regulation requires affected vehicles to meet specific performance requirements between 2012 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or the equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle. With implementation of CARB's Risk Reduction Plan, DPM concentrations are expected to be reduced by 85 percent in 2020 from the estimated year-2000 level.⁷ As emissions are reduced, risks associated with exposure to emissions also are

6 Title 13, Section 2205. <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel>. Website accessed in July 2014.

7 CARB. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

expected to be reduced.

CARB Air Quality and Land Use Handbook

In April 2005, CARB released the final version of its *Air Quality and Land Use Handbook: A Community Health Perspective*. This guidance document is intended to encourage local land use agencies to consider the risks from air pollution before they approve the siting of sensitive land uses (e.g. residences) near sources of air pollution, particularly TACs (e.g. freeway and high traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations and industrial facilities). These advisory recommendations include general setbacks or buffers from air pollution sources. However, unlike industrial or stationary sources of air pollution, the siting of new sensitive land use does not require air quality permits or approval by air districts, and as noted above, the CARB handbook provides guidance only rather than binding regulations.

CAPCOA Health Risk Assessments for Proposed Land Use Projects

The California Air Pollution Control Officer's Association (CAPCOA), which is a consortium of air district managers throughout California, provides guidance material to addressing air quality issues in the State. As a follow up to CARB's 2005 *Air Quality and Land Use Handbook*, CAPCOA prepared the *Health Risk Assessments for Proposed Land Use Projects*.⁸ CAPCOA released this guidance document to ensure that the health risk of projects be identified, assessed, and avoided or mitigated, if feasible, through the CEQA process. The CAPCOA guidance document provides recommended methodologies for evaluating health risk impacts for development projects.

6.4.2 Regional

MBUAPCD regulates air quality in NCCAB, and is responsible for attainment planning related to criteria air pollutants, as well as for district rule development and enforcement. The district also reviews air quality analyses prepared for CEQA assessments, and published the *CEQA Air Quality Guidelines* document (last revised February 2008) for use in evaluation of air quality impacts. The purpose of these guidelines is to assist in the review and evaluation of air quality impacts from projects that are subject to CEQA. These guidelines are an advisory document intended to provide lead agencies, consultants, and project applicants with uniform procedures for assessing air quality impacts and preparing the air quality section of environmental documents. These guidelines are also intended to help these entities anticipate areas of concern from MBUAPCD in its role as a CEQA lead, commenting and/or responsible agency for air quality.

8 CAPCOA. 2009. Health Risk Assessments for Proposed Land Use Projects.

Air Quality Management Plan

In accordance with the California Clean Air Act, MBUAPCD has developed the *2008 Air Quality Management Plan for the Monterey Bay Region* (2008 AQMP). The 2008 AQMP is a transitional plan shifting focus of MBUAPCD's efforts from achieving the 1- hour component of the CAAQS for ozone to achieving the 8-hour requirement CAAQS for ozone. The plan includes an updated air quality trends analysis, which reflects both the 1- and 8-hour standards, as well as an updated emission inventory, which includes the latest information on stationary, area and mobile emission sources.

In April 2013, MBUAPCD adopted the *2012 Triennial Plan Revision* (2012 AQMP Revision), which assesses and updates elements of the 2008 AQMP, including the air quality trends analysis, emission inventory, and mobile source programs. The 2012 AQMP Revision only addresses attainment of the State ozone standard. In 2012, U.S. EPA designated the NCCAB as in attainment of the current 8-hour NAAQS for ozone of 0.075 ppm.⁹

The following MBUAPCD rules would limit emissions of air pollutants from construction and operation of the proposed project:

- *Rule 400 (Visible Emissions)* – Discharge of visible air pollutant emissions into the atmosphere from any emission source for a period or periods aggregating more than 3 minutes in any 1 hour, as observed using an appropriate test method, is prohibited.
- *Rule 402 (Nuisances)* - No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property.
- *Rule 425 (Use of Cutback Asphalt)* – The use of cutback asphalt (asphalt cement that has been blended with petroleum solvents) is restricted.
- *Rule 426 (Architectural Coatings)* – This rule limits the emissions of ROG's from the use of architectural coatings.

⁹ On October 1, 2015, U.S. EPA adopted a new 8-hour ozone standard of 0.070 ppm. However, U.S. EPA has not yet reviewed recent NCCAB emissions to determine attainment with the current 0.070 ppm standard. Therefore, this attainment status is based upon U.S. EPA's prior 0.075 ppm standard.

6.4.3 Local

City of Scotts Valley General Plan

Project relevant general plan policies for air quality are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

6.5 Environmental Impacts and Mitigation Measures

6.5.1 Significance Criteria

The following significance criteria for air quality were derived from MBUAPCD's 2008 CEQA Air Quality Guidelines (MBUAPCD, 2008) and are summarized in [Table 6-4: MBUAPCD Significance Thresholds for Construction and Operational Emissions](#).

Short-term construction emission thresholds, as stated in MBUAPCD's 2008 *CEQA Air Quality Guidelines*, involve identifying the level of construction activity that could result in significant temporary impacts if not mitigated. Construction activities (e.g., excavation, grading, on-site vehicle movements) that directly exceed MBUAPCD criterion for PM₁₀ would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors (MBUAPCD, 2008). Regarding ozone, construction projects using typical equipment that temporarily emits ozone precursors are accommodated in the emission inventories of State and federally required air quality management plans and would not have a significant impact on ozone concentrations (MBUAPCD, 2008).

If construction-related activities exceed the PM₁₀ threshold of 82 pounds per day, the project would be characterized as contributing substantially to existing violations of CAAQS for PM₁₀.

In addition to the tabulated thresholds, a project may also have significant adverse impacts on air quality if the project individually or cumulatively results in any of the following:

- Exceedance of a CAAQS or NAAQS for any criteria pollutant (as determined by modeling).
- Exposure of sensitive receptors to substantial pollutant concentrations of toxic air contaminants.
- Exposure of a substantial number of people to objectionable odors.
- Inconsistency with applicable MBUAPCD air quality management plans, policies, or regulations.

Table 6-4: MBUAPCD Significance Thresholds for Construction and Operational Emissions

Pollutant of Concern	Daily Threshold	Comments
Construction		
Fugitive Particulate Matter (PM ₁₀)	82 lbs.	Examples: 1) Construction site with minimal earthmoving exceeding 8.1 acres per day, 2) Construction site with earthmoving (grading, excavation) exceeding 2.2 acres per day.
Operational		
Ozone Precursors (NO _x as NO ₂)	137 lbs./day (direct + indirect)	
Fugitive Particulate Matter (PM ₁₀), Dust	82 lbs./day (on-site) AAQS exceeded along unpaved roads (off-site)	The District's 82 lb./day operational phase threshold of significance applies only to on-site emissions and project-related exceedances along unpaved roads. These impacts are generally less than significant. On large development projects, almost all travel is on paved roads (0% unpaved), and entrained road dust from vehicular travel can exceed the significance threshold. District approved dispersion modeling can be used to refute (or validate) a determination of significance if modeling shows that emissions would not cause or substantially contribute to an exceedance of State and national AAQS.
CO	LOS at intersection/road segment degrades from D or better to E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more.	Modeling should be undertaken to determine if the project would cause or substantially contribute (550 lbs./day) to exceedance of CO AAQS. If not, the project would not have a significant impact;
SO _x or SO ₂	150 lbs./day (direct)	

Source: MBUAPCD, 2008.

The criteria for assessing cumulative impacts on localized air quality (i.e. the cumulative impacts of CO and PM₁₀) are identical to those for individual project operation. The criteria for determine a project's cumulative impact on regional ozone levels depends on consistency with the applicable AQMP. Consistency with the AQMP does not mean that a project will not have a significant project-specific adverse air quality impact. However, inconsistency with the AQMP is considered a significant cumulative adverse air quality impact. The Association of Monterey Bay Area Governments also provides consistency determinations for population-related projects.

MBUAPCD guidelines state that odor impacts would be significant if the project would result in the emission of substantial concentrations of pollutants that produce objectionable odors,

causing injury, nuisance, or annoyance to a considerable number of persons, or endangering the comfort, health, or safety of the public. If construction or operation of the project would emit pollutants associated with odors in substantial amounts, the analysis should assess the impact on existing or reasonably foreseeable sensitive receptors.

A project would conflict with or obstruct implementation of the 2008 MBUAPCD AQMP and 2012 *Triennial Plan Revision* (2012 AQMP Revision) if it is inconsistent with the plan's growth assumptions, in terms of population, employment, or regional growth in VMT. These population forecasts were developed, in part, using data obtained from local jurisdictions regarding projected land uses and population projections identified in community plans. Projects that result in an increase in population that is inconsistent with local community plans would be considered inconsistent with MBUAPCD's AQMP.

Significance Classifications

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

Impact Assessment Methodology

The analysis of air quality impacts conforms to the methodologies recommended in the MBUAPCD's *CEQA Air Quality Guidelines*. The handbook includes thresholds for emissions associated with both construction and operation of proposed projects.

Construction Emissions

The regional construction emissions associated with the proposed project were calculated using the most recent version of CalEEMod with default inputs for the type and size of proposed land uses, including the types and number of pieces of equipment that would be used on-site during each construction phase and off-site vehicle trips that would result from construction activities on the project site. CalEEMod is a computer model developed by the South Coast Air Quality Management District to estimate air pollutant and greenhouse gas (GHG) emissions from land use development projects, and is based on parameters that include the duration of construction activity, area of disturbance, and anticipated equipment used during construction.

The construction activities associated with residential development pursuant to the proposed project would generate diesel emissions and dust. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. It is assumed that this type of equipment would be used during both grading/demolition and construction. It is also assumed that all of the construction equipment used would be diesel-powered.

Complete results from CalEEMod and assumptions can be viewed in [Appendix 2: Air Quality Technical Analysis](#).

Operational Emissions

Operational emissions associated with on-site development were also estimated using CalEEMod. Operational emissions would comprise mobile source emissions, emissions associated with energy consumption, and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project site associated with operation of a project. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating and cooling. Area source emissions are generated by, for example, landscape maintenance equipment, consumer products, and architectural coatings.

Toxic Air Contaminants

MBUAPCD provides guidance for evaluating impacts from TACs in its *CEQA Air Quality Guidelines* document. As noted therein, construction equipment or processes could result in significant impacts if emissions at any sensitive receptor would exceed the threshold that is based on the best available data or may result in a cancer risk greater than one incident per 100,000 population. CARB recommends evaluating impacts to sensitive receptors within 1,000 feet of a project site (CARB, 2005). Operational equipment or processes would not result in significant air quality impacts if they would comply with MBUAPCD Rule 1000, which applies to any source that requires a permit to construct or operate pursuant to District Regulation II and has the potential to emit carcinogenic or non-carcinogenic TACs. The rule also requires sources of carcinogenic TACs to install best available control technology and reduce cancer risk to less than one incident per 100,000 population.

Consistent with MBUAPCD recommendations, human health risks from TACs are analyzed based on the presence of mobile equipment that would generate DPM during construction and operation of the proposed project, as well as on the proximity of the nearest sensitive receptors that could be exposed to such.

CO Hotspots. Based on MBUAPCD *CEQA Air Quality Guidelines*, a significant CO hotspot impact may occur at:

- Intersections or road segments that operate at LOS D or better that would operate at LOS E or F with project-generated traffic, or

- Intersections that operate at LOS E or F where delay would increase by 10 seconds or more with project-generated traffic.

Where intersections may operate under conditions that could result in a CO hotspot, a significant impact would occur where existing or reasonably foreseeable sensitive receptors would be exposed to the CO hotspot.

6.5.2 Summary of No and/or Beneficial Impacts

Exposure to Toxic Air Contaminants (TACs)

No major existing stationary or area sources of TACs were identified in the project site vicinity. The proposed project would include a select-service, extended-stay hotel and 50 townhouses. Neither of the proposed uses are considered TAC source of potential concern. As a result, the proposed project would not result in increased exposure of sensitive land uses to localized concentrations of TACs that would exceed MBUAPCD's recommended significance thresholds, and therefore there would be no impact.

Exposure to Odorous Emissions

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause physical harm, they can still be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to violate the MBUAPCD standards.

MBUAPCD enforces permit and nuisance rules to control odorous emissions from stationary sources. For instance, MBUAPCD Rule 402 (Nuisances) prohibits the discharge of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable numbers of persons. Given these regulations, and the fact that there are no odorous emissions existing or proposed on or near the project site, there would be no impact.

6.5.3 Impacts of the Proposed Project

Construction Impacts

Impact AQ-1: Construction activities would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants (Class II).

Emissions produced during grading and construction activities are "short-term" because they would cease following completion of the initial development. Construction emissions would include the generation of fugitive dust, on-site generation of construction equipment exhaust emissions, and the off-site generation of mobile source emissions related to construction traffic.

The proposed project would require grading of the entire project site over a period of approximately 40 days. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill operations, demolition, and truck travel on unpaved roadways. Dust emissions also vary substantially from day to day, depending on the level of activity, the specific operations, and weather conditions. Fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project site vicinity.

Fugitive dust from grading and construction is expected to be short-term and would cease following completion of the initial development. Additionally, most of this material is inert silicates and is less harmful to health than the complex organic particulates released from combustion sources. Dust (larger than ten microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM₁₀ generated as a part of fugitive dust emissions.

Particulate Matter

MBUAPCD CEQA Guidelines state that construction activities (e.g. excavation, grading, on-site vehicles), which emit 82 pounds per day or more of PM₁₀, would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors. Based on this emission threshold, construction activity occurring on more than 2.2 acres per day may result in significant PM₁₀ emissions. The Basin is currently in non-attainment of the State PM₁₀ standard. The Basin designation of non-attainment is based on exceedances measured at the Davenport, Moss Landing, Salinas, and King City monitoring stations.

As shown in Table 6-5: Project Daily and Annual Construction Emissions, un-mitigated construction emissions associated with the proposed project would not exceed the 82 lb./day threshold of significance for PM₁₀ during the mass grading phase of construction activities.

Table 6-5: Project Daily and Annual Construction Emissions

Emissions Source	Pollutant							CO ₂
	ROG	NO _x	CO	SO ₂	PM ₁₀			
					Dust	Exhaust	Total	
Construction (pound/day)	25.396	58.924	52.851	0.077	3.512	3.578	7.089	3,319.386
Construction (tons/year)	3.8475	8.927	8.007	0.0117	0.532	0.542	1.074	502.887

Source: CalEEMod v. 2013.2.2 and Kimley-Horn and Associates, 2015.

Given the proximity of sensitive receptors to the project site, implementation of the following mitigation measures would further ensure impacts would be reduced to a less-than-significant level for all construction activities on the project site.

Mitigation for Impact AQ-1

MM AQ-1.1 Reduce fugitive dust.

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

The applicant shall implement the following measures to minimize nuisance impacts and to significantly reduce fugitive dust emissions, which shall be shown on the grading and building plans:

- Limit grading to 8.1 acres per day, and grading and excavation to 2.2 acres per day.
- Water graded/excavated areas and active unpaved roadways, unpaved staging areas, and unpaved parking areas at least twice daily or apply non-toxic chemical soil stabilization materials per manufacturer's recommendations. Frequency should be based on the type of operations, soil and wind exposure.
- Prohibit all grading activities during periods of high wind (more than 15 mph).
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Stabilize all disturbed soil areas not subject to using approved chemical soil binders, jute netting, or gravel for temporary roads and any other methods approved in advance by the APCD.
- Sow exposed ground areas that are planned to be reworked at dates greater than one month after initial grading with a fast germinating, non-invasive grass seed, and water until vegetation is established.
- Plant vegetative ground cover in disturbed areas as soon as possible.
- Use street sweepers, water trucks, or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the project site. Reclaimed (non-potable) water should be used whenever possible;
- Spray dirt stock pile areas daily as needed.
- Place gravel on all roadways and driveways as soon as possible after grading. In addition, construct building pads as soon as possible after

grading unless seeding, soil binders, or frequent water application are used.

- Not exceed a 15 mph vehicle speed for all construction vehicles on any unpaved surface at the construction site.
- Cover or maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer) on all trucks hauling dirt, sand, soil, or other loose materials in accordance with California Vehicle Code Section 23114.
- Limit unpaved road travel to the extent possible, for example, by limiting the travel to and from unpaved areas, by coordinating movement between work areas rather than to central staging areas, and by busing workers where feasible.
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the project site, and inspect vehicle tires to ensure free of soil prior to carry-out to paved roadways.
- Sweep streets at the end of each day, or as needed, if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible.

MM AQ-1.2 Designate a dust compliance monitor.

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

The applicant shall require the contractor(s) or builder(s) to designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust off-site. Their duties shall include monitoring during holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the MBUAPCD Compliance Division prior to the start of any grading, earthwork, or demolition. The applicant shall provide and post a publicly visible sign that specifies the telephone number and name to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBUAPCD shall also be visible to ensure compliance with Rule 402 (Nuisance).

Operational Impacts

Impact AQ-2: Long-term operation would generate dust and exhaust emissions of criteria pollutants (Class III).

The proposed project would result in long-term operational stationary and vehicular emissions.

Stationary Source Emissions

Stationary source emissions would be generated due to an increased demand for electrical energy for the proposed project's residential uses. Energy is generated from power plants utilizing fossil fuels. Electric power generating plants are distributed throughout the Basin and beyond, and their emissions contribute to the total pollutant burden across air basins. The primary use of natural gas within the proposed project would be for combustion to produce space heating, water heating and other miscellaneous heating or air conditioning, typical of a residential subdivision.

Mobile and Area Source Emissions

Area Source Emissions

Area source emissions are generally a function of land use (e.g. number of single-family residential units and hotel rooms), activity (e.g. fuel use per residential unit), and emission factor (e.g. mass of pollutant emitted per fuel usage). These include the following:

- Natural gas fuel combustion. This source includes natural gas combustion for water and space heating, in residential and non-residential buildings.
- Hearth fuel combustion. This source includes wood stoves, wood fireplaces, and natural gas-fired stoves.
- Landscape fuel combustion. This source includes exhaust and evaporative emissions from landscaping equipment, including lawnmowers, rototillers, shredders/grinders, trimmers, chain saws, and hedge trimmers, used in residential and commercial applications.
- Consumer products. This source category comprises a wide range of products, including air fresheners, automotive products, household cleaners, and personal care products.
- Architectural coatings. This source includes ROG (similar to VOCs) emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings, from residential and nonresidential structures.

Mobile Source Emissions

Mobile source emissions may include, but would not be limited to, the following: running exhaust emissions of ROG, CO, carbon dioxide (CO₂), NO_x, and PM₁₀ (through combustion, tire wear, and brake wear).

The amount of mobile source emissions that would be associated with the proposed project is based on land use designations (e.g. number of single-family residential units; square footage of various educational, recreational, retail, commercial, and industrial uses), trip rates (i.e. the number of vehicle trips per day per land use unit), assumptions regarding the vehicle fleet (e.g. analysis year, vehicle type and technology class), trip lengths (i.e. miles traveled per trip), and pollutant emission factors (i.e. mass of pollutant emitted per mile traveled).

According to the traffic impact analysis prepared for the proposed project, the project would result in a net total of 1,341 trips per weekday.

The operational emissions, which would include both area and mobile emissions resulting from the proposed project, were analyzed using CalEEMod and are presented in Table 6-6: Project Buildout Operational Emissions–Un-mitigated. Emissions would not exceed the MBUAPCD significance thresholds, and the impact would be less than significant (Class III).

Table 6-6: Project Buildout Operational Emissions – Un-Mitigated

Emission Source	Pollutants (pounds/day)				
	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO _x)	Carbon Monoxide (CO)	Particulate Matter (<10 microns [PM ₁₀])	Sulfur Dioxide (SO _x)
Area	7.70	0.03	3.13	0.16	0.00
Energy	0.13	1.18	0.87	0.09	0.01
Mobile	5.32	12.54	56.75	5.86	0.09
Total	13.13	13.76	60.74	6.11	0.10
MBUAPCD Threshold	137	137	550 ¹	82	150
Are Thresholds Exceeded?	No	No	No	No	No
Notes: Area source emissions include natural gas fuel combustion, landscape fuel combustion, consumer products, architectural coatings, and hearth fuel combustion (i.e., wood stoves, wood fireplaces, natural gas fireplace/stoves). (1) Applies to Area Source (Direct) emissions of Carbon Monoxide only.					

Source: CalEEMod v. 2013.2.2 and Kimley-Horn and Associates, 2015.

Impact AQ-3: Increase carbon monoxide concentrations above State and federal standards (Class III).

Local air quality is a major concern along roadways. CO is a primary pollutant, and unlike ozone, is directly emitted from a variety of sources. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of its impacts upon the local air quality. Areas of vehicle congestion have the potential to create “pockets” of CO called “hot spots.” These pockets have the potential to exceed the 1-hour CAAQS of 20 parts per million (ppm) and/or the 8-hour CAAQS of 9 ppm.

To identify CO hotspots, MBUAPCD criterion recommends performing a CO hotspot analysis when

- Intersections or road segments that operate at LOS D or better that would operate at LOS E or F with the project's traffic,
- Intersections or road segments that operate at LOS E or F where the volume-to-capacity (V/C) ratio would increase 0.05 or more with the project's traffic,
- Intersections that operate at LOS E or F where delay would increase by 10 seconds or more with the project's traffic,
- Unsignalized intersections which operate at LOS E or F where the reserve capacity would decrease by 50 or more with the project's traffic. This criterion is based on the turning movement with the worst reserve capacity, or
- The project would generate substantial heavy duty truck traffic or generate substantial traffic along urban street canyons or near a major stationary source of CO.

As further described in [Chapter 15: Transportation and Circulation](#), implementation of the proposed project would not result in an intersection LOS change from LOS D to LOS E or LOS F. At the intersection operating at LOS E or worse under existing conditions (Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps), the project would cause the V/C ratio to increase by more than 0.05 for two movements (eastbound through and westbound through). The V/C ratio for all other movements, however, would not increase by more than 0.05, and the overall intersection capacity utilization (ICU) would remain unchanged from existing conditions. In addition, intersection delay would increase by less than 1 second. Therefore impacts related to carbon monoxide would be less than significant (Class III).

6.5.4 Cumulative Impact Analysis

The geographical area for cumulative air emission impacts is the North Central Coast Air Basin, which includes Santa Cruz County.

Impact AQ-4: Contribute to cumulatively considerable air quality impacts (Class II).

MBUAPCD updated the regional *Air Quality Management Plan* in 2008, with further amendments in the 2012 *Triennial Plan Revision*. The plan includes current air quality data, revises the emission inventory and emission forecasts, proves an analysis of emission reductions needed to meet and maintain State ozone standards, and includes adoption of five stationary source controls to achieve emission reductions. In developing the emission forecasts, the Plan accounts for population growth for cities and counties located within the Basin.

The proposed project and cumulative projects would comply with MBUAPCD rules and requirements, and implement all feasible mitigation measures. Adherence to MBUAPCD rules and regulations would alleviate impacts related to cumulative conditions. According to [Table 6-6: Project Buildout Operational Emissions—Un-Mitigated](#), the proposed project would not

exceed the MBUAPCD thresholds of significance for regional criteria pollutants. Therefore, cumulative operational impacts associated with the operation of the proposed project would be less than significant.

Additionally, the traffic study included vehicular trips from present and future projects in the project site vicinity. Therefore, CO hot spot concentrations calculated at these intersections include the cumulative traffic effect. No significant cumulative CO impacts would occur.

With mitigation identified for the proposed project and compliance with MBUAPCD rules and requirements, the cumulative impacts of the proposed project would not be significant (Class II).

6.5.5 Level of Significance after Mitigation

Table 6-7: Summary of Impacts and Mitigation Measures – Air Quality summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to air quality.

Table 6-7: Summary of Impacts and Mitigation Measures – Air Quality

Impact	Impact Significance	Mitigation
Impact AQ-1: Construction activities would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants.	Less than Significant with Mitigation	MM AQ-1.1 Reduce fugitive dust MM AQ-1.2 Designate a dust compliance monitor
Impact AQ-2: Long-term operation would generate dust and exhaust emissions of criteria pollutants.	Less than Significant	None required
Impact AQ-3: Increase carbon monoxide concentrations above State and federal standards.	Less than Significant	None required
Impact AQ-4: Contribute to cumulatively considerable air quality impacts.	Less than Significant with Mitigation	MM AQ-1.1 Reduce fugitive dust MM AQ-1.2 Designate a dust compliance monitor

6.6 References

California Air Resources Board (CARB). 2010a. Current Air Quality Standards.

<http://www.arb.ca.gov/html/ds.htm>

_____. 2010b. iADAM Air Quality Data Statistics. <http://www.arb.ca.gov/adam/>

_____. 2007. Resolution 07-19 (July 19) regarding CCR Title 13, Article 4.8, Chapter 9, Section 2449: <http://info.sen.ca.gov>

United States Environmental Protection Agency (U.S. EPA). 1996. Press Release: EPA Takes Final Step in Phaseout of Leaded Gasoline. Available online: <http://www2.epa.gov/aboutepa/epa-takes-final-step-phaseout-leaded-gasoline>. January 29.

United States Environmental Protection Agency (U.S. EPA). 2013. Policy Assessment for the Review of the Lead National Ambient Air Quality Standards. Available at: <http://yosemite.epa.gov/sab/sabproduct.nsf/46963ceebabd621905256cae0053d5c6/ab1476f97f51b242852578b90065bb04!OpenDocument>

United States Environmental Protection Agency (U.S. EPA). 2015. 40 CFR Parts 50, 51, 52, 53 and 58. RIN 2060-AP38. National Ambient Air Quality Standards for Ozone. Available online: <http://www3.epa.gov/airquality/ozonepollution/pdfs/20151001fr.pdf>. October 1.

7 Biological Resources

7.1 Introduction

This section describes effects on biological resources that would be caused by implementation of the proposed project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from project construction and operation. In addition, existing laws and regulations relevant to biological resources are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with implementation of the proposed project.

This section references the following technical reports that were prepared for the proposed project:

- Johnson Marigot Consulting, LLC (JMC). 2014. *Site Assessment Report: Scotts Valley Hotel*. December 29. (Appendix 3A)
- H.T. Harvey & Associates. 2015a. Scotts Valley Project—*California Red-Legged Frog Survey Report*. August 3. (Appendix 3B)
- H.T. Harvey & Associates. 2015b. *Scotts Valley and Townhouses Rare Plant Survey and Federally Endangered Insect Habitat Assessment Report*. 2015. September. (Appendix 3C)
- Rincon Consultants, Inc. 2015. Jurisdictional Waters Evaluation Technical Memorandum for the Scotts Valley 2 Project, Scotts Valley, Santa Cruz County, California. September 14. (Appendix 3D)
- Monarch Consulting Arborists LLC. 2015. *Tree Inventory, Assessment, and Protection*. 100 Enterprise Way, Scotts Valley, CA 95063. October 30. (Appendix C5)

7.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments were received by agencies and the public regarding the proposed project. The following issues related to biological resources were raised during the scoping period and are addressed in this section:

- Require guards on the tops and sides of light fixtures to shield habitats along Carbonera Creek from night lighting, and
- Maintain wildlife connectivity.

7.3 Environmental Setting

This section presents information on biological resources conditions in the project site vicinity. The current condition and quality of biological resources was used as the baseline against which to compare impacts of the proposed project.

7.3.1 Regional Setting

Scotts Valley is located in the Santa Cruz Mountains, on the western side of the range, where the marine influence is strong. Summer fog is frequent, and the location receives relatively high annual precipitation compared with regions farther inland.

The project site is located in the Carbonera Creek watershed, where the average annual participation in the vicinity is 33 to 57 inches per year, primarily occurring between November and April. The creek is a 10.2-mile intermittent stream with reduced flows during the summer months. Approximately 600 feet of the creek borders the project site boundary. The project site is generally flat, with a berm on the northern edge, and the project site slopes southward toward the creek. As stated in [Chapter 9: Geology & Soils](#), the project site is approximately 690 feet above mean sea level (AMSL) in the northeastern portion, and 650 feet AMSL at the southwestern portion (JMC, 2014).

Vegetation in Scotts Valley is typical of that found in a mountain/alluvial environment. Corridors of riparian vegetation are immediately adjacent to watercourses in the valley floors, and hillsides support redwood stands (JMC, 2014).

7.3.2 Baseline Data Collection

Literature Search and Review of Existing Data

The assessment of biological resources for the proposed project began with a review of all available documents and species and habitat data provided by the applicant, U.S. Fish and Wildlife Service (USFWS), California Department of Fish & Wildlife (CDFW), and other agencies. Biological resource data sources included, but were not limited to, the following:

- CDFW California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) Inventory to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the project site.
- Aerial photographs, Geographic Information Systems (GIS) data, United States Geological Survey (USGS) topographic maps.
- Previously prepared reports and regional planning documents (general plan policies, Habitat Conservation Plans [HCPs], Environmental Impact Reports [EIRs], and published scientific literature).
- The applicant's technical reports and data (including vegetation mapping and special-status species locations and survey data).

7.3.3 Vegetation Communities

Literature Search

Based on review of the CNDDDB, a total of nine federally and/or state-protected plant species were documented to occur within an approximately 5-mile radius of the project site (JMC, 2014). Of those species, four are known to occur or may occur within the vicinity of the project site, based upon habitats and microhabitats, soil conditions, and the CNDDDB and CNPS Inventory (JMC, 2014; H.T. Harvey, 2015b). The special-status identified are:

- Federally and State endangered Scotts Valley polygonum (*Polygonum hickmanii*), for which Critical Habitat has been designated immediately to the east of Carbonera Creek, adjacent to the project site,
- Federally and State endangered Santa Cruz wallflower (*Erysimum teretifolium*),
- Federally endangered Scotts Valley spineflower (*Chorizanthe robusta* var. *robusta*), and
- State endangered San Francisco popcorn flower (*Plagiobothrys diffusus*) (H.T. Harvey, 2015b).

Botanical Surveys

A preliminary site visit was undertaken in December 2014. The entire project site was walked and observations were made about site conditions. Notes were taken listing observed plant communities and the presence of aquatic features (JMC, 2014).

A qualified plant ecologist conducted a full floristic survey of the project site on several dates from March 2015 through July 2015. The surveys were conducted in accordance with CDFW protocols to determine whether any of the encountered plants were special-status species (H.T. Harvey, 2015b).

A certified arborist conducted a tree survey in October 2015. The survey includes those trees within the project site boundary. A total of 65 trees were surveyed. Only trees with a trunk diameter 8 inches or greater 54 inches above the ground were included in the survey.

Fifty-four of the trees—primarily coast redwoods—were described as being in either good or fair condition. Eleven of the trees surveyed were described as being in poor condition, or dead, due to significant structural defects that cannot be ameliorated. The survey did not identify “heritage” trees, which are those trees designated by the City Council as being of outstanding value for their age, size, aesthetics, history, uniqueness, tradition, or location. The City’s Heritage Tree Inventory indicates that groves of redwoods, Bay laurels, and oak trees in the area of Santa’s Village Road have been designated as heritage trees.

Biotic Habitats

Historic aerial photographs of the site reveal that virtually the entire project site was substantially disturbed by earth-moving activities prior to 1991. Sheep fescue (*Festuca ovina*)

turf grass was installed throughout the majority of the project site between 1991 and 2003. This grass was repeatedly flooded during the rainy winters of the late 1990s, but maintenance was abandoned during the late 2000s. By 2009, disking and grading activity were undertaken. Currently, the project site comprises non-native annual grassland habitat, and riparian woodland is present near Carbonera Creek. (See [Figure 7-1: Riparian Habitat and Trees](#)). An access road, paved walkway, and ornamental landscape/trees are present on the project site, as well (City of Scotts Valley, 1994; H.T. Harvey, 2015b).

Special-Status Plant Species

None of the four special-status plant species identified above were found on the project site. Scotts Valley polygonum, Scotts Valley spineflower, San Francisco popcorn flower, and Santa Cruz wallflower were absent, as were the other five rare plant species known to be present within a 5-mile radius. The project site has no evidence of rare or special-status plant species (H.T. Harvey, 2015b).

7.3.4 Wildlife

Literature Search

Based on review of the CNDDDB, a total of seven federally and/or state-protected animal species were documented to occur within an approximately 5-mile radius of the project site (JMC, 2014). Of those species, three terrestrial species are known to occur or may occur within the vicinity of the project site, based upon habitats and microhabitats, soil conditions, and the CNDDDB:

- Federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*),
- Federally endangered Ohlone tiger beetle (*Cicindela ohlone*), and
- Federally threatened California red-legged frog (CRLF; *Rana Draytonii*) California (JMC, 2014).

In addition, both Coho salmon (*Oncorhynchus kisutch*), Central California Coast ESU, and Steelhead (*Oncorhynchus mykiss irideus*), Central California Coast ESU, were determined to likely be present in the Carbonera Creek during certain times of year (JMC, 2014).

Wildlife Surveys

A preliminary site visit was undertaken in December 2014. The entire project site was walked and observations were made about site conditions. Notes were taken listing observed plant communities and the presence of aquatic features (JMC, 2014).

In 2015, a qualified plant ecologist conducted surveys throughout the project site for the presence of suitable habitat for the federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*), as well as to characterize the project site for its potential to provide suitable habitat for the federally endangered Ohlone tiger beetle. To determine the potential presence of Smith's blue butterfly, the plant ecologist surveyed for the presence of the two buckwheat

species that act as host plant: coast buckwheat (*Eriogonum latifolium*) or seaside buckwheat (*Eriogonum parviflorum*). To determine the potential presence of Ohlone tiger beetle, the plant ecologist searched for hard packing soils with bare spaces, surveying for adult beetles (H.T. Harvey, 2015b).

Protocol-level surveys were conducted in June and July 2015 to document the presence or negative finding of federally threatened California red-legged frog (CRLF; *Rana Draytonii*) at the project site. Eight site visits were conducted by qualified biologists in accordance with USFWS protocols, including two diurnal, four nocturnal, and one day and one night survey. The Carbonera Creek represents the only aquatic habitat on or near the project site. The creek contains deep pools and shallow runs that support potential foraging habitat and dispersal habitat for CRLF. In addition, the project site's upland habitat of nonnative grassland and riparian scrub is consistent with upland habitat in other locations within the species' range (H.T. Harvey, 2015a).

Threatened and Endangered Wildlife and Invertebrate Species

No habitat for Smith's blue butterfly was detected on the project site. Similarly, no suitable habitat was detected for the Ohlone tiger beetle. Both species are considered absent from the project site (H.T. Harvey, 2015b). No CRLF of any life history stage were observed during any of the site visits, which was sufficient to detect whether they had been present at or adjacent to the project site (H.T. Harvey, 2015a).

7.3.5 Jurisdictional Waters

Literature Search

Current and historic (to 1953) aerial imagery of the project site and surrounding area was reviewed to determine if there is or was any evidence of jurisdictional features on the project site, as well as to prepare a preliminary vegetation mapping. The aerial imagery revealed that the project site comprises annual grassland, with mixed riparian woodland along the margins of Carbonera Creek. Development was present as early as 1953, and substantial modifications to the project site were present by 1968 (Rincon, 2015).

Survey and Delineation of Wetlands and Other Waters of the U.S.

A reconnaissance site visit was undertaken by a qualified biologist in September 2015. The purpose of the site visit was to inspect the project site for wetlands and other jurisdictional features that could indicate the presence of wetlands, such as plants, wetland hydrology, topography, and drainage patterns. The survey was conducted for the entire project site, except for the bed and banks of the Carbonera Creek, which are known jurisdictional habitat (Rincon, 2015).

The survey indicates that the non-native grassland is dominated by wild oats. The project site is highly disturbed and recently disked, and it consists largely of artificial fill. There is no sign of recent or historic ponding or accumulation of water in any part of the project site. An artificial

basin, with a sewer, was constructed as part of a sewer system, probably in the early 1990s concurrent with the development of the Borland campus to the southwest. There is no sign, however, of wetland habitat ever having formed in this basin. Based on the survey, the project site contains no wetlands or jurisdictional waters outside the limits of the bed and banks of Carbonera Creek (Rincon, 2015).

7.4 Applicable Regulations, Plans, and Standards

7.4.1 Federal

Federal Endangered Species Act

The Federal Endangered Species Act (ESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” USFWS regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3).

Critical habitat is defined in Section 3(5)(A) of the ESA as “(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species.” The effects analyses for designated critical habitat must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*. Activities that may result in “take” of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from federal and State agencies during the environmental review process.

Migratory Bird Treaty Act

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both Federal and State regulations. The federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Regulated Habitats

Areas meeting the regulatory definition of “Waters of the U.S.” (Jurisdictional Waters) are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as “Waters of the U.S.,” tributaries of waters otherwise defined as “Waters of the U.S.,” the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to “Waters of the U.S.” (33 CFR, Part 328, Section 328.3).

Construction activities within jurisdictional waters are regulated by USACE. The placement of fill into such waters must comply with permit requirements of USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the Clean Water Act. As a part of the permit process USACE works directly with USFWS to assess project impacts on biological resources.

7.4.2 State

California Endangered Species Act

Provisions of California Endangered Species Act (CESA) protect State-listed Threatened and Endangered species. CDFW regulates activities that may result in “take” of individuals (“take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Department of Fish & Wildlife (CDFW) Code. Additionally, the CDFW Code contains lists of vertebrate species designated as “fully protected” (§§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and State-listed species, CDFW also has produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected under the CDFW Code. Section 3503.5 states it is “unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction-related disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW. Under Sections 3503 and 3503.5 of the State Fish and Wildlife Code, activities that would result in the taking, possessing, or destroying of any birds-

of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to CDFG Code Section 3800 are prohibited.

Regulated Habitats

The State Water Resources Control Board is the State agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California. The proposed project falls under the jurisdiction of the Central Coast RWQCB.

CDFW potentially extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFG, 1994). Such areas of the proposed project were determined using methodology described in A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607 (CDFG, 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW.

7.4.3 Local

Scotts Valley General Plan

Project relevant general plan policies for biological resources are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Scotts Valley Tree Protection Regulations

The City of Scotts Valley Zoning Ordinance Section 17.44.080 regulates the removal of protected trees. Section 17.44.080 includes tree protection regulations. Protected trees are defined as:

- Any tree having a main stem or trunk at least 8 inches or greater diameter at breast height (DBH) (25 inches in circumference), located in a hillside residential zone where the slope within 20 feet of where the tree is located exceeds 20 percent;
- Any single-trunk oak tree with a main stem or trunk at least 8 inches DBH (25-inch circumference), or any multi-trunk oak tree with an individual trunk over 4 inches DBH (12 inch circumference);

- Any street tree (defined as any tree within five feet of a public or private street or right of way), regardless of size;
- Any single-trunk tree with a 13-inch or greater DBH (40-inch circumference);
- Any multi-trunk tree with any trunk greater than or equal to 8-inch DBH (25-inch circumference);
- Any tree, regardless of size, required to be planted or preserved as part of a permit approved by the Planning Department, Planning Commission or City Council, or required as a replacement tree for a removed tree; or
- Any Heritage Tree, defined as a tree identified, because of unique quality and/or size, as among the most significant and noteworthy in the city and formally designated by the City Council.

Applicants for projects that involve removal of protected trees are required to obtain a Tree Removal Permit, which involves submittal of an application and an arborist report to verify the reasons for removal or to determine alternatives to removal. Removal of protected trees other than Heritage Trees may be granted by ministerial approval. Remove of Heritage Trees, which are identified in the City of Scotts Valley Heritage Tree Inventory (Ordinance Exhibit A), requires authorization by the Planning Commission, either at project approval or at a separate public hearing held thereafter.

7.4.4 Other Applicable Regulations, Plans, and Standards

The mission of the California Native Plant Society (CNPS) Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants, and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (listing status, habitat, distribution, threats, etc.) are entered into the online CNPS Inventory. The program currently recognizes more than 2,300 plant taxa (species, subspecies and varieties) as rare or endangered in California (CNPS List, 2015).

Vascular plants listed as rare or endangered by the CNPS, but which might not have designated status under State endangered species legislation, are defined as follows:

- List 1A – Plants considered by the CNPS to be extinct in California
- List 1B – Plants rare, threatened, or endangered in California and elsewhere
- List 2 – Plants rare, threatened, or endangered in California, but more numerous elsewhere
- List 3 – Plants about which we need more information – a review list
- List 4 – Plants of limited distribution – a watch list

In addition to the list designations above, the CNPS adds a Threat Rank as an extension added onto the CNPS List and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered and are described as follows:

- 0.1 – Seriously threatened in California (high degree/immediacy of threat)
- 0.2 – Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known)

The combined definition and Threat Rank (such as 1B.1) provides an overall classification of the species.

7.5 Environmental Impacts and Mitigation Measures

7.5.1 Significance Criteria

The following significance criteria for biological resources were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.
- Have an adverse effect, either directly or through habitat modifications, on any species listed as endangered, threatened, or proposed or critical habitat for these species.
- Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marshes, vernal pools, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances.
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

7.5.2 Summary of No and/or Beneficial Impacts

There are no adopted Habitat Conservation or Natural Community Conservation Plans applicable to the project site. The project site does not include federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, construction and operation of the proposed project would have no impacts under these criteria.

7.5.3 Impacts of the Proposed Project

Impact BIO-1: Result in a potentially adverse effect on the Carbonera Creek riparian habitat (Class II).

Scott's Valley polygonum is the only designated Critical Habitat potentially occurring on or within five miles of the project site. The rare plant surveys conducted in 2015 confirmed that Scott's Valley polygonum is not present on the project site, although designated Critical Habitat is present to the east across Carbonera Creek (JMC, 2014; H.T. Harvey, 2015b). Therefore, the proposed project would have no impact on Scott's Valley polygonum Critical Habitat.

Regarding riparian habitat, the project site size and layout limit the acreage available for hotel and residential development. The site plan has been laid out to avoid, to the greatest extent feasible, the riparian area adjacent to Carbonera Creek. Based upon **Figure 3-12: Residential Grading and Drainage Plan** and **Figure 7-1: Riparian Habitat and Trees**, construction on the western and northern portions of the project site would result in the direct loss of 18,875 of such habitat. Specifically, construction of Building 1 (units 1 through 6), Building 2 (units 7 through 12), Building 3 (units 13 through 19), Building 4 (units 32 through 35), Building 9 (units 42 through 46) and Building 10 (units 47 through 50) would each require the disturbance of existing riparian habitat.

Given the high biological value of riparian habitat and that this plant community is considered sensitive by, and is under the jurisdiction of, CDFW, the loss of 0.43 acres of riparian habitat would be a significant impact. Implementation of Mitigation Measure **MM BIO-1.1: Riparian Habitat Protection and Conservation**, Mitigation Measure **MM BIO-1.2: Vegetation Planting and**

Maintenance Plan, and Mitigation Measure MM BIO-1.3: Streambed Alteration Agreement would reduce this impact to a less-than-significant level.

Regarding indirect effects, construction-related activities, including the proposed removal of riparian vegetation, could result in indirect impacts to biological resources within Carbonera Creek from increased erosion and sedimentation. If uncontrolled, an increase in erosion and sedimentation into the creek has the potential to adversely affect populations of Steelhead, Coho salmon, and other wildlife species occurring in Carbonera Creek or farther downstream in the San Lorenzo River. As discussed in [Chapter 9, Geology & Soils](#) and [Chapter 11, Hydrology and Water Quality](#), the proposed project would include erosion control measures and Best Management Practices (BMPs). Given the proposed setback distances from Carbonera Creek, and that the proposed project would include measures to minimize erosion and sedimentation, erosion or sedimentation would not substantially disturb or affect Steelhead, Coho salmon, or other wildlife species.

Night lighting could also indirectly affect nocturnal wildlife in the Carbonera Creek corridor. However, exterior project lighting would consist of wall- and pole-mounted fixtures around the perimeter of buildings and parking areas. City conditions requiring that such exterior lighting be the minimum necessary for security purposes, and that all exterior lighting be downward facing and not directly visible from adjacent properties, would be applicable to all proposed development.

Therefore, indirect impacts would be less than significant.

Mitigation for Impact BIO-1

MM BIO-1.1 Riparian Habitat Protection and Conservation

The applicant for the residential development shall implement this mitigation measure.

Protection

As reflected in the proposed site plan, the project applicant shall retain 25,000 square feet of riparian habitat located in the eastern portion of the project site. Prior to the initiation of ground-disturbing activities for Buildings 1, 2, 3, 4, 9, or 10, the riparian habitat shall be marked with protective fencing installed at least 30 feet beyond the extent of habitat to be preserved, or other distance as approved by a qualified biologist.

During project construction, the project applicant shall complete the bulk of grading during the dry season between April 15th and October 15th to protect the riparian corridor of Carbonera Creek from grading impacts. However, limited grading may occur in winter, subject to review and approval by the Community Development Director.

Replacement

Prior to the disturbance of any riparian habitat associated with site clearing and grading associated with the construction of Buildings 1, 2, 3, 4, 9, or 10, a biological functions and values assessment (utilizing an accepted methodology such as the Hydrogeomorphic Approach) shall be conducted by a qualified biologist to establish a baseline for the overall biological value of the riparian habitats on the project site.

The loss of approximately 0.43 acres of mixed riparian woodland as a result of development activities shall be mitigated through replacement of this habitat with that of similar functions and values to that being removed, as determined in the biological values and functions assessment and presented in a revegetation plan prepared by the qualified biologist. The replacement plan shall account for the expected failure of a number of seeds and plants to germinate and mature successfully. Plant species similar to those being removed shall serve as a basis for the vegetation replacement. The revegetation shall occur in such a way as to create large, contiguous blocks of habitat. Alternatively, existing riparian habitat on the project site that is considered of relatively low function and value can be enhanced and or restored such that the functions and values will be increased.

The biological values and functions assessment, as well as the revegetation plan, shall be submitted to the Community Development Director after consultation with the California Department of Fish & Wildlife (if deemed necessary by the Community Development Director) prior to approval of a Grading Permit that encompasses the areas of Buildings 1, 2, 3, 4, 9, or 10.

MM BIO-1.2 Vegetation Planting and Maintenance Plan

The applicant for the residential development shall implement this mitigation measure.

The project applicant shall hire a qualified habitat restoration specialist to prepare a Vegetation Planting and Maintenance Plan. The objective of this Plan shall be to provide for the successful revegetation of riparian habitat and shall specify, at a minimum, the following.

- The location of the planting site;
- The quantity and species of plants to be planted;
- Planting procedures, including the use of soil preparation and irrigation;
- A schedule and action plan to maintain and monitor the plantings for a minimum 5-year period;

- Reporting procedures, including the contents of annual progress reports; and
- A list of criteria (e.g., growth, plant cover, survivorship) by which to measure success of the plantings, as well as contingency measures if the plantings are not successful.

The Vegetation Planting and Maintenance Plan shall be reviewed and approved by the Community Development Director after consultation with the California Department of Fish & Wildlife (CDFW) pursuant to **Mitigation Measure MM BIO-1.3: Streambed Alteration Agreement**, and prior to approval of the Final Map.

MM BIO-1.3 Streambed Alteration Agreement

The applicant for the residential development shall implement this mitigation measure.

The project applicant shall obtain a Streambed Alteration Agreement from the California Department of Fish & Wildlife (CDFW) under provisions of Section 1603 of the California Fish and Game Code to authorize impacts to the riparian habitat on the project site. The project applicant shall adhere to all conditions and requirements of the Streambed Alteration Agreement, which may include further restoration, enhancement, and/or revegetation of riparian habitat either on-site or in selected areas off-site. Once acquired, the Streambed Alteration Agreement shall be submitted to the Community Development Director for approval prior issuance of grading permits.

Impact BIO-2: Cause a direct and/or indirect adverse effect on native trees and associated nesting bird sites (Class II).

Direct impacts to trees occur through removal. Indirect impacts to trees include disturbance to trees from grading and construction activities that may affect trees or their roots directly from mechanical damage or indirectly due to alterations in soil structure, drainage, microbiology, etc., and tree removal for clearance of land for construction and grading.

The proposed development would remove 18 trees and affect remaining native trees that are within 25 feet of grading activities, including potential removal of Heritage Trees as defined above (Monarch Consulting Arborists, 2015). **Table 7-1: Tree Inventory** lists the trees included in the survey area and those proposed for removal. Given that the removal of trees would conflict with the City's Tree Protection Regulations, the loss of trees and potential disturbance of remaining trees would be a significant impact.

Table 7-1: Tree Inventory

Common Name (Scientific Name)	Trees Identified in Arborist Report ¹	Trees Proposed for Removal
Bay Laurel (<i>Umbellularia californica</i>)	4	5 ²
Coast redwood (<i>Sequoia sempervirens</i>)	42	8
Cottonwood (<i>Populus fremontii</i>)	12	0
Sweet gum (<i>Liquidambar styraciflua</i>)	2	2
Willow (<i>Salix alba</i>)	2	0
Coast live oak	3	3
Total	65	18

Notes:

- (1) The total number of trees may include heritage trees.
 - (2) Includes one Bay Laurel not considered mature/protected in Arborist Report.
- Source: Monarch Consulting Arborists, 2015.

The loss of trees regulated by the City’s Tree Protection Regulations would require a Tree Removal Permit from the City processed concurrently with the other requested entitlements. Pursuant to the Tree Protection Regulations, the Tree Removal Permit, inclusive of Planning Commission approval for removal of Heritage Trees, if required, would be obtained and submitted to Scotts Valley Building Department prior to approval of Improvement Plans, issuance of grading permits, and/or any clearing, grading, or excavation work on the project site. Adherence to the City’s Tree Protection Regulations, as well as implantation of **Mitigation Measure MM BIO-2.1: Tree Preservation, Removal, and Replacement**, would ensure that impacts from tree removal would be less than significant.

Tree and vegetation removal may also affect nesting birds. The preliminary biological site assessment report concluded that nesting birds (protected by the MBTA) may occur within the project site or project site vicinity (JMC, 2014). Removal of trees or understory vegetation has the potential to harm nesting birds. This impact would be reduced to a less-than-significant level with implementation of **Mitigation Measure MM BIO-2.2: Preconstruction Bird Surveys**.

Mitigation for Impact BIO-2

MM BIO-2.1 Tree Preservation, Removal, and Replacement

The applicant for the residential development shall implement this mitigation measure.

Prior to approval of Improvement Plans, issuance of grading permits, and/or any clearing, grading, or excavation work on the project site, the project applicant shall:

- A. Provide for the planting of two trees for each “protected” tree removed, as defined by the City of Scotts Valley Municipal Code (Section 17.44.080). The location of each new tree to be planted shall be shown in the proposed project’s Vegetation Planting and Maintenance Plan submitted to the Community Development Director pursuant to Mitigation Measure MM BIO-1.2; or
- B. Hire a certified arborist to undertake an assessment to trees to be removed to determine whether any such trees are Heritage Trees, as defined in Municipal Code Section 17.44.080. Pay into the City’s Tree Replacement Fund at a rate of \$50 per protected tree, and \$535 per Heritage Tree, as indicated in the City’s “Criteria for Tree Removal,” or
- C. A combination of (A) and (B).

During project construction, the project applicant shall implement all recommended measures of the 2015 Tree Survey completed for the proposed project, repeated below:

- Identify a tree protection zone for all “protected” trees on the project site that would remain with implementation of the proposed project and install 6-foot orange fencing around the protected area.
- In areas where installation of fencing is not feasible, wrap main stems in straw wattle.

MM BIO-2.2 Preconstruction Bird Surveys

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

The applicant shall schedule all on-site tree removal and grading to occur between August 15th and February 1st of any given year to avoid the bird nesting season. If this schedule is not practical, the applicant shall hire a qualified biologist to conduct preconstruction nesting bird surveys no more than two weeks prior to removal of trees and grading. If nesting birds are observed, the biologist will establish a buffer zone where no tree removal or grading will occur until the biologist confirms that all chicks have fledged. The buffer zone may vary from 50 to 250 feet, depending upon the species of bird and exposure of the nest site.

Impact BIO-3: Interfere with wildlife movement corridors (Class III).

The proposed project would minimize impacts on fish and wildlife movement by preserving the majority of the riparian woodlands alongside Carbonera Creek, which may be used as a local wildlife movement corridor. Implementation of the proposed project may reduce east-west movement of wildlife species that currently make use of on-site habitat areas. Given the

proximity of the project site to the existing highway and surrounding development, the project site is not known or expected to be a part of or contain regionally important terrestrial movement corridors that connect large regional open space areas. In addition, the already-approved Polo Ranch Project, to the east of the project site, would further isolate the project site from nearby open spaces and biotic habitats. Therefore, impacts to wildlife movement corridors would be less than significant (Class III).

7.5.4 Cumulative Impact Analysis

The geographic extent for the analysis of cumulative impacts to other biological resources includes the City of Scotts Valley, which contains riparian woodland habitat. Similarly, all development in the City is subject to the Tree Protection Policy.

Impact BIO-4: Contribute to cumulatively considerable effects on biological resources (Class II).

As stated above, the proposed project would result in a net loss of riparian habitat. Past, present, and reasonably foreseeable future projects would also affect riparian habitat, and the proposed project would considerably contribute to these significant cumulative impacts. Implementation of **MM BIO-1.1: Riparian Habitat Preservation**, **Mitigation Measure MM BIO-1.2**, and **Mitigation Measure MM BIO-1.3: Streambed Alteration Agreement** would reduce the proposed project's contribution to less-than-cumulatively considerable.

Regarding the effects of tree removal or construction near preserved trees, as stated above, the proposed project would result in a loss of 18 protected trees, which would be mitigated by tree replanting at a 2:1 ratio, pursuant to **Mitigation Measure MM BIO-2.1: Tree Preservation, Removal, and Replacement**. Past, present, and reasonably foreseeable future projects within the City of Scotts Valley are also required to adhere to the provisions of the Tree Protection Ordinance. Therefore, cumulative impacts related to conformance with a local tree protection plan would be less than significant. The proposed project's impacts to nesting birds would be reduced through adherence to **Mitigation Measure MM BIO-2.2: Preconstruction Bird Surveys**. Although past, present, and reasonably foreseeable future projects may result in impacts to nesting birds, such impacts would be site-specific and could be mitigated through adherence to similar standard mitigation. As such, cumulative impacts to nesting birds would be less than significant.

7.5.5 Level of Significance after Mitigation

Table 7-2: Summary of Impacts and Mitigation Measures – Biological Resources summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to biological resources.

Table 7-2: Summary of Impacts and Mitigation Measures – Biological Resources

Impact	Impact Significance	Mitigation
Impact BIO-1: Result in a potentially adverse effect on the Carbonera Creek riparian habitat.	Less than Significant with Mitigation	MM BIO-1.1: Riparian Habitat Preservation MM BIO-1.2: Streambed Alteration Agreement MM BIO-1.3: Streambed Alteration Agreement
Impact BIO-2: Cause a direct and/or indirect adverse effect on native trees and associated nesting bird sites.	Less than Significant with Mitigation	MM BIO-2.1: Tree Preservation, Removal, and Replacement MM BIO-2.2: Preconstruction Bird Surveys
Impact BIO-3: Interfere with wildlife movement corridors.	Less than Significant	None required
Impact BIO-4: Contribute to cumulatively considerable effects on biological.	Less than Significant with Mitigation	MM BIO-1.1: Riparian Habitat Preservation MM BIO-1.2: Streambed Alteration Agreement MM BIO-1.3: Streambed Alteration Agreement MM BIO-2.1: Tree Preservation, Removal, and Replacement MM BIO-2.2: Preconstruction Bird Surveys

7.5.6 References

- H.T. Harvey & Associates. 2015a. Scotts Valley Project—California Red-Legged Frog Survey Report. August 3. (See Appendix 3B.)
- H.T. Harvey & Associates. 2015b. *Scotts Valley and Townhouses Rare Plant Survey and Federally Endangered Insect Habitat Assessment Report*. 2015. September. (See Appendix 3C.)
- Johnson Marigot Consulting, LLC (JMC). 2014. *Site Assessment Report: Scotts Valley Hotel*. December 29. (See Appendix 3A.)
- Rincon Consultants, Inc. 2015. *Jurisdictional Waters Evaluation Technical Memorandum for the Scotts Valley 2 Project, Scotts Valley, Santa Cruz County, California*. September 14. (See Appendix 3D)
- Monarch Consulting Arborists LLC. 2015. *Tree Inventory, Assessment, and Protection*. 100 Enterprise Way, Scotts Valley, CA 95063. October 30

8 Cultural Resources

8.1 Introduction

This section describes effects on cultural resources that could be caused by implementation of the proposed project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from project construction, operation, and decommissioning. In addition, existing laws and regulations relevant to cultural and paleontological resources are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with implementation of the proposed project.

8.1.1 Cultural Resources Methodology

This section is based upon, and summarizes, the following cultural resource report:

- Archaeological Resource Management. Cultural Resource Evaluation of the Proposed Project at 100 Enterprise Way in the City of Scotts Valley. December 12, 2014.

The Archaeological Resource Management (ARM) report is on file at the City of Scotts Valley as confidential reports to prevent vandalism of resources.

Pre-Field Archival and Literature Search

An archival research study was conducted at the State archaeological office to learn if any sites or surveys have been recorded with a half mile of the project site. The archaeological resources consultant searched maps and records at the Northwest Information Center (NWIC) of the California Historical Resources Information System. The research was undertaken to determine if any known archaeological resources were reported in or around the project site.

Field Survey

A general surface reconnaissance was conducted on all visible open land surfaces on the project site to determine if traces of historic or prehistoric materials are present on the project site. These materials would generally include early ceramics, cooking debris, or artifacts of stone, bone, or shell. A controlled intuitive reconnaissance was performed in places where burrowing animals, exposed banks and inclines, and other activities had revealed subsurface stratigraphy and soil contents.

Historical Resource Evaluation

The project site does not include any federal, State, or local designated historic architectural resources, or other structures at least 45 years in age that may qualify for such designation. Aside from a site reconnaissance to ensure no structures are present on the project site, no historic resource evaluation was conducted.

Paleontological Resources Evaluation

There are no known paleontological resources on the project site. Therefore, a separate paleontological resources evaluation was not prepared. As further described below, the proposed project includes several conditions of approval that would address impacts to paleontological resources should they be discovered during project construction.

8.1.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by agencies and the public regarding the proposed project were received. No issues related to cultural resources were raised during the scoping period.

8.2 Environmental Setting

This section presents information on cultural resources conditions in the project site and vicinity. The current condition and quality of cultural resources are used as the baseline against which to compare impacts of the proposed project.

8.2.1 Paleontological Setting

The City of Scotts Valley is in an area of known deposits of Margarita Sandstone and Santa Cruz Mudstone, both of which are indicators for paleontological sensitivity. In September 2015, a whale fossil up to 4 million years old was discovered at the Polo Ranch development site, which is located directly east of the project site. There are no known paleontological resources at the project site.

8.2.2 Ethnographic Setting

The Ohlone Indians inhabited the San Francisco Bay region from the Golden Gate south to Monterrey since at least A.D. 500, and the earlier radiocarbon dates of pre-Ohlone natives reach 12,000 years before present (B.P.). The Ohlone were hunter-gatherers who settled in semi-sedentary villages organized in basic tribelets consisting of 100 to 250 members. Each tribelet was an autonomous unit with three or more permanent villages, as well as smaller villages in close proximity. Acorns were a primary food source, and other important resources included plant foods, land animals, and the marine sources of the Monterey Bay (such as salmon and steelhead). Shellfish processing sites were established above shores where abalone, mussels, clams, and tide pool resources were gathered (ARM, 2014).

The Ohlone were also semi-agricultural. They pruned and seeded some plants seasonally, stored acorns (and other foods) for later consumption, and burned woodland grassbelts to increase animal production (ARM, 2014).

8.2.3 Prehistoric Setting

The archival research revealed one previously recorded archaeological site, designated as CA-SCR-239/H, within the boundaries of the project site. The archaeological site was original

recorded in 1981, and a second survey of the project site was performed in 1988. In 1990, the entire 32-acre Borland property (comprising both the project site and the since-developed Borland technology campus to the south) were surveyed. Radiocarbon samples from the archaeological site in 1990, 1991, and 1992 established the deposit as being within 4,500 and 5,000 years old.

Two additional archaeological resources, H-5 and P-2, are located in the project site vicinity (outside of, but nearby, the project site boundaries), although they haven't been formally recorded. Further, prehistoric Native American lithic artifacts were noted on the northeast side of the project site during surface reconnaissance (ARM, 2014).

8.3 Applicable Regulations, Plans, and Standards

8.3.1 Federal

National Register of Historic Places Eligibility

The National Historic Preservation Act of 1966 (as amended through 2000) authorizes the National Register of Historic Places (NRHP), a program for the preservation of historic properties ("cultural resources") throughout the Nation. The eligibility of a resource for NRHP listing is determined by evaluating the resource using criteria defined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, association, and:

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

Unless a site is of exceptional importance, it is not eligible for listing in the NRHP until 50 years after it was constructed.

All properties change over time. Therefore, it is not necessary for a property to retain all its historic physical features or characteristics in order to be eligible for listing on the NRHP. The property must, however, retain enough integrity to enable it to convey its historic identity; in other words, to be recognizable to a historical contemporary. The National Register recognizes seven aspects or qualities that, in various combinations, define integrity:

- Location – the place where the historic property was constructed or the place where the historic event occurred.
- Design – the combination of elements that create the form, plan, space, structure, and style of a property.
- Setting – the physical environment of a historic property.
- Materials – the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- Workmanship – the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- Feeling – a property’s expression of the aesthetic or historic sense of a particular period of time.
- Association – the direct link between an important historic event or person and a historic property (National Park Service, 1990).

To retain historic integrity a property will always possess several, and usually most, of these aspects. In order to properly assess integrity, however, significance (why, where, and when a property is important) must first be fully established. Therefore, the issues of significance and integrity must always be considered together when evaluating a historic property.

8.3.2 State

CEQA, Archaeological Resources

CEQA and the CEQA Guidelines contain specific standards for determining the significance of impacts to archaeological sites (PRC §21083.2; 14 CCR §15064.5(c)). If the lead agency determines that the project may have a significant effect on unique archaeological resources, the EIR must address those archaeological resources (PRC §21083.2(a)). A “unique archaeological resource” is defined as an “archaeological artifact, object, or site” that, without merely adding to the current body of knowledge:

- Contains information needed to answer important scientific research questions and in which there is a demonstrable public interest;
- Has a special or particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person. (PRC §21083.2(g)).

Under CEQA, significant impacts on non-unique archaeological resources need not be addressed in an EIR. (PRC §21083.2(a), (h)).

The limitations in PRC §21083.2 relating to unique archaeological resources do not apply to archaeological sites that qualify as “historical resources.” (PRC §21083.2(l)). If a lead agency

finds that an archaeological site is a historical resource, impact assessment is governed by PRC §21084.1, which provides standards for identification of historical resources (14 CCR §15064.5(c)(2)). See §§13.58, 20.94-20.98). The CEQA Guidelines also provide that public agencies should seek to avoid effects that could damage a "historical resource of an archaeological nature" when it is feasible to do so (14 CCR §15126.4(b)(3)).

CEQA, Historic Resources

CEQA and the CEQA Guidelines contain specific standards for determining the significance of impacts on "historical resources" (PRC §21084.1, 14 CCR §15064.5). A resource listed in the California Register of Historical Resources, or determined by the State Historical Resources Commission to be eligible for listing in the Register, must be treated as an "historical resource" for purposes of CEQA. PRC §21084.1; 14 CCR §15064.5(a)(1). A resource designated as historically significant in a local register of historical resources, or identified as significant in an approved historical resources survey, is presumed to be significant. The presumption of significance may be overcome if the agency concludes, based on a preponderance of the evidence, that the site is not historically or culturally significant (PRC §21084.1; 14 CCR §15064.5(a)(2)).

A lead agency may also find that a site that does not meet any of these criteria should be treated as a historical resource under CEQA (PRC §21084.1; 14 CCR §15064.5(a)(4)). A lead agency may find that "any object, building, structure, site, area, place, record, or manuscript" is historically significant or significant in the "cultural annals of California" provided that its determination is "supported by substantial evidence in light of the whole record" (14 CCR §15064.5(a)(3)). The guidelines also note that a resource ordinarily should be considered historically significant if it meets the criteria for listing on the California Register of Historical Resources (14 CCR §15064.5(a)(3)).

California Register of Historical Resources

In order to be determined eligible for listing in the California Register of Historical Resources (CRHR), a property must be significant at the local, State, or national level under one or more of the following four criteria as defined in Public Resources Code 5024.1 and CEQA Guideline 15064.5(a).

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.
- It is associated with the lives of persons important to the nation or to California's past.
- It 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.

- It has yielded, or may be likely to yield, information important to the prehistory or history of the state and the nation.

In addition to meeting one or more of the above criteria, a significant property must also retain integrity. Properties eligible for listing in the CRHR must retain enough of their historic character to convey the reason(s) for their significance. Integrity is judged in relation to location, design, setting, materials, workmanship, feeling, and association.

CEQA defines a substantial adverse change in the significance of a historical resource as a significant effect on the environment (PRC §21084.1; 14 CCR §15064.5(b)). A substantial adverse change means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings resulting in the significance of the resource being materially impaired (14 CCR §15064.5(b)(1)). The significance of a resource is materially impaired when the physical characteristics that convey its historical significance and that justify its designation as a historical resource are demolished or materially altered in an adverse manner (14 CCR §15064.5(b)(2)). Construction of a project in the vicinity of historical structures that does not damage or materially alter any of them is not a substantial adverse change in the significance of a historical resource. *Eureka Citizens for Responsible Gov't v City of Eureka* (2007) 147 CA4th 357, 375.

8.3.3 Local

Project relevant general plan policies for cultural resources are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

8.4 Environmental Impacts and Mitigation Measures

8.4.1 Significance Criteria

The following significance criteria for cultural resources were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Cause a substantial adverse change in the significance of a historic resource (CEQA Guideline 15064.5).
- Cause a substantial adverse change in the significance of an archaeological resource (CEQA Guideline 15064.5).
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

8.4.2 Summary of No and/or Beneficial Impacts

The project site does not contain any existing structures and is not located adjacent to historic structures. The project site is not located within or adjacent to a historic district. One historic resource—the historic alignment of Highway 17—is located within one-quarter mile of the project site. The proposed project would not involve off-site construction activities. Therefore, the proposed project would have no impact to historic resources.

8.4.3 Impacts of the Proposed Project

Impact CR-1: Cause a substantial adverse change to a known archeological resource (Class II).

There is one previously recorded archaeological site, designated as CA-SCR-239/H, within the project site. Two additional archaeological resources, H-5 and P-2, are located in the project vicinity, although they haven't been formally recorded. Further, prehistoric Native American lithic artifacts were noted on the northeast side of the project site during surface reconnaissance (ARM, 2014).

Given that the project site contains a known archaeological site, the proposed project could adversely affect archaeological resources during site grading and excavation, and the impact would be significant.

For proposed development in designated areas of high and moderate archaeological sensitivity, the City's General Plan (Policy OSA-399) states that all proposed development shall be required to produce an archaeological field reconnaissance and report for approval by the Cultural Resources Preservation Commission. Implementation of **Mitigation Measures MM CR-1.1: Archaeological Testing Program 1** and **MM CR-1.2: Archaeological Testing Program 2**, below, would ensure preparation of the archaeological report and reduce impacts to a less-than-significant level.

Mitigation for Impact CR-1

MM CR-1.1 Archaeological Testing Program 1

The applicant for the hotel development shall implement this mitigation measure.

The applicant shall hire a qualified archaeologist to design and undertake an archaeological testing program. The program shall recommend that a qualified archaeologist be present and monitor all earthmoving activities. The program shall recommend protocols to be undertaken if potential historical or unique archaeological resources are discovered during construction. The program shall dictate procedures to be performed if an archaeological find is determined to be an historical or unique archaeological resource, and if avoidance of the resource would not be feasible. Such procedures shall be designed to result in the extraction of sufficient volumes of non-redundant archaeological data to address important regional research considerations. The archaeological testing program shall be reviewed and approved by the Community Development Director prior to issuance of the grading permit.

MM CR-1.2 Archaeological Testing Program 2

The applicant for the residential development shall implement this mitigation measure.

The applicant shall hire a qualified archaeologist to design and undertake an archaeological testing program consisting of three hand-excavated 1 x 1 meter units to be carried out in the area of the quartzite lithic materials. The archaeologist shall summarize the results of this program in a report to be reviewed and approved by the Community Development Director prior to issuance of the grading permit.

Impact CR-2: Directly impact a paleontological resource or unique geologic feature (Class II).

Although there are no known paleontological resources on the project site, the project site is located in an area where soil formations are considered to be sensitive for paleontological resources. Furthermore, in September 2015, a whale fossil up to 4 million years old was discovered at the Polo Ranch development site, which is located directly east and southeast of the project site. It is therefore possible that paleontological resources could be discovered during excavation of the project site. The impact would be less than significant with implementation of Mitigation Measure MM CR-2: Paleontological Resource Monitoring.

Mitigation for Impact CR-2

MM CR-2 Paleontological Resource Monitoring.

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

Prior to issuance of a grading permit, the applicant shall hire a qualified paleontologist to review the final grading plans and final geotechnical report for the project. Based upon a review of these documents, the paleontologist shall prepare a technical memorandum indicating the likelihood of encountering paleontological resources during construction and submit to the Community Development Director for review. If the likelihood is low, no further action is required and the mitigation shall be considered complete.

If the likelihood is moderate-to-high, the paleontologist shall conduct intermittent monitoring during earth-moving activities. The paleontological monitor shall have the authority to temporarily (within one working day) divert or redirect grading to allow time to evaluate any exposed fossil material. During monitoring and salvage, any scientifically significant specimens shall be properly collected after evaluation by, and under the supervision of, the paleontologist. Specimens shall be prepared to the point of identification (not exhibition), stabilized, identified, and curated in a suitable repository that has a retrievable storage system. A final report shall be prepared at the end of earth moving activities, and shall include an itemized inventory of recovered fossils and appropriate stratigraphic and locality data. This report shall be sent to the City of Scotts Valley, signifying the end of mitigation. Another copy shall accompany any recovered fossils, along with field logs and photographs, to the designated repository.

Impact CR-3: Inadvertently disturb human remains (Class III).

No known human remains are located on the project site. Pursuant to Section 7050.5 of the Health and Safety Code, if human remains are discovered, there shall be no further excavation or disturbance of the discovery site or any nearby area reasonably suspected to overlie adjacent human remains until the project applicant has complied with the provisions of State CEQA Guidelines Section 15064.5(e). In general, these provisions require that the County Coroner be notified immediately. If the remains are found to be Native American, the County Coroner is required to notify the Native American Heritage Commission within 24 hours. The most likely descendant of the deceased Native American is notified by the Commission and given the chance to make recommendations for the remains. If the Commission is unable to identify the most likely descendent, or if no recommendations are made within 24 hours, remains may be reinterred with appropriate dignity elsewhere on the property in a location not subject to further subsurface disturbance. If recommendations are made and not accepted, the

Native American Heritage Commission will mediate the problem. With implementation of existing regulations, the impact would be less than significant (Class III).

8.4.4 Cumulative Impact Analysis

The geographic extent of cumulative impacts to cultural resources is highly dependent on the resource under discussion. For example, a cumulative impact to a historic architectural district would extend across the district, while the cumulative impact to individual archaeological or paleontological resources may accumulate across the City of Scotts Valley, depending on the nature of the resources.

Impact CR-4: Contribute to cumulatively considerable effects on cultural resources (Class II).

The proposed project, in combination with past, present, and reasonably foreseeable future projects, could result in significant impacts to archaeological resources. However, projects located in an archaeologically sensitive areas are required to conduct archaeological monitoring during construction, which would reduce cumulative impacts to a less-than-significant level. In addition, **Mitigation Measures MM CR-1.1** and **MM CR-1.2** would apply to the proposed project, ensuring that its contribution to cumulative impacts would not be considerable.

The proposed project, in combination with past, present, and reasonably foreseeable future projects, could result in significant cumulative impacts to paleontological resources through accidentally discovery or destruction. The proposed project's contribution to those cumulative effects would be reduced through **Mitigation Measure MM CC-2**. Therefore, the proposed project would not considerably contribute to cumulative impacts to paleontological resources.

As stated above, project-level impacts to human remains would be less than significant. These standard regulatory requirements and procedures are required of other present and reasonably foreseeable future projects, and cumulative impacts would be less than significant.

8.4.5 Level of Significance after Mitigation

Table 8-1: Summary of Impacts and Mitigation Measures – Cultural Resources summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to cultural resources.

Table 8-1: Summary of Impacts and Mitigation Measures – Cultural Resources

Impact	Impact Significance	Mitigation
Impact CR-1: Cause a substantial adverse change to a known archeological resource.	Less than significant with mitigation	MM CR-1.1: Archaeological Testing Program 1 MM CR-1.2: Archaeological Testing Program 2
Impact CR-2: Directly impact a paleontological resource or unique geologic feature.	Less than significant with mitigation	MM CR-2: Paleontological Resource Monitoring
Impact CR-3: Inadvertently disturb human remains.	Less than significant	None required
Impact CR-4: Contribute to cumulatively considerable effects on cultural resources.	Less than significant with mitigation	MM CR-1.1: Archaeological Testing Program 1 MM CR-1.2: Archaeological Testing Program 2 MM CR-2: Paleontological Resource Monitoring

8.4.6 References

Archaeological Resource Management. *Cultural Resource Evaluation of the Proposed Project at 100 Enterprise Way in the City of Scotts Valley*. December 12, 2014.

9 Geology & Soils

9.1 Introduction

This section describes effects on geology, soils, and mineral resources that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- TMakdissy Consulting, Inc. 2014. Geotechnical Investigation on Proposed Residential and Hotel Development at Enterprise Way, Scotts Valley, California. November. (See Appendix 4).
- Scotts Valley General Plan, 1994.
- Geologic literature from the U.S. Geological Survey, California Geological Survey, and Santa Cruz County.
- Geologic and soils GIS data.
- Online reference materials.

9.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by agencies and the public regarding the proposed project were received. No issues related to geology and soils were raised during the scoping period.

9.3 Environmental Setting

This section presents information on geology and soils conditions in the project site vicinity. The Regional Setting provides information on the baseline conditions in the project region. The Project Setting describes baseline conditions for geology and soils within the project study area.

9.3.1 Regional Setting

The City of Scotts Valley is located within the Santa Cruz Mountains, which are a part of the Pacific Coast Ranges. The Santa Cruz Mountains form a ridge along the San Francisco Peninsula, south of San Francisco, separating the Pacific Ocean from San Francisco Bay and the Santa Clara Valley, and continuing south, bordering Monterey Bay and ending at the Salinas Valley.

9.3.2 Project Setting

Topography and Slope Stability

Topographically, the area surrounding the project site is relatively hilly terrain; however, the project site itself is essentially level, with a slight slope to the south. The project site is approximately 690 feet above mean sea level (AMSL) in the northeastern portion, and 650 feet AMSL at the southwestern portion (JMC, 2014). Along the north, west, and northeastern boundaries of the project site, 4- to 5-foot-high berms have been created. A stockpile of various

construction debris is present in the northeast corner of the project site. Carbonera Creek extends along the northeast and eastern boundary of the project site.

Geology

The geology in the Scotts Valley area consists of crystalline basement rock overlain by a Tertiary-aged sedimentary sequence. The crystalline basement rock comprises granite and quartz diorite that was formed during the Cretaceous geologic age. The Tertiary-aged sedimentary sequence includes the following geologic units in order from oldest to youngest: Locatelli Formation, Butano Sandstone, Lompico Sandstone, Monterey Formation, Santa Margarita Sandstone, Santa Cruz Mudstone, Purisima Formation, and terrace deposits and alluvium.

Faults and Seismicity

The seismicity of Central California is dominated by the north-northwest trending San Andreas Fault system and east-west crustal shortening of the Coast Ranges. Both systems are responding to strain produced by the relative motions of the Pacific and North American Tectonic Plates. This strain is relieved by right-lateral strike-slip faulting on the San Andreas and related faults, left-lateral strike slip on the Garlock Fault, and by vertical, reverse-slip or left-lateral strike-slip displacement on faults in the Coast Ranges. The effects of this deformation include mountain building, basin development, deformation of Quaternary marine terraces, widespread regional uplift, and generation of earthquakes.

The Coast Ranges are characterized by numerous geologically young faults. These faults can be classified as historically active, active, potentially active, or inactive, based on the following criteria (CGS, 1999):

- Faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) and faults that exhibit aseismic fault creep are defined as Historically Active.
- Faults that show geologic evidence of movement within Holocene time (approximately the last 11,000 years) are defined as Active.
- Faults that show geologic evidence of movement during the Quaternary time (approximately the last 1.6 million years) are defined as Potentially Active.
- Faults that show direct geologic evidence of inactivity during all of Quaternary time or longer are classified as Inactive.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, this classification is based on the assumption that if a fault has moved during the Holocene epoch, it is likely to produce earthquakes in the future. Blind thrust faults do not intersect the ground surface, and thus they are not classified as active or potentially active in the same manner as faults that are present at the earth's surface. Blind thrust faults are seismogenic structures and thus the activity classification of these faults is predominantly based

on historic earthquakes and microseismic activity along the fault. Periodic earthquakes accompanied by surface displacement are expected to continue in the study area through the lifetime of the proposed project; therefore, the effects of strong ground shaking and fault rupture are of concern to safe operation of the proposed project and associated facilities.

Active regional faults capable of producing significant ground shaking at the proposed project site are strike-slip faults associated with the San Andreas Fault System and reverse and blind thrust faults associated with the compressional faulting and folding of the Coast Ranges. **Figure 9-1: Regional Fault Zones** shows locations of active and potentially active faults (representing possible seismic sources) and earthquakes in the region surrounding the project site. Active and potentially active faults in proximity to the project site are presented in **Table 9-1: Regional Faults and Seismicity**.

Table 9-1: Regional Faults and Seismicity

Fault Segment	Distance from Project Site (miles)	Direction from Project Site	Maximum Characteristic Magnitude
San Andreas	7	Northeast	8.0
Zayante-Vergeles	1.5	Northeast	7.4
Butano	4	Northeast	6.4
San Gregorio	11	West	7.0

Sources: Kimley-Horn, 2015 and County of Santa Cruz, 2009

San Andreas Fault

The San Andreas Fault zone is located approximately seven miles northeast of the project site. The San Andreas Fault is active and represents a major seismic hazard in northern California. The San Andreas Fault zone extends nearly the entire length of California and marks the boundary between the North American plate to the east and the Pacific plate to the west. Historical earthquakes along the San Andreas Fault and its branches have caused significant seismic shaking in the Monterey Bay area.

The two largest historically recent earthquakes on the San Andreas to affect the area were the Moment Magnitude (Mw) 7.9 San Francisco earthquake of April 1906 and the Mw 6.9 Loma Prieta earthquake of October 1989. The San Francisco earthquake caused severe seismic shaking and structural damage to buildings in the Monterey Bay area. The Working Group on Northern California Earthquake Potential (NCEP) estimates that the San Andreas - 1906 Segment experiences earthquakes of comparable magnitudes at intervals of approximately 200 years.

Zayante-Vergeles Fault

The Zayante-Vergeles Fault is located approximately 1.5 miles northeast of the project site. The Zayante Fault lies west of the San Andreas Fault and trends approximately 50 miles northwest

from the “Watsonville lowlands” into the Santa Cruz Mountains. The southern extension of the Zayante Fault, known as the Vergeles Fault, merges with the San Andreas Fault south of the City of San Juan Bautista in San Benito County.

The Zayante-Vergeles Fault has a long, well-documented geological history of vertical movement, accompanied by right-lateral, strike-slip movement. Stratigraphic and geomorphic evidence indicates the Zayante-Vergeles Fault has undergone late Pleistocene and Holocene movements and is considered potentially active. The NCEP considers it capable of generating a Mw 6.8 earthquake with an effective recurrence interval of 10,000 years.

Butano Fault

The Butano fault is located approximately 4 miles northeast of the project site. The Butano fault is tied to the San Andres fault system and is capable of producing a major earthquake of Mw 6.4.

San Gregorio

The San Gregorio fault is located approximately 11 miles west of the project site and skirts the coastline of Santa Cruz County northward from Monterey Bay, and trends onshore at Point Año Nuevo. Northward from Año Nuevo, it passes offshore again, to connect with the San Andreas Fault near Bolinas. Southward from Monterey Bay, it may trend onshore north of Big Sur to connect with the Palo Colorado Fault, or continue southward through Point Sur to connect with the Hosgri Fault in south-central California. Based on these two proposed correlations, the San Gregorio Fault zone has a length of at least 100 miles and possibly as much as 250 miles. The San Gregorio Fault has been assigned a slip rate that results in an Mw 7.3 earthquake with a recurrence interval of 400 years.

Surface Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. The Alquist-Priolo Earthquake Fault Zoning Act delineates fault rupture zones approximately 1,000 feet wide, or 500 feet on either side of an active fault trace. Fault rupture and displacement almost always follows preexisting faults, which are zones of weakness; however, not all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep).

In addition to damage caused by ground shaking from an earthquake, fault rupture is damaging to buildings and other structures due to the differential displacement and deformation of the ground surface that occurs from the fault offset. This leads to damage or collapse of structures across this zone. Fault rupture displacements in large earthquakes can range from several feet to greater than 15 feet (i.e. displacement on the San Andreas Fault in the 1857 M 7.9 Fort Tejon earthquake was at least 18 feet) (Scharer, 2010).

Groundshaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale (M_L). However, seismologists most commonly use the Moment Magnitude (M_w) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than $M 7.0$, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than $M 7.0$, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude.

The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between the project site and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the project site. Earthquakes occurring on faults closest to the project site would most likely generate the largest ground motion.

Liquefaction

Liquefaction tends to occur in loose, saturated fine grained sands, coarse silts, or clays with low plasticity. The liquefaction process typically occurs at depths less than 50 feet below the ground surface, although liquefaction can occur at deeper intervals, given the right conditions. The most susceptible zone occurs at depths shallower than 30 feet below the ground surface.

For liquefaction to occur, there must be the proper soil type, soil saturation, and cyclic accelerations of sufficient magnitude to progressively increase the water pressures within the soil mass. Non-cohesive soil shear strength is developed by the point-to-point contact of the soil grains. As the water pressures increase in the void spaces surrounding the soil grains, the soil particles become supported more by the water than the point-to-point contact. When the water pressures increase sufficiently, the soil grains begin to lose contact with each other resulting in the loss of shear strength and continuous deformation of the soil where the soil begins to liquefy.

Liquefaction can lead to several types of ground failure, depending on slope conditions and the geological and hydrological settings, of which the four most common types of ground failure are: 1) lateral spreads, 2) flow failures, 3) ground oscillation and 4) loss of bearing strength.

To determine the potential for liquefaction on the project site, four borings were drilled to depths between 9 and 33 feet below ground surface (bgs). Below the berm and near surface soil on the west side of the project site consists of hard, silty. On the east side of the site, the near surface soil is dense silty. Silty clays, silty sand, and sand were encountered. Clays ranged from firm to very stiff, and sands ranged from loose/medium to very dense. Bedrock was encountered at 32 feet bgs, although it may be as shallow as 9 feet bgs on the project site's west side. Groundwater was encountered at 18 to 20 feet bgs, although perched water was also encountered at 10 feet bgs (TMakdissy Consulting, 2014).

The data used for evaluating liquefaction potential of subsurface soils consisted of penetration resistance, soil gradation, relative density of the materials, and groundwater levels. Typically, to properly evaluate site-specific liquefaction potential, borings would need to extend to a depth of 45 to 50 feet. However, the borings did not extend to these depths due to very slow drilling progress within the very stiff and hard soil profile.

Loose to medium dense cohesionless soil, such as sands and some silts and low plasticity clays, are potentially liquefiable, while dense and very dense cohesionless sands and gravels are considered to have a very low potential for liquefaction. The loose/medium dense sandy material below the groundwater table at a depth of 15 to 25 feet are potentially liquefiable under a design-level earthquake. It is estimated that liquefaction-induced settlements of approximately 0.5 to 1.5 inches may occur in these layers. Even if some additional potentially liquefiable layers are present below the maximum depth explored of 36 feet, due to the discontinuous nature of the layers and the thick predominantly-clay and non-liquefiable cover overlying any potential liquefiable layers, will limit any surface manifestations of liquefaction to very minor differential settlements of 1.0 inches in 50 feet (TMakdissy Consulting, 2014).

Soils

The Soil Conservation Service has mapped the soils of the project site as Soquel Association, as shown in **Figure 9-2: Soils**. In general, Soquel Association soils are characterized as deep, moderately well drained soils that formed in alluvium derived from sedimentary rocks. Soquel soils are in narrow valleys and on alluvial fans and plains, and have slopes of 0 to 15 percent.

9.4 Applicable Regulations, Plans, and Standards

9.4.1 Federal

International Building Code

Published by the International Code Council, the scope of this code covers major aspects of construction and design of structures and buildings, except for 3-story one- and two-family dwellings and town homes. The 2012 International Building Code replaces the 1997 Uniform Building Code and contains provisions for structural engineering design. Published by the International Conference of Building Officials, the 2012 International Building Code (IBC) addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire- and life-safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

9.4.2 State

California Building Code

The California Building Code, Title 24, Part 2 (CBC, 2013) provides building codes and standards for design and construction of structures in California. The 2013 CBC is based on the 2012 International Building Code with the addition of more extensive structural seismic provisions.

Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. Chapter 33 of the CBC contains requirements relevant to the construction of underground transmission lines. Building permits for the proposed project will be reviewed to ensure compliance with the CBC.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code (PRC), section 2621-2630 (formerly the Special Studies Zoning Act), regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. This Act categorizes faults as active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be “sufficiently active” and “well defined” by detailed site-specific geologic explorations to determine whether building setbacks should be established.

The Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, PRC, Sections 2690–2699, of 1990 directs the California Department of Conservation, Division of Mines and Geology [now called California Geological Survey (CGS)] to delineate Seismic Hazard Zones. The purpose of the act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards.

Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The California Building Code, Title 24, Part 2 (CBC, 2013) provides building codes and standards for design and construction of structures in California. The 2013 CBC is based on the 2012 IBC with the addition of more extensive structural seismic provisions.

Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. Chapter 33 of the CBC contains requirements relevant to the construction of underground transmission lines. Building permits for the proposed project will be reviewed to ensure compliance with the CBC.

California Building Standards Code

The California Building Code (CBC) is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code and establishes minimum requirements for a buildings structural

strength and stability to safeguard the public health, safety and general welfare. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

Published by the International Conference of Building Officials, the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The CBC incorporates by reference the 2006 International Building Code, with necessary California amendments.

9.4.3 Local

City of Scotts Valley General Plan

Project relevant general plan policies for geology, soils, and mineral resources are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

9.5 Environmental Impacts and Mitigation Measures

9.5.1 Significance Criteria

The following significance criteria for geology & soils were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Result in triggering or acceleration of geologic processes, such as landslides, substantial soil erosion, or loss of topsoil during construction.
- Expose people or structures to potential risk of loss or injury where there is high potential for seismically induced ground shaking, landslides, liquefaction, settlement, lateral spreading, and/or surface cracking.
- Expose people or structures to potential risk of loss or injury where there is high potential for earthquake-related ground rupture in the vicinity of major fault crossings.
- Expose people or structures to potential risk of loss or injury where corrosive, expansive or other unsuitable soils are present.
- Result in soils that are unable to support an on-site wastewater disposal system (septic).

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

9.5.2 Summary of No and/or Beneficial Impacts

Exposure to Earthquake-Related Ground Rupture

The project site is not located within an Alquist-Priolo Earthquake Fault Zoning Map as mapped by the State Geologist. The closest known fault to the project site is the Zayante fault, located approximately 1.5 miles north of the project site. There are no known or potentially active faults located within or adjacent to the project site. Based on the distance of the project site from the Zayante fault, the proposed project would not expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, and therefore there would be no impact.

Landslide Susceptibility

The project site is relatively flat and is not located in an area that would be affected by a landslide. The townhouses would be set back at least 30 feet from the Carbonera Creek top of bank. Therefore, there would be no impact.

On-site Wastewater Disposal System

The proposed project would involve disposal of wastewater via a sanitary sewer, and there would be no septic systems under the project. Therefore, there would be no impact.

9.5.3 Impacts of the Proposed Project

Impact GEO-1: Trigger or accelerate soil erosion or loss of topsoil (Class III).

The proposed project would involve the removal of vegetation and grading activities associated with the construction of buildings, infrastructure, and roads. The loosening and exposure of soil makes it susceptible to erosion by rainfall and wind. Development would also increase the amount of impervious surfaces, which may affect the natural drainage pattern. During unusually high rainfall over a short duration, excessive erosion may occur. Soil particles may be carried by stormwater to receiving water bodies, such as Carbonera Creek, resulting in sedimentation. The effects of increased sediment loading could include increased turbidity and reduced light penetration.

Grading activities performed during the rainy season on cohesive soils may be hampered by excessive moisture, and achieving proper compaction may be difficult, causing delays

(TMakdissy Consulting, 2014). Measures to control erosion would be incorporated into construction specifications pursuant to the National Pollution Discharge Elimination System (NPDES) requirements for construction

Projects involving construction on sites that are one acre or more are required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies how the discharger will protect water quality during construction activities. These measures include, but are not limited to, the following: design and construction of cut and fill slopes in a manner that will minimize erosion, protection of exposed slope areas, control of surface water flows over exposed soils, use of wetting or sealing agents or sedimentation ponds, limiting soil excavation in high winds, construction of beams and runoff diversion ditches, and use of sediment traps, such as hay bales. (Also see [Chapter 11: Hydrology & Water Quality](#).)

The project applicants have prepared preliminary erosion control plans that include silt fences, fiber rolls, drop inlet protection and curb inlet sediment barriers, and rocked construction site entrances. These measures will be further refined with the subsequent preparation of a SWPPP to ensure compliance with the erosion control ordinances and acquisition of the NPDES General Permit and thereby reduce soil erosion impacts to less than significant (Class III).

Impact GEO-2: Expose people or structures to substantial safety risks as a result of seismically induced ground shaking, liquefaction, settlement, lateral spreading, and/or surface cracking (Class II).

Ground Shaking

Moderate to strong ground shaking may occur during the life of the proposed project. Due to the proximity of the Zayante-Vergeles fault, local strong ground shaking with vertical and horizontal ground accelerations could potentially occur. However, adherence to CBC design requirements would mitigate/reduce the potential for significant damage to project buildings and facilities. Standard geotechnical engineering practices and adherence to seismic building code requirements would minimize impacts, and no mitigation measures would be required (Class III).

Ground Failure, Including Liquefaction, Lateral Spreading, and Earth Cracking

At the project site, the loose/medium dense sandy material below the groundwater table at a depth of 15 to 25 feet is potentially liquefiable under a design-level earthquake. It is estimated that liquefaction-induced settlements of approximately 0.5 to 1.5 inches may occur in these layers. Even if some additional potentially liquefiable layers are present below the maximum depth explored of 36 feet, the discontinuous nature of the layers and the thick predominantly-clay and non-liquefiable cover overlying any liquefiable layers will limit any surface manifestations of liquefaction to very minor differential settlements of 1.0 inches in 50 feet (TMakdissy Consulting, 2014).

Implementation of the mitigation measure described below would reduce these impacts to a less-than-significant level (Class II).

Mitigation for Impact GEO-2

MM GEO-2 Implement geotechnical report recommendations.

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

The project applicant shall consult with a registered geotechnical engineer to prepare a design-level geotechnical investigation that incorporates the recommendations in the *Draft Geotechnical Investigation on Proposed Residential and Hotel Development at Enterprise Way, Scotts Valley, California* (TMakdissy Consulting, 2014). The design-level geotechnical report shall address, but not be limited to, site preparation and grading, building foundations, and CBC seismic design parameters. A design-level geotechnical report shall be prepared and submitted in conjunction with Building Permit application(s) and reviewed and approved by the Community Development Director. Recommendations from the design-level geotechnical report shall be incorporated into the final project design and construction documents for each phase of the project.

9.5.4 Cumulative Impact Analysis

Because geologic impacts are site-specific and highly dependent upon the structural characteristics of individual projects, cumulative geologic hazards and soils impacts are generally confined to the project site and immediate vicinity.

Impact GEO-3: Contribute to cumulatively considerable effects on geology and soils (Class II).

Most geologic-related impacts from development are site-specific and, if properly designed, would not result in worsening of the environmental or public health and safety. Cumulative development would be subject to site-specific geologic and/or soils constraints; pursuant to the City of Scott's Valley requirements, a registered geotechnical engineer would investigate site-specific conditions and minimize exposure to hazards or constraints with implementation of their recommendations.

Cumulative development would also involve the exposure of an increased number of people and/or structures to risk of earthquakes and their associated geologic hazards. New construction would be required to comply with the most current CBC, which establishes building standards to minimize risk based on the geologic and seismic conditions of the region in which a project is located.

With administration of these requirements, the implementation of Mitigation Measure MM GEO-2: Implement geotechnical report recommendations, and adherence to the CBC, cumulative geologic and soils impacts would be less than significant.

9.5.5 Level of Significance after Mitigation

Table 9-2: Summary of Impacts and Mitigation Measures – Geology & Soils summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to geology & soils.

Table 9-2: Summary of Impacts and Mitigation Measures – Geology & Soils

Impact	Impact Significance	Mitigation
Impact GEO-1: Trigger or accelerate soil erosion or loss of topsoil.	Less than Significant	None required.
Impact GEO-2: Expose people or structures to substantial safety risks as a result of seismically induced ground shaking, liquefaction, settlement, lateral spreading, and/or surface cracking.	Less than Significant with Mitigation	MM GEO-2: Implement geotechnical report recommendations.
Impact GEO-3: Contribute to cumulatively considerable effects on geology and soils.	Less than Significant with Mitigation	MM GEO-2: Implement geotechnical report recommendations.

9.5.6 References

CGS (California Geological Survey). 1999. Fault Rupture Hazard Zones in California, CGS Special Publication #42. Available at: <ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf>. Accessed October 22, 2015.

_____. 2002a. California Geomorphic Provinces. Geological Note 36. Available at: http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf. Accessed October 22, 2015.

_____. 2002b. The Revised 2002 California Probabilistic Seismic Hazard Maps, Appendices A and B, 2002 California Fault Parameters. Available at: <http://www.conservation.ca.gov/cgs/rghm/psha>. Accessed October 22, 2015.

City of Scotts Valley. 1994. General Plan.

County of Santa Cruz. 2009. Fault Zone Hazard Areas. Map. Available online: http://gis.co.santa-cruz.ca.us/map_gallery/pdfs/Map%20Gallery/Emergency%20Management/Hazard%20Mitigation/FaultZoneMap2009.pdf. November.

Natural Resources Conservation Service. Soil Survey of Santa Cruz County, California. Available at:

http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/santacruzCA1980/santacruzCA1980.pdf. Accessed October 22, 2015.

Scharer, K. 2010. "Changing Views of the San Andreas Fault." *Science*, Vol. 327, p. 1089-1090. February 26. Available at: <http://www.sciencemag.org/content/327/5969/1089>. Accessed October 22, 2015.

TMakdissy Consulting, Inc. 2014. Geotechnical Investigation on Proposed Residential and Hotel Development at Enterprise Way, Scotts Valley, California. November.

USGS (United States Geological Survey). 2010a. Earthquake Hazards Program, National Seismic Hazard Map website. <http://earthquake.usgs.gov/hazards/>. Accessed October 22, 2015.

_____. 2010c. Mineral Resource Data System (MRDS). "Mineral Resource Data System, California." <http://tin.er.usgs.gov/mrds/>

10 Greenhouse Gas Emissions

10.1 Introduction

This section describes effects on climate change and greenhouse gas emissions that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- Air quality technical analysis (see [Appendix 2](#))

The study area for climate change and the analysis of greenhouse gas (GHG) emissions is broad because climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an “indirect physical change” only if that change is a reasonably foreseeable impact that may be caused by the proposed project. This analysis limits discussion to those physical changes to the environment that are not speculative and are reasonably foreseeable.

10.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scope meetings were, but written comments by agencies and the public regarding the proposed project were received. The following issues related to greenhouse gases were raised during the scoping period and are addressed in this section:

- MBUAPCD recommended that the CalEEMod model be used for estimating construction and operation emissions from the proposed project.
- MBUAPCD recommended that the following design measures be incorporated into the proposed project to minimize air quality impacts:
 - Prohibition of wood-burning fireplaces or wood stoves,
 - Increasing building energy efficiency beyond Title 24 requirements,
 - Installation of solar panels, and
 - Installation of electric vehicle charging stations.

10.3 Environmental Setting

10.3.1 Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate—such as wind patterns, precipitation, and storms—over an extended period of time. Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary

reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (CEQA Guidelines § 15364.5). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to climate change. Climate change is by definition a cumulative impact because it occurs worldwide. Although emissions of one single project do not cause climate change, GHG emissions from multiple projects (past, present and future) throughout the world could result in a cumulative impact with respect to climate change.

Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and SF₆ (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as “carbon dioxide equivalent” (CO₂e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane CH₄ has a GWP of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (United Nations Intergovernmental Panel on Climate Change [IPCC], 2006).

The accumulation of GHGs in the atmosphere regulates the earth’s temperature. Without the natural heat trapping effect of GHGs, Earth’s surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Carbon Dioxide

CO₂ was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th Century. Concentrations of CO₂ in the atmosphere have risen approximately 40 percent since the industrial revolution. The global atmospheric concentration of CO₂ has increased from a pre-industrial value of about 280 parts per million (ppm) to 391 ppm in 2011 (IPCC, 2007; Oceanic and Atmospheric

Association [NOAA], 2010). The average annual CO₂ concentration growth rate was larger between 1995 and 2005 (average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates (NOAA, 2010). In 2010, CO₂ represented an estimated 82.8 percent of total GHG emissions (Department of Energy [DOE] Energy Information Administration [EIA], August 2010).

Methane

CH₄ is emitted from both non-biogenic and biogenic sources. Non-biogenic sources of CH₄ include fossil fuel mining and burning, biomass burning, waste treatment, geologic sources, coal mining, certain industrial processes and leaks in natural gas pipelines. Biogenic sources include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, wetlands, rice agriculture, oceans, forests, fires, termites and geologic sources (U.S. EPA, April 2012). Methane is an effective absorber of radiation, though its atmospheric concentration is less than that of CO₂ and its lifetime in the atmosphere is limited to 10 to 12 years. It has a GWP approximately 25 times that of CO₂. Over the last 250 years, the concentration of CH₄ in the atmosphere has increased by 148 percent (IPCC, 2007), although emissions have declined from 1990 levels.

Nitrous Oxide

Concentrations of nitrous oxide (N₂O) began to rise at the beginning of the industrial revolution and continue to increase at a relatively uniform growth rate (NOAA, 2010). N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N₂O emissions. The GWP of nitrous oxide is approximately 298 times that of CO₂ (IPCC, 2007).

Fluorinated Gases (HFCs, PFCs and SF₆)

Fluorinated gases, such as HFCs, PFCs, and SF₆, are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances, such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and were phased out of use pursuant to the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical transmission and distribution systems account for most SF₆ emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO₂, CH₄, and N₂O, but these compounds have much higher GWPs. SF₆ is the most potent GHG that the IPCC has evaluated.

10.3.2 Greenhouse Gas Emissions Inventory

Total U.S. GHG emissions were 6,821.8 million metric tons (MMT) CO₂e in 2009 (United States Environmental Protection Agency [U.S. EPA], April 2012). Total U.S. emissions have increased by 10.5 percent since 1990; emissions rose by 3.2 percent from 2009 to 2010 (U.S. EPA, April 2012). This increase was primarily due to: 1) an increase in economic output resulting in an increase in energy consumption across all sectors and, 2) much warmer summer conditions resulting in an increase in electricity demand for air conditioning. Since 1990, U.S. emissions have increased at an average annual rate of 0.5 percent. In 2010, the transportation and industrial end-use sectors accounted for 32 percent and 26 percent of CO₂ emissions from fossil fuel combustion, respectively. Meanwhile, the residential and commercial end-use sectors accounted for 22 percent and 19 percent of CO₂ emissions from fossil fuel combustion, respectively (U.S. EPA, April 2012).

Based upon the California Air Resources Board (CARB) California Greenhouse Gas Inventory for 2000–2011 (CARB, October 2011), California produced 448 MMT CO₂e in 2011. The major source of GHGs in California is transportation, contributing 38 percent of the state's total GHG emissions. Industrial activity is the second largest source, contributing 21 percent of the state's GHG emissions (CARB, October 2011). California's relatively high emissions compared to other states are due in part to its large size and large population compared to other states. CARB has projected statewide unregulated GHG emissions for the year 2020 will be 507 MMT CO₂e (CARB, January 2013). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

10.3.3 Potential Effects of Climate Change

According to the CalEPA's *2010 Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA, April 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Sea Level Rise

According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. Sea levels are rising faster now than in the previous 2 millennia, and the rise is expected to accelerate, even with implementation of robust GHG emission control measures. The most recent IPCC report (2013) predicts a mean sea level rise of 11 to 38 inches by 2100. This prediction is more than 50 percent higher than earlier projections of 7 to 23 inches, when comparing the same emissions scenarios and time periods. The previous IPCC report (2007) identified a sea level rise of 8 inches on the California coast over the past century. The California Climate Adaptation Strategy (California Natural Resources Agency, December 2009) estimates a sea level rise of up to 55 inches by the end of this century.

Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Energy Commission [CEC], March, 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, which represents a loss of 1.5 million acre-feet of snowpack storage. During the same period, the sea level rose 8 inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. From 1999 to 2008, Southern California cities experienced their lowest recorded annual precipitation twice within the decade. In a span of only 2 years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR], 2008; CCCC, May 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling, DWR projects that the Sierra snowpack will experience a 25- to 40-percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR, 2008).

Agriculture

California has a \$30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC, 2006).

Ecosystems and Wildlife

Climate change and the resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the average global surface temperature could rise by 1.0–4.5°F (0.6-2.5°C) in the next 50 years, and 2.2–10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan, C. and H. Galbraith, 2004).

10.4 Applicable Regulations, Plans, and Standards

10.4.1 Federal

The United States Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act.

The U.S. EPA publishes an annual GHG inventory (Inventory of U.S. Greenhouse Gas Emissions and Sinks),¹⁰ which tracks the national trend in GHG emissions and removals back to 1990. The report contains total U.S. emissions by source, economic sector, and GHG. U.S. EPA uses national energy data, data on national agricultural activities, and other national statistics to provide a comprehensive accounting of total GHG emissions for all man-made sources in the country. U.S. EPA also collects GHG emissions data from individual facilities and suppliers of certain fossil fuels and industrial gases through the Greenhouse Gas Reporting Program (U.S. EPA, April 2012).

In May 2010, U.S. EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) published the final rule-making for a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States. The standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, equivalent to 35.5 miles per gallon (MPG), if the automobile industry were to meet this CO₂ level solely through fuel economy improvements.

In October 2012, U.S. EPA and NHTSA published the final rule-making for the second phase of the national program, which covers model years 2017 through 2025. The final standards are

¹⁰ A greenhouse gas "sink" is a process, activity, or mechanism that absorbs more greenhouse gases than it releases.

projected to result in an average industry fleetwide level of 163 grams of CO₂ per mile, equivalent to 54.5 MPG, if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. U.S. EPA does not regulate residential sources of GHG emissions.

10.4.2 State

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects.

Assembly Bill (AB) 1493

Assembly Bill (AB) 1493 (2002), referred to as "Pavley," requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016, and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" covers 2017 to 2025.

Under Pavley, fleet average emission standards were intended to reach 22 percent reduction from 2009 levels by 2012 and 30 percent by 2016. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when the rules would be fully implemented, new automobiles would emit 34 percent less GHGs. Statewide CO₂e emissions would be reduced 3 percent by 2020 and 12 percent by 2025. The reduction would increase to 27 percent in 2035 and even further to 33 percent reduction in 2050 (CARB, 2013).

Executive Order S-3-05

In 2005, then-Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels (CalEPA, 2006).

In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006." AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO₂e. CARB approved the Scoping on December 11, 2008. The Scoping Plan includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e. g Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implementation activities are ongoing.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2014 Scoping Plan update defines CARB's climate change priorities for the next 5 years and sets the groundwork to reach post-2020 goals set forth in EO S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (CARB, 2014). The Scoping Plan includes a comprehensive list of recommended actions for each of the major sectors of the State-wide emissions inventory, including energy actions, transportation actions, agriculture actions, water actions, waste management actions, natural and working lands actions, short-lived climate pollutants actions, green building actions, cap-and-trade actions, and evaluations actions.

The AB 32 Scoping Plan also identifies a cap-and-trade program as one of the strategies California will employ to reduce the GHG emissions. Under the cap-and-trade program, an overall limit on GHG emissions from capped sectors will be established and facilities subject to the cap will be able to trade permits (allowances) to emit GHGs. The program began on January 1, 2012, with an enforceable compliance obligation beginning with the 2013 GHG emissions.

Executive Order S-14-08

In 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, revising California's existing Renewable Portfolio Standard (RPS) upward to require all retail sellers of electricity to serve 33 percent of their load from renewable energy sources by 2020. The existing RPS requires retail sellers to supply 20 percent of their total electrical load from renewable energy sources by 2010.

To meet this new goal, a substantial increase in the development of wind, solar, geothermal, and other “RPS eligible” energy projects will be needed. Executive Order S-14-08 seeks to accelerate such development by streamlining the siting, permitting, and procurement processes for renewable energy generation facilities. To this end, S-14-08 issues two directives: (1) the existing Renewable Energy Transmission Initiative will identify renewable energy zones that can be developed as such with little environmental impact, and (2) the California Energy Commission (CEC) and the California Department of Fish & Wildlife (CDFW) will collaborate to expedite the review, permitting, and licensing process for proposed RPS-eligible renewable energy projects.

Senate Bill (SB) 375

Senate Bill (SB) 375, signed in August 2008, enhances the state’s ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from vehicles for 2020 and 2035. In addition, SB 375 directs each of the state’s 18 major Metropolitan Planning Organizations (MPOs) to prepare a “sustainable communities strategy” (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Monterey Bay Unified Air Pollution Control District (MBUAPCD) was assigned targets of a 0 percent reduction in GHGs from transportation sources from 2005 levels by 2020 and a 5 percent reduction in GHGs from transportation sources from 2005 levels by 2035.

Senate Bill (SB) 2X

In April 2011, Governor Brown signed SB 2X requiring California to generate 33 percent of its electricity from renewable energy by 2020.

California Building Code

The California Energy Resources Conservation and Development Commission adopted energy conservation standards for new residential and nonresidential buildings in June 1977. These standards were most recently revised in 2008 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

On July 17, 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code was adopted as part of the California Building Standards Code (CALGreen) (Part 11, Title 24, CCR). The green building standards that became mandatory in the 2010 edition of the code established voluntary standards on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011.

2006 Appliance Efficiency Regulations

The California Energy Commission adopted Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) on October 11, 2006. The regulations were approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. While these regulations are now often viewed as “business-as-usual,” they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

California Environmental Quality Act

The State CEQA Guidelines contain provisions regarding the analysis and feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, the South Coast Air Quality Management District (SCAQMD), the San Luis Obispo Air Pollution Control District (SLOAPCD), and the San Joaquin Valley Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs.

10.4.3 Regional & Local

Monterey Bay Unified Air Pollution Control District

MBUAPCD is the regional air agency for the North Central Coast Air Basin, which includes the project site. In February 2008, the MBUAPCD issued revised adopted guidance for assessing and reducing the impacts of project-specific air quality emissions: *CEQA Air Quality Guidelines*. This document included a reserved section to address project-specific GHG emissions: *Climate Change and Assessment of Project Impacts from Greenhouse Gases*.

To date, MBUAPCD has not adopted guidance for GHG emissions inventory, or established significance thresholds for GHG emissions, although it plans to develop guidance for addressing greenhouse gas emissions during the 2015–2016 operating year.

Scotts Valley General Plan

Project relevant general plan policies for GHG are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

10.5 Environmental Impacts and Mitigation Measures

10.5.1 Significance Thresholds

According to the adopted Appendix G of the *State CEQA Guidelines*, impacts related to GHG emissions from a proposed project would be significant if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Determining significance follows available guidelines from State or local air quality management agencies, where available. However, there is no legally adopted threshold to guide Scotts Valley decision-makers in determining what emission levels constitute a significant amount. Rules and policies being developed by CARB are used here although they are evolving in response to the threat of climate change effects and subsequent legislation.

MBUAPCD does not yet recommend any method or threshold for determining significance of climate change impacts or greenhouse gas emissions from a project and its operation. Nonetheless, GHG emissions caused by any project subject to CEQA must be described in order for a lead agency to determine the significance of impacts. The 2010 State CEQA Guidelines (Section 15064.4) provide the following direction for the assessment and mitigation of GHG emissions:

- A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.
- A lead agency should consider the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- A lead agency should consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In the absence of quantitative significance thresholds in CEQA guidance, this analysis turns to other programs. For example, the CARB Mandatory Reporting program requirements are triggered for sources of GHG emissions exceeding 2,500 metric tons CO₂ (MTCO₂e) per year. AB 32 requires California agencies to take actions that will reduce GHG emissions by 2020 to the levels of 1990, and then substantially further reduce emissions by 2050.

For CEQA analyses, project-related GHG impacts can be categorized as either direct or indirect. Direct emissions refer to those emitted by stationary sources at the project site or caused by project activity on-site, and these emissions are normally within control of the project sponsor or applicant. Indirect emissions include those emissions that are not within the direct control of the project sponsor or applicant, but may occur as a result of the project, such as the motor vehicle emissions induced by the project. Indirect emissions include emissions from any off-site facilities used for project support as a result of the construction or operation of a project, and these emissions are likely to occur outside the control of the project far off-site or even outside of California.

Construction-phase GHG emissions are quantified as part of the air quality impact assessment (see Chapter 6, Air Quality, and Appendix 2 for supporting calculations). These one-time emissions can be amortized over the life of the project to describe an equivalent annual emission rate. To amortize the construction emissions over the life of the project, the total GHG emissions due to construction are divided by the expected project operating life (i.e., 50 years). The amortized construction emissions can then be added to the annual operational GHG emissions.

The effects of the proposed project are also considered based on whether the project implements reduction strategies identified in AB32, the Governor's Executive Order S-14-08, or other strategies to help reduce GHGs to the level proposed by the Governor. If so, it could reasonably follow that the project would not result in a significant contribution to the cumulative impact of global climate change.

Significance Classifications

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

10.5.2 Study Methodology

Calculations of CO₂, CH₄, and N₂O emissions are provided to identify the magnitude of proposed project effects. The analysis focuses on CO₂, CH₄, and N₂O because these GHGs comprise 98.9 percent of all GHG emissions by volume (IPCC, 2007) and are the GHG emissions that the proposed project would emit in the largest quantities. Fluorinated gases—such as HFCs, PFCs, and SF₆—were also considered for the analysis. However, fluorinated gases are primarily associated with industrial processes, and the proposed project does not include an industrial component. Emissions of all GHGs are converted into their equivalent weight in CO₂ (CO₂e). Minimal amounts of other main GHGs (such as CFCs) would be emitted; however, these other GHG emissions would not substantially add to the calculated CO₂e amounts. Calculations are based on the methodologies discussed in the CAPCOA *CEQA and Climate Change* white paper (January 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (January 2009).

Construction Emissions

To estimate the annual emissions that would result from construction activity associated with the proposed project, GHGs from construction projects were quantified and amortized over a 50-year period.¹¹ The emissions were then added to the annual average operational emissions and compared to the applicable operational thresholds.

A net of 3,423 cubic yards of soils would be exported from the project site; however, because it is not known whether soils cut from residential development would be suitable for fill on the hotel site, this EIR conservatively assumes that the hotel would require the import of 2,177 cubic yards of soil, and the residential development would require the export of 5,600 cubic yards of soil. This analysis assumes that construction would last approximately 14 months each, for the hotel and residential development. Annualizing total construction GHG emissions using this methodology accurately accounts for temporary construction emissions as part of the proposed project's annual GHG emissions, which are compared to the applicable annual GHG threshold. Based on these assumptions, construction emissions were estimated individually using CalEEMod.

On-Site Operational Emissions

Operational emissions from energy use (electricity and natural gas use) for the proposed project were also estimated using CalEEMod (see [Appendix 2](#)). The default values on which CalEEMod are based include the CEC-sponsored California Commercial End Use Survey (CEUS) for non-residential land uses and Residential Appliance Saturation Survey (RASS) for residential land uses. This methodology is considered reasonable and reliable for use, as it has been subjected to peer review by numerous public and private stakeholders, and in particular by the CEC. It is also recommended by CAPCOA (January 2008).

Emissions associated with area sources—including consumer products, landscape maintenance, and architectural coating—were calculated in CalEEMod based on standard emission rates from CARB, U.S. EPA, and district supplied emission factor values (CalEEMod User's Guide, 2013).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User's Guide, 2013). Waste disposal rates by land use and overall composition of municipal solid waste in California was based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

¹¹ A 50-year project lifetime is within the range used by air districts that employ this methodology for annualizing short-term emissions, including the San Luis Obispo Air Pollution Control District (SLOALCD, April 2012)

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California.

Direct Emissions from Mobile Combustion

Emissions of CO₂ and CH₄ from transportation sources for the proposed project were quantified using CalEEMod. Given that the CalEEMod computer program does not calculate N₂O emissions from mobile sources, N₂O emissions were quantified using the California Climate Action Registry General Reporting Protocol (January 2009) direct emissions factors for mobile combustion (see [Appendix 2](#)). Emission rates for N₂O emissions were based on the vehicle mix output generated by CalEEMod and the emission factors contained in the California Climate Action Registry General Reporting Protocol.

10.5.3 Cumulative Impact Analysis

Global climate change is, by definition, a cumulative impact of GHG emissions. Therefore, there is no project-level analysis. The baseline against which to compare impacts of the proposed project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that grew more than 70 percent between 1970 and 2004 (IPCC, 2007). As such, the geographic extent of the climate change and greenhouse gas emissions cumulative impact discussion is worldwide.

Impact GHG-1: Contribute to cumulatively considerable effects on construction-related greenhouse gas emissions (Class III).

Project construction would involve on-site activities and region-wide mobilization of numerous equipment and personnel. The activity would cause short-term, unavoidable increases in GHG emissions from vehicle and equipment activity.

Based on the project construction activity, approximately 1,022.14 MTCO₂-equivalent would be emitted over two 14-month construction periods. The GHG emissions from construction activities are considered in the following context. First, the period of construction would be relatively short-term at 14 months (28 months total when considering both components) compared to the expected 50-year life of the proposed project. The construction phase GHG emissions, when amortized over 50 years, would be approximately 20.443 MTCO₂e per year, which is less than the CARB Mandatory Reporting applicability level of 2,500 MTCO₂e per year. As a result, the short-term emission of GHG during construction would be adverse but less than significant (Class III).

Impact GHG-2: Contribute to cumulatively considerable effects on long-term operations-related greenhouse gas emissions (Class III).

Long-term operation of the proposed project would cause direct and indirect GHG emissions (primarily CO₂) from use of the carbon-based fuels (gasoline and diesel fuel) by residents, hotel

guests, on-site maintenance vehicles, off-site delivery vehicles, and staff and employee personal vehicles.

SF₆ GHG emissions would also result from electrical equipment leakage, but they would be small in quantity and easily be controlled or minimized because the gas is required to be recycled. Routine and safe operation requires that SF₆ be contained within electric power equipment. PFCs and HFCs, are not included in the operational emissions calculation because accurate data for usage and storage of these compounds is difficult to obtain, and their emissions primarily result from industrial processes and electric power transmission and distribution systems, not from hotel and residential uses.

The proposed project is estimated to emit approximately 1,912.06 MTCO₂e per year (see Appendix 2), directly from on-site activities and indirectly from off-site motor vehicles. This level of emissions would be less than the level of 2,500 metric tons CO₂ per year that triggers CARB Mandatory Reporting. As a result, the GHG emissions caused by long-term operation of the proposed would be adverse but less than significant (Class III).

10.5.4 Level of Significance after Mitigation

Table 10-1: Summary of Impacts and Mitigation Measures – Greenhouse Gas Emissions summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to greenhouse gas emissions.

Table 10-1: Summary of Impacts and Mitigation Measures – Greenhouse Gas Emissions

Impact	Impact Significance	Mitigation
Impact GHG-1: Contribute to cumulatively considerable effects on construction-related greenhouse gas emissions.	Less than Significant	None required
Impact GHG-2: Contribute to cumulatively considerable effects on long-term operations-related greenhouse gas emissions.	Less than Significant	None required

10.6 References

California Air Pollution Control Officers Association (CAPCOA). July 2013. California Emissions Estimator Model: User's Guide, Version 2013.2. Available at: <http://www.caleemod.com/>

_____. January 2008. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA). Available at: <http://opr.ca.gov/docs/june08-ceqa.pdf>

CARB (California Air Resources Board). May 2014. AB 32 Scoping Plan. Available at:

http://www.arb.ca.gov/cc/scoping_plan/scoping_plan.htm

_____. January 2013. Annual Report to the Joint Legislative Budget Committee on Assembly Bill 32. Available at: <http://www.arb.ca.gov/cc/jlbcreports/jan2013jlbcreport.pdf>.

_____. 2008. Climate Change Scoping Plan, Framework for Change, as Approved December 2008, Pursuant to AB32. Available at:

<http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

_____. October 2011. Greenhouse Gas Inventory Data – 2000 to 2011. Available at:

<http://www.arb.ca.gov/cc/inventory/data/data.htm>

California Climate Action Registry (CCAR). January 2009. General Report Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1. Available at:

http://www.sfenvironment.org/sites/default/files/fliers/files/ccar_grp_3-1_january2009_sfe-web.pdf

California Climate Change Center (CCCC). 2006. Climate Scenarios for California. Available at:

<http://www.energy.ca.gov/2005publications/CEC-500-2005-186/CEC-500-2005-186-SF.PDF>

_____. May 2009. The Impacts of Sea-Level Rise on the California Coast. Available at:

<http://www.energy.ca.gov/2009publications/CEC-500-2009-024/CEC-500-2009-024-F.PDF>

California Department of Water Resources. October 2008. Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water. Available at:

<http://ww.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf>

_____. March 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literatures. Available at:

<http://www.energgy.ca.gov/2009publications/CEC-500-2009-038/CEC-500-2009-038-D.PDF>

California Environmental Protection Agency (CalEPA). April 2010. Climate Action Team Biennial Report. Final Report. Available at:

http://www.climatechange.ca.gov/climate_action_team/reports/

_____. March 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature. Available at:

http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF

California Natural Resources Agency. December 2009. 2009 California Climate Adaptation Strategy. Available online:

http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf.

Energy Information Administration, U.S. Department of Energy. August 2010. Annual Energy Review 2009. Available at: <http://www.eia.gov/aer/envir.html>

IPCC (Intergovernmental Panel on Climate Change). 2006. Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Available at: <http://www.ipcc-nggip.iges.or.jp/public/index.html>

_____. 2007. Climate Change 2007: Synthesis Report, the Fourth IPCC Assessment Report. Available at: <http://www.ipcc-nggip.iges.or.jp/public/index.html>

_____. 2013. 2013: Summary for Policymakers. : <http://www.ipcc-nggip.iges.or.jp/public/index.html>

National Oceanic & Atmospheric Administration (NOAA). September 2010. Annual Greenhouse Gas Index. Available at: <http://ww.esrl.noaa.gov/gmd/aggi/aggi.html>

Parmesan C., Galbraith, H. 2004. Observed Ecological Impacts of Climate Change in North America. Available at: <http://www.c2es.org/publications/observed-impacts-climate-change-united-states>

San Luis Obispo County Air Pollution Control District (SLOAPCD). April 2012. CEQA Handbook, Section 3.5.1, Significance Thresholds for Project-Level Operational Emissions. Available at: http://www.slocleanair.org/images/cms/upload/files/CEQA_Handbook_2012_v2%20%28Updated%20July%202014%29%281%29.pdf

_____. April 2012. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010. Available at: <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

11 Hydrology & Water Quality

11.1 Introduction

This section describes effects on water resources (hydrology and water quality) that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- Aerial photography
- Project application and related materials
- Kennedy/Jenks Consultants. 2014. Scotts Valley Water District Annual Groundwater Report.
- Kennedy/Jenks Consultants. 2010. Scotts Valley Water District Urban Water Management Plan.

11.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by the California Department of Fish & Wildlife were received regarding the proposed project. The following issues related to hydrology and water quality were raised during the scoping period and are addressed in this section:

- Evaluate the impacts from the new draw and demand on the Bean Creek watershed; and,
- Evaluate the impacts to existing surface creek flows, and groundwater wells located below Bean Creek and Carbonera Creek watersheds.

11.3 Environmental Setting

11.3.1 Surface Water

The City of Scotts Valley occupies the valley of Carbonera Creek and the valley of its main tributary to the north, Bean Creek. The project site is located adjacent to and within the watershed of Carbonera Creek (see [Figure 11-1: Watersheds](#)). Carbonera Creek is a tributary of the San Lorenzo River system, which drains south from the Santa Cruz Mountains into Monterey Bay at the City of Santa Cruz. The San Lorenzo River watershed drains approximately 137 square miles, and its principal tributaries include Boulder Creek, Kings Creek, Bear Creek, Newell Creek, Zayante Creek, Bean Creek, and Branciforte Creek (City of Scotts Valley, 1994).

The Carbonera Creek watershed drains approximately 3.6 square miles at the southern boundary of the Scotts Valley Water District (SVWD). Unlike Bean Creek, Carbonera Creek typically becomes dry or near dry during the summer months. Carbonera Creek flows generally southwest from its headwaters in the Santa Cruz Mountains and discharges to Branciforte Creek in the City of Santa Cruz. Branciforte Creek discharges into the San Lorenzo River near

Soquel Avenue, approximately one mile downstream of the Carbonera Creek confluence (City of Scotts Valley, 1994).

As shown in [Figure 11-2: Hydrology Resources](#), the project site is located within an area designated by the City as having a potential for groundwater recharge due to alluvium and Santa Margarita geologic formations and adjacent to Carbonera Creek (City of Scotts Valley, 1994).

Flooding

Flood Insurance Rate maps partition flood areas into three zones: Zone A for areas of 100-year flood; Zone B for areas of 500-year flood; and Zone C for areas of minimal flooding. The National Flood Insurance Program 100-year floodplain is considered the base flood condition. This is defined as a flood event of a magnitude that would be equaled or exceeded an average of once during a 100-year period. Floodways are defined as stream channels plus adjacent floodplains that must be kept free of encroachment as much as possible so that the 100-year floods can be carried without substantial increases (no more than one foot) in flood elevations.

As shown in [Figure 3-12: Residential Grading and Drainage Plan](#), the project site is located adjacent to the Carbonera Creek 100-year floodplain, based on the Federal Emergency Management Agency (FEMA) mapped Flood Insurance Rate Map (FIRM) (FEMA, 2012).

11.3.2 Groundwater

The project site is located within SVWD, which relies on local groundwater for its water supply. Existing SVWD water and recycled water supply lines traverse the project site beneath the future Santa's Village Road extension. The following provides a description of the groundwater basin, which is accessed by SVWD for its water supply.

Santa Margarita Groundwater Basin

Groundwater Basin boundaries are defined by the California Department of Water Resources (DWR). The Santa Margarita Groundwater Basin (SMGB or the Basin) covers more than 30 square miles in the Santa Cruz Mountains. The Basin forms a roughly triangular area that extends from Scotts Valley in the east, to Boulder Creek in the northwest, to Felton in the southwest (see [Figure 11-3: DWR Groundwater Basins](#)). The SVWD Groundwater Management Area includes the portion of the SMGB served primarily by the SVWD.

The SMGB consists of a sequence of sandstone, siltstone, and shale that are underlain by granite that lie within a geologic trough called the Scotts Valley Syncline. This sequence of sedimentary rocks is divided into several geologic formations. These units are defined on the basis of the type of rock and their relative geologic age based on studies by the United States Geological Survey. In the SMGB, the sandstone units serve as the primary aquifers that provide the majority of groundwater production for the local water supply. The main aquifers in the Basin include:

- Santa Margarita Sandstone (Santa Margarita),
- Monterey Formation (Monterey),
- Lompico Sandstone (Lompico), and
- Butano Formation (Butano).

The Santa Margarita, Lompico, and Butano are the major water-bearing units of the four aquifers. The Basin includes portions of DWR Basins 3-21, 3-27, and 3-50 (Kennedy/Jenks, 2014).

Over the past 25 years, groundwater levels in many parts of the SMGB, especially in the Lompico Aquifer, have declined more than 200 feet. The greatest declines occurred between the late 1960s and mid-1990s. A variety of factors probably contributed to these declines, including:

- Increased groundwater pumping due to growth in area.
- Reduced recharge from the surface to groundwater due to an increase in paved areas and other land use changes associated with urbanization.
- Reduced groundwater recharge due to the drought.

The Groundwater Reporting Area (GWRA) is the area of reported annual data for the SVWD Groundwater Management Area and the Pasatiempo Groundwater Subarea, located south of the SVWD GWRA. The Pasatiempo Groundwater Subarea includes the portion of the SMGB served by the San Lorenzo Valley Water District and the Mount Hermon Association.

SVWD Groundwater Production

SVWD relies on groundwater sources from the SMGB for providing potable water to its customers. Groundwater production by SVWD in Water Year (WY) 2014 was 1,376 acre-feet (afy), which was 23 acre-feet less than groundwater production in WY 2013, reflecting a declining trend in groundwater production over the previous 11 years, which has declined by more than 700 acre-feet per year since WY 2003 (Kennedy/Jenks, 2014).

In WY 2014, SVWD obtained about 97 percent of its water supply from the Lompico and the Butano aquifers. [Table 11-1: SVWD Groundwater Production by Aquifer and Recycled Water Usage](#) shows water production by aquifer and recycled water usage by SVWD from WY 2007 to WY 2014. In WY 2014, an estimated 989 afy were produced from the Lompico, making it the highest producing aquifer. The Butano is the second highest producing aquifer for SVWD, with 365 acre-feet in WY 2014.

The aquifers are currently operated well below their historical maximum annual production. The annual groundwater pumping from the Lompico and Butano has declined over the past few years. For the Lompico, annual groundwater pumping in WY 2014 had decreased 33 percent since a high of 1,483 afy in WY 2003. Similarly, annual groundwater pumping in the Butano had decreased 50 percent from a high of 735 afy in WY 1997.

Table 11-1: SVWD Groundwater Production by Aquifer and Recycled Water Usage (afy)

Aquifer	Historical Maximum	WY 2007	WY 2008	WY 2009	WY 2010	WY 2011	WY 2012	WY 2013	WY 2014
Monterey	426 (1984)	65	68	16	3	3	4	35	23
Lompico	1,483 (2003)	1,179	1,246	1,047	1,009	969	964	1,020	989
Butano	735 (1997)	519	382	443	346	320	383	345	365
GW	2,077 (2003)	1,764	1,696	1,507	1,357	1,292	1,351	1,400	1,376
RW	200 (2013)	129	147	146	134	163	184	200	199
Total	2,096 (2003)	1,893	1,843	1,653	1,491	1,455	1,535	1,600	1,575

Notes:

GW – Water Year Groundwater Pumping Total

RW – Water Year Recycled Water Usage Total

Source: Kennedy/Jenks Consultants, 2014.

Regional Groundwater Production

Groundwater production in the GWRA includes pumping from wells by other water districts and private wells, in addition to pumping by SVWD. The users include:

- San Lorenzo Valley Water District (SLVWD): Groundwater production by SLVWD in the GWRA was approximately 371 acre-feet in WY 2014, down from a high of 447 afy in WY 2002. SLVWD pumping from wells outside the GWRA is not included. Recent SLVWD production is derived from the Lompico aquifer.
- Mount Hermon Association (MHA): Pumping by MHA was not reported in WY 2014, but is assumed to be similar to the 172 afy reported in WY 2012, which is down from a high of 232 afy in WY 2008. MHA production is derived from the Lompico aquifer.
- Industrial Wells: Industrial usage primarily accounted for pumping by the Hanson Quarry before the quarry was closed in 2004. Currently, no large industrial wells are identified in the GWRA. The maximum industrial pumping was 485 afy in WY 1987. Groundwater pumping was primarily from the Santa Margarita and Lompico aquifers.
- Environmental Remediation: Groundwater pumped for environmental remediation has steadily declined from 465 afy in WY 1986 to an estimated 55 afy in WY 2014. Groundwater pumping for environmental remediation purposes is primarily from the Santa Margarita aquifer.

- Private Wells: Pumping from private wells for domestic use, landscape ponds and irrigation is not reported, but is estimated at approximately 286 afy. The maximum private pumping was 381 afy in WY 1987. Private pumping is assumed to have remained relatively stable over recent years, and is derived from the Santa Margarita, Monterey and Lompico aquifers.

As shown in **Table 11-2: Groundwater Production in the GWRA**, the annual groundwater pumping from the GWRA has continued to decline over the past several years. Total groundwater pumping in the GWRA was estimated at 2,261 afy in WY 2014. This represents a 58 afy decrease in GWRA pumping from WY 2013.

This long-term reduction is due to lower pumping by the water purveyors combined with declines in industrial and environmental remediation pumping. In the GWRA for WY 2014, about 78 percent of the total pumping is from the Lompico aquifer, 16 percent is from the Butano aquifer, and the remaining 6 percent is from the Santa Margarita and Monterey. Larger municipal and private wells typically pump from the Lompico and Butano aquifers, which can sustain higher pumping rates in the GWRA. Santa Margarita and Monterey aquifer pumping is generally from smaller wells or for environmental remediation (Kenney/Jenks, 2014).

Table 11-2: Groundwater Production in the GWRA (afy)

Aquifer	Historical Maximum	WY 2007	WY 2008	WY 2009	WY 2010	WY 2011	WY 2012	WY 2013	WY 2014
Santa Margarita ¹	894 (1987)	136	127	40	53	63	56	74	72
Monterey	587 (1984)	111	114	62	49	49	50	81	69
Lompico	2,705 (2003)	2,603	2,138	1,862	1,782	1,743	1,739	1,815	1,752
Butano	738 (1997)	522	385	446	349	323	386	348	368
Total	3,679 (1997)	2,381	2,765	2,410	2,233	2,178	2,231	2,319	2,261

Notes:

1. The Santa Margarita aquifer is not listed in Table 11-1 as SVWD does not pump groundwater from this shallow aquifer.

Source: Kennedy/Jenks Consultants, 2014.

11.4 Applicable Regulations, Plans, and Standards

11.4.1 Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States (U.S.) and has given the U.S. Environmental Protection Agency (U.S. EPA) the authority to implement pollution control programs. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The proposed project is within the jurisdiction of the Central Coast RWQCB.

Section 402 of the Clean Water Act authorizes the California State Water Resources Control Board (SWRCB) to issue NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the “General Construction Permit.” Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off-site into receiving waters.
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

The SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Increased compliance tasks under the adopted 2009 Construction General Permit include project risk evaluation, effluent monitoring, receiving water monitoring, electronic data submission of the SWPPP and all other permit registration documents, and a Rain Event Action Plan (REAP), which must be designed to protect all exposed portions of a project site within 48 hours prior to any likely precipitation event.

Section 401 of the CWA requires that any activity—including river or stream crossing during road, pipeline, or transmission line construction—that may result in discharges into a State waterbody be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. The limits of non-tidal waters

extend to the Ordinary High Water Mark (OHWM), which is defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. The U.S. Army Corps of Engineers (USACE) may issue either individual, site-specific permits or general, nationwide permits for discharge into US waters.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A Water Quality Certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for Water Quality Certification (or waiver thereof) from the RWQCB.

When an application for a Section 404 permit is made, the applicant must show it has:

- Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
- Minimized unavoidable impacts on waters of the U.S. and wetlands; and
- Provided mitigation for unavoidable impacts.

Section 303(d) of the CWA (CWA, 33 USC 1250, et seq., at 1313(d)) requires states to identify “impaired” water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to U.S. EPA for review and approval. An affected waterbody, and associated pollutant or stressor, is then prioritized in a list of impaired water bodies known as the 303(d) List. The CWA further requires the development of a Total Maximum Daily Load (TMDL) for each listing.

National Flood Insurance Program (NFIP)

The NFIP, implemented by the Congress of the United States in 1968, enables participating communities to purchase flood insurance. Flood insurance rates are set according to flood-prone status of property as indicated by FIRMs developed by FEMA. FIRMs identify the estimated limits of the 100-year floodplain for mapped watercourses, among other flood hazards. As a condition of participation in the NFIP, communities must adopt regulations for floodplain development intended to reduce flood damage for new development through such measures as flood proofing, elevation on fill, or floodplain avoidance.

11.4.2 State

Senate Bill (SB) 610

SB 610 was passed on January 1, 2002, amending California state law to require detailed analysis of water supply availability for large development projects. An SB 610 Water Supply Assessment (WSA) must be prepared if the following three conditions are met: 1) the proposed project is subject to CEQA under Water Code Section 10910; 2) the proposed project meets criteria to be defined as a “Project” under Water Code Section 10912; and 3) the applicable water agency’s current Urban Water Management Plan (UWMP) does not account for the

water supply demand associated with the proposed project. A proposed project would meet the definition of “Project” per Water Code Section 10912 if it is:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects specified in this subdivision; 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 (DWR, 2003).

Porter-Cologne Water Quality Control Act

SWRCB regulates water quality through the Porter-Cologne Water Quality Act of 1969, which contains a complete framework for the regulation of waste discharges to both surface waters and groundwater of the state. On the regional level, the proposed project falls under the jurisdiction of the Central Coast RWQCB, Region 3, which is responsible for the implementation of state and federal water quality protection statutes, regulations and guidelines.

California Department of Fish & Wildlife Code

Section 1602 of the California Department of Fish & Wildlife (CDFW) Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the CDFW in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

A Streambed Alteration Agreement is required prior to any construction if CDFW determines that a project could substantially adversely affect an existing fish and wildlife resource. The

Agreement includes measures to protect fish and wildlife resources while conducting the project. CDFW must comply with CEQA before it may issue a final Agreement; therefore, CDFW must wait for the lead agency to fully comply with CEQA before it finalizes the Agreement.

California Water Code §13050-§13260

California Water Code §13050. California Water Code §13050(e) defines “waters of the state” as “any surface water or groundwater, including saline waters, within the boundaries of the state.” California Water Code §13260 requires that any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State, other than into a community sewer system, must submit a report of waste discharge to the applicable RWQCB.

Central Coast RWQCB Post-Construction Stormwater Management Requirements

In July 2013, the Central Coast Regional Water Quality Control Board (RWQCB) adopted Order R3-2013-0032, which requires new and more stringent Post-Construction Requirements (PCRs) for proposed development projects. The PCRs mandate that development projects use Low Impact Development (LID) features and facilities to detain, retain, and treat site runoff. LID incorporates and conserves on-site natural features, together with constructed hydrologic controls to more closely mimic pre-development hydrology and watershed processes. Projects that receive their first discretionary approval after March 6, 2014, are subject to the PCRs if they create or replace 2,500 sf or more of impervious area.

The PCR tiers range from Tier 1 to Tier 4, with requirements strengthened for each additional tier. Tier 4 projects have the most stringent requirements. For these projects which create or replace 22,500 sf or more of impervious surface, post-development peak flows discharged from the site must not exceed pre-project peak flows for the 2-year through 10-year storm events. This requirement is in addition to other requirements for Tier 1-3 projects.

11.4.3 Local

City of Scotts Valley General Plan

Project relevant general plan policies for hydrology and water quality are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

11.5 Environmental Impacts and Mitigation Measures

11.5.1 Significance Criteria

The following significance criteria for hydrology & water quality were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to the proposed project.

An impact of the proposed project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Violate any water quality standards or waste discharge requirements, create any substantial new sources of polluted runoff, or otherwise degrade surface water or groundwater quality.
- Substantially deplete groundwater supplies or interfere with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Place within a watercourse or flood hazard area structures which would impede or redirect flood flows, or otherwise substantially alter the existing drainage pattern of an area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion, siltation, or flood-related damage on- or offsite.
- Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
- Result in or be subject to damage from inundation by mudflow.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

11.5.2 Summary of No and/or Beneficial Impacts

As shown in Figure 3-12: Residential Grading and Drainage Plan, the project site is located adjacent to but not within a 100-year flood hazard area. Based on the project site's location, it would not be subject to inundation by seiche, tsunami, or mudflow. Therefore, these thresholds are not evaluated further in this section.

11.5.3 Impacts of the Proposed Project

Impact HYD-1: Contribute to the depletion of local groundwater supplies or interfere with groundwater recharge (Class III).

The proposed project could substantially deplete local groundwater supplies or interfere with groundwater recharge if it:

- Affected a groundwater basin in overdraft conditions;
- Caused the affected groundwater basin to be in overdraft;
- Caused a substantial local groundwater level drawdown at wells in the area; or
- Redirected natural recharge to the basin, such as through the introduction of impervious areas that prevent infiltration.

As further explained in **Chapter 14: Public Services, Utilities & Services**, the proposed project would generate groundwater demand of approximately 38 afy, which would not exceed the capacity of the groundwater production system. It would not cause the groundwater basin to be in overdraft, and it would not result in substantial local groundwater level drawdown at wells in the area.

According to the Stormwater Control Plans for both the hotel and the residential development, the proposed project would result in 3.5 acres (approximately 40 percent of the project site) of net new impervious surfaces, which could reduce groundwater recharge. Pursuant to the Stormwater Control Plans, however, stormwater would be reduced through inclusion of bioswales and permeable pavers in the hotel project, on-site bio-retention areas in the residential project, and additional site landscaping in both projects. These features would allow for infiltration and replenishment of the groundwater basin.

In conclusion, the proposed project would not result in groundwater overdraft, substantial local groundwater level drawdown; or substantially redirect stormwater such that natural basin recharge would be precluded. Impacts to local groundwater would be less than significant (Class III).

Impact HYD-2: Increase stormwater runoff due to the increase in impervious surfaces (Class III).

The rate and amount of surface runoff is determined by multiple factors, including the amount and intensity of precipitation; amount of other imported water that enters a watershed; and amount of precipitation and imported water that infiltrates to the groundwater. Infiltration is determined by several factors, including soil type, antecedent soil moisture, rainfall intensity, the amount of impervious surfaces within a watershed, and topography. The rate of surface runoff is largely determined by topography and the intensity of rainfall over a given period of time. The proposed project would not alter any precipitation amounts or intensities, but it would result in importing recycled water to the project site for irrigation, as well as new impervious surfaces.

Development would include earth-disturbing activities, which may affect site-specific infiltration and permeability during construction (temporary) and operation (permanent). As stated above, the proposed project would result in 3.50 acres (approximately 40 percent of the project site) of net new impervious surfaces, which would increase stormwater flows. Based on preliminary estimates, post-construction stormwater flows for a 10-year storm event would be 3.87 cubic feet per second, compared to 3.93 cubic feet per second under existing conditions. **Table 11-3: Stormwater Flows for a 10-Year Storm Event** summarizes the preliminary calculation of stormwater flows that would result from the proposed project.

Table 11-3: Stormwater Flows for a 10-Year Storm Event

Impact	Without Project (cfs)	With Project (cfs)	Net Difference
Hotel Project Site	0.90	0.85	(0.05)
Residential Project Site	3.03	3.02	(0.01)
Total	3.93	3.87	(0.06)

Notes: CFS = cubic feet per second

Sources: C2G Civil Consultants Group, Inc.

Because the proposed project would disturb more than one acre of land, the project applicants would be required to submit a Notice of Intent to the State Board and apply for coverage under the State NPDES General Permit for Construction Activities, prepare a Stormwater Pollution Prevention Plan (SWPPP), and submit it for review and approval prior to commencing construction. In addition, the proposed project would create 22,500 sf or more of impervious surface area and be subject to state Tier 4 PCRs, requiring the implementation of LID measures.

The SWPPP would detail the site-specific BMPs to control erosion and sedimentation and maintain water quality during the construction phase of the proposed project. The project applicants have prepared preliminary erosion control plans that include silt fences, fiber rolls, drop inlet protection and curb inlet sediment barriers, and rocked construction site entrances. The SWPPP would also contain a summary of the structural and non-structural BMPs to be implemented during the post-construction period, pursuant to the nonpoint source practices and procedures as required by the City Public Works Department. Once grading begins, the SWPPP must be kept on-site and updated as needed while construction progresses.

It is suggested that the Tier 4 PCR requirements be incorporated into the proposed project's SWPPP; however, conceivably two separate reporting plans could be pursued. Regardless of the option pursued, the requirements for both processes are conditions of project approval which would reduce on- and off-site impacts.

Given that existing regulations require future project-specific applicants to prepare and submit a project SWPPP for review and approval prior to construction activities occurring on the project site, as well as adhere to Tier 4 PCR requirements for operation, the impact would be less than significant (Class III).

Impact HYD-3: Substantially alter drainage patterns on- or off-site that would result in the storm water transport of pollutants, bacteria, salts, and sediment into downstream facilities (Class III).

Existing regulations require project applicants to prepare and submit a project SWPPP for review and approval prior to construction activities, as well as adhere to Tier 4 PCR requirements for operation. These requirements would ensure that impacts to stormwater management and surface water quality would be less than significant (Class III).

11.5.4 Cumulative Impact Analysis

The geographical area for cumulative hydrology and water quality impacts is the SMGB.

Impact HYD-4: Contribute to cumulatively considerable effects on hydrology and water quality (Class III).

Past, present, and reasonably foreseeable future projects have already been accounted for as part of the SVWD groundwater demand projections through 2035 consistent with the City's General Plan build-out projections (SVWD, 2010). Based upon the *SVWD 2010 Urban Water Management Plan*, SVWD has adequate supply to meet demand during normal, dry, and multiple-dry years. The proposed project's incremental increase in water demand of 38 afy would not exceed the capacity of the water delivery system. The use of recycle water service would reduce overall demand. Moreover, in response to the drought, SVWD customers reduced system-wide potable water demand by 21 percent from July through December 2014, and by 17 percent in the period from February 2014 through June 2015, compared to the same periods in 2013. In the 2010 UWMP, SVWD identified several projects to increase supply reliability in the service area. These include the expansion of SVWD's Recycle Water Program and future exchange with the Santa Cruz Water Department. Based on these estimates of project-related demand and SVWD supply projections, the proposed project, combined with past, present, and reasonably foreseeable future projects, would result in less-than-significant impacts to groundwater.

Present and reasonably foresee future projects larger than one acre would also be required to prepare a SWPPP. Similarly, present and reasonably foreseeable future projects that create or replace 2,500 sf or more of impervious area would be required to meet PCR standards, with the Tier dependent upon the total impervious surface created or replaced. The proposed project, combined with these projects, would result in less-than-significant cumulative impacts to stormwater quantity and water quality.

11.5.5 Level of Significance after Mitigation

Table 11-4: Summary of Impacts and Mitigation Measures – Hydrology & Water Quality summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to hydrology & water quality.

Table 11-4: Summary of Impacts and Mitigation Measures – Hydrology & Water Quality

Impact	Impact Significance	Mitigation
Impact HYD-1: Contribute to the depletion of local groundwater supplies or interfere with groundwater recharge.	Less than Significant	None required
Impact HYD-2: Increase stormwater runoff due to the increase in impervious surfaces.	Less than Significant	None required
Impact HYD-3: Substantially alter drainage patterns on- or off-site that would result in the storm water transport of pollutants, bacteria, salts, and sediment into downstream facilities.	Less than Significant	None required
Impact HYD-4: Contribute to cumulatively considerable effects on hydrology and water quality.	Less than Significant	None required

11.6 References

City of Scotts Valley. 1994. General Plan.

DWR (California Department of Water Resources). 2003. “Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to assist water suppliers, cities, and counties in integrating water and land use planning.” Available at:
<http://www.water.ca.gov/publications/browse.cfm?display=topic&pub=120,127&sort=date>

Federal Emergency Management Agency (FEMA). 2012. Flood Insurance Rate Map: Santa Cruz County, California, and Incorporated Areas. Panel 228 of 470. Map Number 06087C0228E. May 16.

Kennedy/Jenks Consultants. 2014. Scotts Valley Water District Annual Groundwater Report.

Kennedy/Jenks Consultants. 2010. Scotts Valley Water District Urban Water Management Plan.

12 Land Use & Planning

12.1 Introduction

This section describes effects on land use that would be caused by implementation of the proposed project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from project construction and operation. In addition, existing laws, regulations, and standards relevant to land use and recreation are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts.

12.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by agencies and the public regarding the project were received. No issues related to land use and planning were raised during the scoping period.

12.3 Environmental Setting

This section presents information on the existing conditions of the proposed project site and vicinity for land use.

12.3.1 Project Site Land Uses

The project site is currently vacant and was previously approved for a 192,555 sq. ft. commercial office building known as Borland Phase II. Borland International built Phase I (now known as the Enterprise Technology Center) but did not build Phase II and the property was sold in the summer of 2013.

12.3.2 Land Uses in the Project Site Vicinity

Highway 17 borders the project site to the north. Across Highway 17 is a residential development comprising single-family homes. East of the site is an area entitled for 44 single-family residences known as Polo Ranch. Southeast of the site is a residential neighborhood of single-family homes. South of the site is the Enterprise Technology Center, a 480,000 sf commercial office and research and development park.

12.3.3 Applicable Regulations, Plans, and Standards

Appendix G of the State CEQA Guidelines recommends the evaluation of a proposed project's potential conflicts with: (1) any applicable land use plan, policy or regulation of an agency having jurisdiction over a proposed project adopted for the purpose of avoiding or mitigating an environmental effect; and (2) any applicable Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). There are no applicable federal or State land use plans. Applicable local land use plans and ordinances for land use and recreation are described in the

following paragraphs. Please see [Chapter 6: Air Quality](#) for a discussion of the project's consistency with applicable federal, State, and local air quality plans.

12.3.4 Local

General Plan

The City of Scotts Valley General Plan is the comprehensive planning document governing development within the City, and contains goals, policies, and programs describing the community's vision for economic viability, livable neighborhoods, and environmental protection.

The General Plan, as amended, establishes policies for the orderly growth and development of the City of Scotts Valley. Among other purposes, the General Plan identifies policies necessary to protect and enhance those features and services which contribute to the quality of life of the community in which it serves.

The General Plan is a comprehensive policy plan which sets forth a series of written statements (goals, policies and objectives) defining the direction, character and composition of future land use development, and establishes guidelines (policies and actions) necessary to attain conformance with the plan. It is made up of 8 elements and various maps which accompany the elements. The elements are: 1) Land Use, 2) Circulation, 3) Housing (2009–2014), 4) Open Space and Conservation, 5) Noise, 6) Safety, 7) Public Services and Facilities, and 8) Parks and Recreation. The General Plan Land Use Plan Map visually represents the physical relationship of all portions of the text, including development densities.

General Plans are reviewed annually and should be updated every 3 years to ensure that the most recent technical data, community goals and state law requirements are recognized. Major updates typically occur every 10 to 30 years, depending on changes in land use patterns, growth and development pressures, and new regulations.

As shown in [Figure 12-1: Existing and Proposed General Plan Designations](#), the project site, as well as the Enterprise Technology Center campus to the southwest, are designated Research and Development (R&D) in the General Plan. These are the only properties designated R&D within the City.

Zoning

The Scotts Valley Zoning Ordinance implements the land use designations of the General Plan. As shown in [Figure 12-2: Existing and Proposed Zoning Designations](#), the project site is zoned Research & Development (Planned Development) (I-RD (PD)). The Research & Development base district is an industrial district intended for R&D uses.

The purpose of I-L (light industrial) zoning district is to accommodate industrial and industrially related land uses and provide a location for businesses that are inappropriate in commercial or residential zones because of their operations or sizes. Such uses may create noise, odor, dust,

or glare, as well as create impacts to traffic, the aquifer, or air quality (Section 17.26.010.). According to Zoning Code section 17.04.201, “research and development” business are those whose function includes information gathering, scholarly or scientific inquiry or investigation, medical research, high technology or the development of computer software.

Planned Development (PD) districts must be combined with a base zoning district, and they are to be individually designed to meet the needs of the property (taking into account topography, vegetation, and other development constraints). , PD districts allow for increased flexibility up to the maximum allowable density. Development must be undertaken pursuant to a “general development plan,” which is adopted by the City Council as part of any planned development zoning ordinance (Section 17.38.020).

12.4 Environmental Impacts and Mitigation Measures

12.4.1 Significance Criteria

The following significance criteria for land use & planning were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Physically divide an established community.
- 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.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

12.4.2 Summary of No and/or Beneficial Impacts

Physically Divide an Established Community

The proposed project would not physically divide an established community because it is located in within the City limits and would be compatible with surrounding land uses. In addition, existing roadway connections to the surrounding community would be maintained. Therefore, there would be no impact.

The environmental effects related to compatibility between proposed on-site land uses and adjacent land uses during both construction and operation are described in the respective impact section of the following environmental resource chapters: Aesthetics, Air Quality, and Noise.

Within the Boundaries of an Adopted Habitat Conservation Plan

The project site is not located within the boundaries of an adopted Habitat Conservation Plan or Natural Community Conservation Plan, and therefore there would be no impact. The impacts to biological resources are presented in Chapter 7.

12.4.3 Impacts of the Proposed Project

Impact LU-1: Substantially conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (Class III)

General Plan Amendment

As shown in Figure 12-1: Existing and Proposed General Plan Designations, the proposed project would include a General Plan amendment that would re-designate the southwestern portion of the project site from R&D to Service Commercial (C-S). This designation is intended for areas where the uses can benefit from access to highway interchanges, including retail stores and shops, food and motel/hotel establishments, services such as printing shops and electrical repair shops, and heating and ventilation shops. Building coverage is limited to 45 percent of the lot area, and the maximum building height is 35 feet.

The General Plan amendment would also re-designate the eastern and northern portion of the project site from R&D to High Density Residential (R-H). The R-H designation allows for residential development at a density of 9 to 15 units per acre.

Zone Change

As shown in Figure 12-2: Existing and Proposed Zoning Designations, the western portion of the project site would be re-zoned from I-RD(PD) to Service Commercial (Planned Development) (C-S (PD)). The C-S district is intended to create and maintain areas accommodating city-wide and regional service that may be inappropriate in neighborhood or pedestrian-oriented areas, and which generally require automotive access. Hotel and motel

uses are conditionally permitted in C-S zones. Although building heights are limited to 35 feet, development standards would be resolved through the PD process.

The eastern portion of the site would be zoned High-Density Residential/Planned Development (R-H/PD). The R-H classification is intended to provide areas for apartments, townhouses, condominiums, and similar developments with a maximum amount of open space.

PD districts must be combined with base zoning districts and are individually designed to meet the needs of the property. Development of the property can only occur pursuant to a PD permit issued in strict conformity with the general development plan, or with the underlying base district. The general development plan must be adopted as part of the PD, and includes detailed specifications, such as permitted land uses and sizes, landscape areas and open space, dimensioned streets and driveways (both public and private), use standards, and other development standards.

Concurrent with City Council approval, the proposed project would be consistent with the amended General Plan and changed zoning land use designations. Any potential conflicts with the development standards—such as maximum height, setback, or other requirements—would be resolved through the Planned Development (Zoning) Overlay and Permits (PD) general development plan approval process.

Ordinances and Regulations

The proposed project would be required to comply with all applicable City of Scotts Valley ordinances and regulations. Furthermore, the proposed project would be required to comply with all identified Conditions of Approval, as augmented by the decision-makers.

General Plan Consistency Analysis

A consistency analysis of the proposed project with the General Plan is provided in **Table 12-1: General Plan Consistency Analysis**. Consistent with the scope and purpose of this EIR, the consistency analysis primarily focuses on those General Plan policies that relate to avoiding or mitigating environmental impacts, and an assessment of whether any inconsistency with these standards creates a significant physical impact on the environment. Only policies relevant and applicable to the proposed project were included. It should also be noted that the consistency analysis is intended to guide policy interpretation, but is not intended to replace or supplant the City of Scotts Valley decision-makers. The final determination of consistency will be made by the decision-makers when they act on the proposed project.

As described in **Table 12-1: General Plan Consistency Analysis**, the proposed project—inclusive of the proposed General Plan Amendment to Service Commercial and High-Density Residential—was found to be generally consistent with the majority of relevant General Plan policies.

Table 12-1: General Plan Consistency Analysis (located at the end of this Chapter) provides a consistency analysis of the proposed project with relevant general plan goals and policies. The analysis concluded that the proposed project would be consistent with all relevant policies assuming City Council approval of the proposed General Plan amendment and zoning change and adoption of this EIR and the mitigation measures identified herein.

Given the proposed project would be consistent with applicable General Plan policies, as well as all ordinances and regulations, impacts would be less than significant (Class III) and no mitigation measures would be required.

12.4.4 Cumulative Impact Analysis

The geographic area for the analysis of cumulative impacts to land use and planning is northern portion of the City of Scotts Valley, where land use changes could interact with land use changes under the proposed project to result in cumulative effects.

Impact LU-2: Contribute to cumulatively considerable land use impacts (Class III).

Land use impacts would be cumulatively considerable if the proposed project, in conjunction with other past, present, reasonably foreseeable future projects, would either preclude a permitted land use or create a disturbance that would diminish the function of a particular land use.

As described above, the proposed project, with implementation of the General Plan amendment and zone change, would be consistent with the City's General Plan. All feasible mitigation measures to address environmental impacts of the project have been described in this EIR.

Currently, the project site is designated for research and development use, and the project would result in a change in designation to service commercial and residential use. In proximity to the proposed project site, the only other project that could combine with the proposed project to result in cumulative land use impacts is the already-approved Polo Ranch residential project, to the northeast. Together, these two projects result in a conversion of land use designation in northeast Scotts Valley to residential, generally consistent with the policies and objectives of the General Plan. Given the project's consistency as well as the potential for other projects in the cumulative scenario to be generally consistent with the land use policy framework, overall cumulative land use consistency impacts would be Class III, less than significant, and no mitigation would be required.

12.4.5 Level of Significance after Mitigation

Table 12-2: Summary of Impacts and Mitigation Measures – Land Use & Planning summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to land use & planning.

Table 12-2: Summary of Impacts and Mitigation Measures – Land Use & Planning

Impact	Impact Significance	Mitigation
Impact LU-1: Substantially conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	Less than significant	None required
Impact LU-2: Contribute to cumulatively considerable land use impacts	Less than significant	None required

12.4.6 References

City of Scotts Valley. 1994. General Plan.

City of Scotts Valley. 2015. Municipal Code. Available online:
https://www.municode.com/library/ca/scotts_valley/code_of_ordinances.

Table 12-1: General Plan Consistency Analysis

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
Land Use			
LP-3	The City shall promote the availability of adequate sites for a variety of housing types and densities consistent with Housing Element goals and environmental constraints.	Re-designation of a portion of the project site for High Density Residential through a General Plan amendment would expand the City's supply of housing types and sites and thereby support the City's Housing Element goals of housing production.	Consistent Land Use & Planning; Housing
LP-25	The City shall prohibit new land use activities within and in close proximity to residential zones that generate undesirable impacts which cannot be mitigated.	The project site is buffered by trees and Highway 17 from existing residential areas. Landscaping, controlled lighting, and existing noise regulations would help minimize hotel impacts on the adjacent proposed residential units.	Consistent Land Use; Aesthetics; Noise & Vibration
LP-28	The City shall promote availability of commercial sites to accommodate a mix of professional office, service commercial, and shopping center developments consistent with the environmental, service, and economics goals of the City.	The proposed project would entail a General Plan Amendment and Zone Change to apply a Service Commercial designation to the western portion of the project site.	Consistent Land Use & Planning
LP-33	Commercial developments shall be designed and screened in an attractive manner and thereafter maintained so as to integrate the entire development visually with the overall natural beauty of the Planning Area.	The proposed hotel would be visually screened in accordance with development specifications detailed in the Planned Development (PD) general development plan, which would be reviewed and approved by the Planning Commission and City Council as part of PD approval.	Consistent Aesthetics

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
LO-37	Ensure compatibility between commercial developments and surrounding land uses.	The proposed hotel use would be compatible with the research-and-development office park use to the west, as well as the high-density residential uses that would be included in the proposed project. The project site is physically separate from developments to the north and south by Highway 17 and the Carbonera Creek, respectively. Moreover, the proposed high-density residential uses would serve to transition from the hotel use to the existing residential uses to the south across Carbonera Creek.	Consistent Land Use & Planning
LP-45	Commercial land uses should be concentrated along the urban core of the City.	The proposed project would not affect the concentration of commercial land uses along the urban core of the City. It would extend the presence of commercial uses from Mt. Herman Road to the south, along Scotts Valley Drive, to Highway 17 in the north.	Consistent Land Use & Planning
Circulation			
CP-109	The integrated transportation system shall be designed, constructed, and maintained to minimize adverse impacts on the Planning Area, particularly on adjoining uses of land.	Chapter 15: Transportation & Circulation, documents the impacts of the proposed development.	Consistent Transportation & Circulation
CP-132	The traffic circulation system of the city shall be improved to extend and connect streets as needed for future development and present convenience.	The proposed project would connect to the Santa's Village Road extension.	Consistent Transportation & Circulation
CP-151	Require new development to identify traffic problem areas as a part of the monitoring program and condition projects to mitigate problems.	Traffic impacts are analyzed in Chapter 15: Transportation & Circulation.	Consistent Transportation & Circulation
CP-165	The City shall plan for sidewalk construction as part of new development and improvement projects in appropriate areas.	The planned extension of Santa's Village Road includes the construction of a new sidewalk along the northern border of the project site. Crosswalks and sidewalks would be constructed throughout the project site.	Consistent Transportation & Circulation

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
CP-167	Adequate provision shall be made for pedestrian crossings at appropriate locations.	See Policy CP-167, above.	Consistent Transportation & Circulation
CP-171	The City shall require the undergrounding of utilities along roadways.	All utility connections to the project site would be located underground.	Consistent Public Services, Utilities & Service Systems; Aesthetics
CP-173	The City shall require appropriate landscaping and/or barrier screening in all new projects to screen off objectionable views along roads, streets and highways.	The proposed project's landscaping plan includes tree planting to screen views from adjacent roadways, particularly Highway 17. This plan would undergo final approval as part of the Planned Development review process.	Consistent Aesthetics
CP-193	The City shall require existing and new developments adjacent to Highway 17 to screen their parking, roof-top equipment, storage and loading areas to improve and enhance views from the highway.	Hotel parking would be screened with trees and boarder landscaping along the north side (facing Highway 17 and to the west and south adjacent to the proposed residential units. Rooftop screening of mechanical equipment would be required as part of the Planned Development review process. A trash enclosure is proposed at the southeast corner of the hotel parking lot and would be enclosed by a wall with clinging vines and trees. Residential street parking would be screened with trees and generally oriented perpendicular to Highway 17.	Consistent Aesthetics
Housing			
1.1	Encourage the production of new residential development which provides a choice of housing type, density, and cost to meet the housing needs of all segments of the community.	The proposed project would result in the development of 50 units of townhouse development, which would complement existing housing types in the community.	Consistent Population and Housing

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
1.2	Ensure that new resident sites have appropriate community services and public facilities, including streets and roadways, water, sewer, and other needed infrastructure.	The proposed project would be adequately served by community services and infrastructure.	Consistent Public Services, Utilities, & Services
1.3	Facilitate and encourage the development of mixed-use residential and commercial projects at appropriate locations along major corridors within established design guidelines.	The proposed project would result in development of separate commercial and residential developments in proximity to major corridors.	Consistent Land Use & Planning; Aesthetics
2.3	Ensure that residential projects are of high quality and thoughtful design through the implementation of architectural and design standards and review.	Both the residential and hotel projects incorporate a variety of architectural materials (e.g. wood and stone) and details that are representative of a high-quality design. Furthermore, the proposed project's design would be reviewed as part of the Planned Development process prior to final building permit approval.	Consistent Aesthetics
4.2	Ensure that new development proposals are adequately evaluated for their impact upon cultural resources, sensitive habitats and species, environmental features, and other such factors.	The proposed project's environmental impacts are documented throughout this EIR and where relevant, mitigation measures identified.	Consistent Cultural Resources; Biological Resources; Geology & Soils
4.3	Require that all residential developments be thoughtfully integrated into the natural environment, including woodlands, hillsides, view sheds, wetlands, and other features in the natural terrain.	The project site is relatively flat and located adjacent to Carbonera Creek. The riparian habitat would remain largely undisturbed and were modified, replacement plantings have been proposed as mitigation. The remainder of the project site is disturbed and contains non-native grassland. The proposed project would have less-than-significant impacts to aesthetics, biological, and geologic resources.	Consistent Aesthetics, Geology & Soils, Biological Resources
Open Space and Conservation			
OSP-318	New development proposed in, or adjacent to, areas containing native plant communities shall be carefully planned and provide for the conservation and maintenance of those plants.	The project site is disturbed and contains non-native grasses. Based on biological surveys prepared for the proposed project, there is no evidence of rare plants or special-status native plant species.	Consistent Biological Resources

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
OSP-325	Environmentally sensitive habitat areas and rare or endangered animal species shall be preserved.	The proposed project site has riparian habitat, but impacts would be less than significant with identified mitigation.	Consistent Biological Resources
OSP-337	The City shall maintain a storm drainage system which provides optimal flood protection and maximum groundwater recharge.	The proposed project includes a variety of stormwater management design solutions including pervious pavers, on-site bio-swales, and retention basins that would maintain or improve pre-construction drainage conditions and promote effective groundwater recharge and avoid flood impacts to Carbonera Creek.	Consistent Hydrology & Water Quality
OSP-345	New developments shall minimize the amount of impervious surfaces.	The proposed project would substantially increase the amount of impervious surfaces on the project site compared to existing conditions. However, the stormwater drainage system would be designed to minimize impacts to stormwater quantity and quality, as described above in Policy OSP-337.	Potentially Inconsistent Hydrology & Water Quality
OSP-351	The City shall protect the planning area streams, creeks, ponds, and aquifers from pollution due to toxic substances, and erosive forces.	To minimize erosion and protect Carbonera Creek, the proposed project incorporates a number of construction-related Best Management Practices including: the design and construction of cut and fill slopes in a manner that will minimize erosion, protection of exposed slope areas, control of surface water flows over exposed soils, use of wetting or sealing agents or sedimentation ponds, limiting soil excavation in high winds, construction of beams and runoff diversion ditches, and use of sediment traps, such as hay bales. Proposed bioswales and other Low Impact Development design features would filter stormwater prior to entering the groundwater.	Consistent Hydrology & Water Quality; Hazards & Hazardous Materials; Geology & Soils
OSP-358	The City will place conditions on new industrial and commercial development appropriate to maintain federal and state ambient air quality standards.	Both the proposed hotel and residential units will be compliant with all relevant federal and state ambient air quality standards (see Chapter 6: Air Quality).	Consistent Air Quality

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
OSP-359	The City will use the environmental review process to determine potential air quality impacts of project proposals.	See Policy OSP-358, above.	Consistent Air Quality
OSP-379	Site planning for development in the City shall protect and enhance the natural environment.	See Housing Policy 4.3, above.	Consistent Biological Resources
OSP-381	The City shall discourage scattered development or urban sprawl which may be detrimental to the City's visual beauty and increase significantly the cost of providing City services.	The project site is surrounded on all sides by existing or approved development. As such, development of the project site would not constitute sprawl.	Consistent Land Use & Planning
OSP-382	Encourage infilling on vacant land within existing developed areas; infilling development shall be compatible with surrounding existing development. Where infilling is not feasible, new development should occur adjacent to existing urban areas where services are available or can be easily extended.	The project site is an infill site, surrounded on all sides by existing or approved development. The project uses would be consistent with surrounding existing and approved development.	Consistent Land Use & Planning; Public Services, Utilities & Service Systems
OSP-385	The City shall protect the visual resources of Scotts Valley by requiring that new development be integrated into the natural setting.	See Housing Policy 4.3, above.	Consistent Aesthetics
OSP-398	The archaeological sensitivity zone map shall be used, along with other appropriate data, to evaluate whether archaeological resources are threatened by proposed development projects.	According to the General Plan, the project is located within a high and moderate archaeological sensitivity zone. Mitigation measures have been incorporated into this EIR to reduce impacts to a less than significant level.	Consistent Cultural Resources
OSP-412	Land slope shall be considered in evaluating land use activity.	The project site is relatively flat. Impacts related to landslide or slope instability would be less than significant.	Consistent Geology & Soils
OSP-415	Because of their open space and aesthetic values, creeks shall be preserved as nearly as possible in their natural state, and consistent with protection of adjacent properties.	See Housing Policy 4.3, and Policy OSP-351, above.	Consistent Aesthetics, Biological Resources, Hydrology & Water Quality

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
OSP-418	Fire Department approvals for building setback from open space or undeveloped property shall be required to insure adequate clearances from potential wildfires.	Scotts Valley Fire Protection District requirements regarding building setbacks would be reviewed as part of the Planned Development review process and would be complied with prior to approval of any building permit.	Consistent Public Services, Utilities, & Services Systems; Hazards & Hazardous Materials
OSP-420	Utilize natural features supplemented by engineering designs to prevent contaminants from settling over recharge areas while allowing percolation of non-contaminated water into the aquifer.	The project site is located in an area designated for potential groundwater recharge. Proposed bioswales and other Low Impact Development design features would filter stormwater prior to entering the groundwater	Consistent Hydrology & Water Quality
Noise			
NP-442	New developments which may increase the day-night noise level by more than the levels shown in Table 3 shall be approved only when proper noise attenuation design measures have been incorporated to the City's satisfaction.	The proposed project would not increase day-night noise levels by more than the levels shown in Table 3 of the Noise Element of the General Plan. Additionally, both projects will be required to incorporate interior noise attenuation features (e.g. special windows and doors) to reduce the impacts of vehicular noise from Highway 17 on residents and hotel guests (see Chapter 13 – Noise & Vibration, Mitigation Measures MM N-3.1 and MM N-3.2)	Consistent Noise & Vibration
NP-445	New developments shall include measures to minimize increases in local ambient noise levels.	The proposed land uses are considered low-noise generators and would not appreciably increase local ambient noise levels.	Consistent Noise & Vibration
NP-451	New developments shall include noise attenuation measures to reduce the effects of existing noise to acceptable levels.	See Policy NP-442, above.	Consistent Noise & Vibration
NP-455	The City planning and building department shall ensure noise attenuation techniques are constructed in new developments.	See Policy NP-442, above.	Consistent Noise & Vibration
NP-459	The City shall identify and minimize existing noise pollution source.	See Policy NP-442, above.	Consistent Noise & Vibration
Safety			

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
SP-468	The City shall require new development to provide adequate improvements for maximum fire protection.	See OSP-418.	Consistent Public Services, Hazards & Hazardous Materials
SP-474	The City shall require that new development have water available in the area pursuant to Table S-1 for fire suppression. Water availability shall be provided by the appropriate water purveyor.	The project applicants would be required to pay for all water main relocation costs and comply with all other terms of service specified in a water main extension agreement to be negotiated between the respective applicant and the Scotts Valley Water District.	Consistent Public Services, Utilities & Service Systems
SP-476	The City, in cooperation with the fire district, shall insure that all buildings constructed include fire safety features, such as automatic fire sprinkler system, class "C" or better roof covering, and fire detection and alarm systems.	See OSP-418.	Consistent Public Services, Utilities & Service Systems
SP-482	Proposed development in known flood prone areas shall be approved only if adequate measures are provided to reduce potential flood hazards.	The proposed project is located adjacent to but outside the boundary of the 100-year flood plain for Carbonera Creek.	Consistent Hydrology & Water Quality
SP-489	In a geologic hazard area, development shall be approved only after a detailed geotechnical evaluation is completed by a registered geologist, and only if adequate measures are provided to avoid or substantially reduce any identified hazard.	The project site is not located in a geologic hazard area as defined by the General Plan. A preliminary geotechnical analysis was prepared for the project site and includes preliminary foundation and building recommendations. A final geotechnical report will be required prior to issuance of building permits.	Consistent Geology & Soils
Public Services and Facilities			
PSP-533	The City shall require that all new development proposals and/or changes in land use be referred to the police department for law enforcement evaluation and to the fire department for evaluation of fire and life safety issues.	Preliminary project plans have been reviewed by Scotts Valley Police Department and the Scotts Valley Fire District. More detailed constructions plans will be submitted for review as part of the Planned Development Review process.	Consistent Public Services, Utilities & Service Systems

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
PSP-541	As part of the environmental review process, the City shall evaluate new residential developments for their potential impact on student enrollment in the public school system. Applicants for approval of residential development projects will be expected to demonstrate that adequate mitigation measures will be in place to offset the identified increase in student enrollment directly related to the residential development project. The adequacy of the proposed mitigation measures shall be determined on a case by case basis, consistent with the stated goals, objectives, policies and programs under the City's General Plan. Consideration of adequate mitigation measures shall include, but not be limited to, those measures set forth under California Government Code Section 65996.	The residential portion of the proposed project would generate an estimated 22 elementary, middle, and high school students. The project applicants would be required to pay the appropriate school impact fees consistent with SB 50, CA Government Code Sections 65995-65998, and CA Education Code Section 17620(a)(1) prior to building occupancy.	Consistent Public Services, Utilities & Service Systems
PSP-559	The City shall cooperate with water districts which serve the Planning Area and with owners of private wells to promote water service, infrastructure improvements, and sound resource management.	The proposed project would require extension of water supply infrastructure to meet the project's demand. The Scotts Valley Water District has reviewed preliminary project plans, and the applicants continue to coordinate with the District regarding water service.	Consistent Public Services, Utilities & Service Systems
PSP-568	The City shall not allow existing or new private wells to serve new development. For purposes of this policy, "new development" is defined as projects which require discretionary review.	The proposed project would not be served by a private well.	Consistent Public Services, Utilities & Service Systems
PSP-570	Sewage disposal shall be in accordance with the City's Wastewater Plan.	The proposed project's wastewater would be disposed in accordance with the City's Wastewater Plan.	Consistent Public Services, Utilities & Service Systems
PSP-585	The City shall encourage the placement of existing power transmission lines, power disruption lines, and communication lines underground.	The proposed project's utility lines would be located underground.	Consistent Aesthetics; Public Services, Utilities & Service Systems

Element / Policy #	Policy	Consistency Analysis	Consistency Determination / Applicable EIR Section(s)
PSP-587	The City shall require the extension of new power distribution lines and communication lines underground.	The proposed project's utility lines would be located underground.	Consistent Aesthetics; Public Services, Utilities & Service Systems
Parks & Recreation			
PRP-604	The City shall plan and maintain a park system that serves the residential, industrial, and commercial segments of the community.	The General Plan indicates that the City Code shall require five (5) acres of active parkland per 1,000 population. The proposed project would generate up to 134 residents, which would not substantially affect the per-capita open space ratio of the City. The applicant would pay Park and Recreation development impact fees pursuant to Municipal Code Section 15.20.030.	Consistent Recreation
PRP-613	The City shall provide the best level of funding to maintain and enhance the park system the City can afford.	The applicant for the commercial component of the proposed project would pay development impact fees, pursuant to Municipal Code Section 15.20.030 to enhance the City's parks and open space system.	Consistent Recreation

13 Noise & Vibration

13.1 Introduction

This section describes the noise effects that would be caused by implementation of the project. Information used to prepare this section came from the following resources:

- Edward L. Pack Associates. Inc. 2015. Traffic Noise Assessment Study for the Planned “100 Enterprise Way” Condominium Development, Highway 17, Scotts Valley. June 8.

13.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by agencies and the public regarding the project were received. No issues related to noise were raised during the scoping period.

13.3 Environmental Setting

13.3.1 General Information on Noise

To describe environmental noise and to assess impacts on areas sensitive to community noise, a frequency weighting measure that simulates human perception is customarily used. The frequency weighting scale known as A-weighting best reflects the human ear’s reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. In general, a difference of more than 3 dBA is a perceptible change in environmental noise, while a 5 dBA difference typically causes a change in community reaction. An increase of 10 dBA is perceived by people as a doubling of loudness.

People experience a wide range of sounds in the environment. Excessive noise is not only undesirable but may also cause physical and/or psychological damage. The amount of annoyance or damage caused by noise is dependent primarily upon: the amount and nature of the noise, the amount of ambient noise present before the intruding noise, and the activity of the person working or living in the area. Environmental and community noise levels rarely are of sufficient intensity to cause irreversible hearing damage, but disruptive environmental noise can interfere with speech and other communication and be a major source of annoyance by disturbing sleep, rest, and relaxation.

Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. Therefore, the cumulative noise level from two or more sources will combine logarithmically, rather than linearly (i.e., simple addition). For example, if two identical noise sources produce a noise level of 50 dBA each, the combined noise level would be 53 dBA, not 100 dBA. Sound is generally propagated by spherical spreading according to the “inverse square law,” where the sound energy decreases with the square of the distance. As such, the sound pressure level would be reduced by 6 decibels per doubling of distance from

a ground-level stationary or point source. For a noise source which is relatively long, such as a constant stream of highway traffic (line source), the sound pressure spreads at a rate of 3 decibels per doubling of distance. At very large distances, beyond several hundred feet, wind and temperature gradients influence sound propagation. Changes in noise levels due to wind are generally short-term without persistent directional winds, where some hours may be a 1 or 2 decibels louder than others within the margin of precision of this assessment.

The community noise environment and the consequences of human activities cause noise levels to be widely variable over time. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq) or by an average level occurring over a 24-hour period. The Leq, or equivalent sound level, is a single value for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually 1 hour.

Given the sensitivity to noise increases during evening and nighttime hours when people are trying to sleep, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time sounds. The Community Noise Equivalent Level, CNEL, is a measure of the day-night noise exposure, with a 5-decibel penalty added to evening sounds (7:00 p.m. to 10:00 p.m.) and a 10 dBA addition to nighttime sounds (10:00 p.m. to 7:00 a.m.). The Ldn, or day-night average sound level, is equal to the 24-hour equivalent sound level (in dBA) with a 10 decibel penalty applied to nighttime sounds occurring between 10:00 p.m. and 7:00 a.m.

Community noise levels are closely related to the intensity of human activity and land use. Noise levels are generally considered low when ambient levels are below 45 dBA Leq, moderate in the 45 to 60 dBA Leq range, and high above 60 dBA Leq. In wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn is more likely to be approximately 50 or 60 dBA. Levels of approximately 75 dBA Leq are more common in busy urban areas (e.g. downtown Los Angeles), and levels up to 85 dBA Leq occur near major freeways and airports.

Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, the surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day-to-night difference can be considerably less. Areas with full-time human occupation that are subject to nighttime noise are often considered objectionable because of the likelihood of disrupting sleep. Noise levels higher than 45 dBA Ldn at night can result in the onset of sleep interference effects. At 70 dBA Ldn, sleep interference effects become considerable (U.S. EPA, 1974).

13.3.2 General Information on 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. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by heavy equipment or traffic on rough roads attenuates rapidly with distance from the source of the vibration so that impact areas are confined to short distances (i.e., within 200 feet or less) from the source (FTA, 2006). The general human response to different levels of groundborne vibration velocity levels is described in [Table 13-1: Human Response to Different Levels of Groundborne Vibration](#).

Table 13-1: Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 Vdb	Approximate threshold of perception for many people.
75 Vdb	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying.
85 Vdb	Vibration acceptable only if there are an infrequent number of events per day.
90 Vdb	Difficulty with tasks such as reading computer screens.

Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment. May 2006.

13.3.3 Regional Setting

The project site is located in the City of Scotts Valley, in Santa Cruz County, adjacent to Highway 17. Noise generated from vehicles traveling along Highway 17, Mt. Hermon Road, and Scotts Valley Drive represent the most substantial noise source in the City.

13.3.4 Project Setting

Traffic traveling along Highway 17 generates the most substantial noise at the project site. The commercial office uses to the south, as well as the residential and open spaces uses to the east, do not generate substantial or sustained noise.

13.3.5 Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have

more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance.

Sensitive receptors near the project site include:

- Vine Hill Elementary School located 300 feet northwest (across Highway 17)
- Baymonte Christian School / Gateway Bible Church located 500+ feet south
- Single-family residential neighborhoods located 250 feet west (across Highway 17) and 300 feet east (Polo Ranch, entitled)
- The Enterprise Technology Center located 150 feet south

13.4 Applicable Regulations, Plans, and Standards

13.4.1 Federal

U.S. Department of Transportation Federal Transit Administration

The U.S. Department of Transportation Federal Transit Administration (FTA) has recommended noise criteria related to traffic-generated noise. Recommendations contained in the FTA's May 2006 Transit Noise and Vibration Impact Assessment are commonly used as guidance to determine whether or not a change in traffic would result in a substantial permanent increase in noise.

Under the FTA standards, the allowable noise exposure increase is reduced with increasing ambient existing noise exposure, such that higher ambient noise levels have a lower allowable noise exposure increase. [Table 13-2: Significance of Changes in Operational Roadway Noise Exposure](#) shows the significance thresholds for increases in traffic-related noise levels. These standards are applicable to project-impacts on existing sensitive receptors.

Table 13-2: Significance of Changes in Operational Roadway Noise Exposure

Existing Noise Exposure (dBA Ldn or Leq)	Allowable Noise Exposure Increase (dBA Ldn or Leq)
45-49	7
50-54	5
55-69	3
60-64	2
65-74	1
75+	0

Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment. May 2006.

The FTA also recommends vibration impact thresholds to determine whether groundborne vibration would be “excessive.” According to FTA, groundborne vibration impact criteria for residential receptors are 72 Vdb for frequent events, 75 Vdb for occasional events, and 80 Vdb for infrequent events (FTA, 2006). The FTA recommends an 80 Vdb threshold for infrequent events at residences and buildings where people normally sleep and 83 Vdb threshold at institutional buildings with primarily daytime uses.

In terms of groundborne vibration impacts on structures, the FTA states that groundborne vibration levels in excess of 100 Vdb would damage fragile buildings, and levels in excess of 95 Vdb would damage extremely fragile historic buildings. The threshold for this project is 80 Vdb for infrequent events at residences and buildings where people normally sleep (e.g. residential neighborhoods).

Occupational Safety and Health Act

Under the Occupational Safety and Health Act of 1970 (29 U.S.C. §651 et seq.), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (29 CFR §1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list limits on noise exposure levels as a function of the amount of time during which the worker is exposed. The regulations further specify requirements for a hearing conservation program (§1910.95(c)), a monitoring program (§1910.95(d)), an audiometric testing program (§1910.95(g)), and hearing protection (§1910.95(i)). There are no federal laws governing community noise.

13.4.2 State

California Government Code §65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the California Governor’s Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. The recommendations established by the Office of Planning and Research are shown in [Figure 13-1: Land Use/Noise Compatibility Matrix](#).

13.4.3 Local

City of Scotts Valley General Plan

Consistent with State law, the City of Scotts Valley has adopted noise policies in its Noise Element, as well as in its Municipal Code.

Project relevant general plan policies for noise are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

According to the General Plan, the project site is located between Highway 17’s 70 dBA and 60 dBA noise contour. The General Plan also includes noise standards for sensitive uses and a land

use compatibility guideline table for community noise. Pursuant to the General Plan Noise Increase Standards, existing sensitive commercial and residential developments are limited to a maximum increase of 5 dBA at the property line, and 30 dBA at 50 feet from the property line. Private dwellings and hotels are limited to a DNL of 45 dBA, and exterior residential spaces are limited to a DNL of 60 dBA.

City of Scotts Valley Municipal Code

Section 17.44.020.C3 of the Municipal Code (SVMC) states:

Noise. At the lot line of all uses specified in Chapters 17.20, 17.22, 17.24, 17.26 and 17.28 of this title, the maximum sound generated by any user shall not exceed seventy-five dbA when adjacent users are industrial or wholesale users. When adjacent to offices or retail, the sound level shall be limited to seventy dbA. When users are adjacent or contiguous to residential, park or institutional uses, the maximum sounds level shall not exceed sixty dbA. Excluded from these standards are occasional noises which are specifically exempted under Section 5.17.030.

The noises exempted under Section 5.17.030 include the proper use of a siren or other alarm by a police, fire, or other authorized emergency vehicle, a stationary fire alarm operated by the Fire District, the use of emergency generators by privately owned service facilities (up to a maximum of 75 dBA at the property line), and noise generated by City-permitted construction activities during authorized construction hours.

13.5 Environmental Impacts and Mitigation Measures

13.5.1 Significance Criteria

CEQA does not define what construction or operational noise level increase would be considered substantial. Typically, a noise increase of 3 dBA Ldn or greater at a residential receptor would be considered significant when existing ambient noise levels are between 60 and 65 dBA Ldn (FICON, 1992). A noise increase of 5 dBA Ldn or greater at the receptor would be considered a significant impact when existing ambient noise levels are less than 60 dBA Ldn (FICON, 1992). Noise due to construction activities is usually considered to be less than significant under CEQA if the construction activity is temporary and the use of heavy construction equipment and noisy activities are limited to daytime hours. As noted above, City of Scotts Valley Zoning Ordinance (Title 17.46.160) exempts noise sources associated with temporary construction activities, provided such activities occur between 8:00 a.m. and 6:00 p.m. Monday through Friday; 9:00 a.m. and 5:00 p.m. on Saturday; but not on Sundays or federal holidays.

The following significance criteria for noise were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

Impacts Assessment Methodology

Construction

The analysis of noise impacts considers the effects of both temporary construction-related noise and operational noise associated with long-term project-related activities, including, without limitation, project-generated traffic.

Construction noise estimates are based upon noise levels reported by FTA Office of Planning and Environment (Hanson, Towers, and Meister, May 2006) in the *Transit Noise and Vibration Impact Assessment*, as well as the distance to nearby sensitive receptors. Reference noise levels from the FTA document are used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise level estimates do not

account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

Operational

The City's General Plan indicates that increases in noise levels of up to 3 dBA from a proposed development are acceptable for noise-sensitive and residential areas. Therefore, off-site project impacts would be considered significant if an increase of more than 3 dBA occur from project-related activities. On-site noise levels would be considered significant if the proposed uses would be exposed to noise levels above thresholds set in section 17.44.020.C.3 of the City's Municipal Code.

13.5.2 Summary of No and/or Beneficial Impacts

Proximity to a Public or Private Airport

The project site is not located within any airport noise impact contours and would therefore not expose residents or workers to excessive noise levels from airport or private airstrip operations, and therefore there would be no impact.

Generation of Excessive Groundborne Vibration or Noise Levels

Construction of the proposed project would not use pile driving for foundations, including sonic or vibratory pile drivers, nor any other device that would cause excessive groundborne vibration or groundborne noise levels, and therefore there would be no impact.

13.5.3 Impacts of the Proposed Project

Impact N-1: Cause a temporary or periodic increase in ambient noise levels during construction that would substantially disturb sensitive receptors (Class II).

Table 13-3: Typical Construction Equipment Noise Levels shows typical noise levels associated with activities during various phases of construction at a distance of 50 feet from the noise source. Typical construction noise levels range from about 81 to 85 dBA at this distance. Noise levels typically attenuate (or drop off) at a rate of 6 dB per doubling of distance from point sources, such as industrial machinery. Therefore, noise levels are also shown for distances of 150 feet, 250 feet, and 525 feet from the source, corresponding to the distance between the location of the project construction activity and the nearest sensitive receptors to the south (Enterprise Technology Center and Baymonte Christian School / Gateway Bible Church), the west (residential uses and Vine Hill Elementary across Highway 17) and east (Polo Ranch, entitled).

Table 13-3: Typical Construction Equipment Noise Levels

Equipment Onsite	Typical Level (dBA) 50 Feet from the Source	Typical Level (dBA) 150 Feet from the Source	Typical Level (dBA) 250 Feet from the Source	Typical Level (dBA) 525 Feet from the Source
Air Compressor	78	71	65	59
Backhoe	78	71	65	59
Bobcat Tractor	78	71	65	59
Concrete Mixer	79	72	66	60
Bulldozer	82	75	69	63
Jack Hammer	89	82	76	70
Pavement Roller	80	73	67	61
Street Sweeper	82	75	69	63
Man Lift	75	68	62	56
Dump Truck	76	69	63	57

Notes:

1. The distances shown in this table represent minimum distances at which sources can be located from construction activity before a potentially significant impact would occur.
2. Noise levels based on actual maximum measured noise levels at 50 feet (L_{max}).
3. Noise levels assume a noise attenuation rate of 6 dBA per doubling of distance.

Source: FHWA Roadway Construction Noise Model (2006) Users Guide Table 1.

As shown in Table 13-3: Typical Construction Equipment Noise Levels, typical construction noise levels would range from about 69 dBA to 82 dBA at 150 feet, 62 dBA to 76 dBA at 250 feet, and 56 dBA to 70 dBA at 525 feet from the source of construction noise. Construction activities may result in noise, which would temporarily result in adverse impacts in the absence of mitigation measures.

The grading/excavation phase of project construction tends to be the shortest in duration and creates the highest construction noise levels because of the operation of heavy equipment, although it should be noted that only a limited amount of equipment can operate near a given location at a particular time. Equipment typically used during this stage includes heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, and scrapers. Operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three to four minutes at lower power settings. Other primary sources of noise would be shorter-duration incidents, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts, which would last less than one minute. Because the project site does not currently contain buildings or paving, use of a jack hammer would be unlikely or very limited.

Noise-generating construction activity would be reduced by being restricted to daytime hours when sensitive receptors are the least sensitive to noise. The Scotts Valley Zoning Ordinance (Title 17.46.160) exempts noise sources associated with temporary construction activities, provided such activities occur between 8:00 a.m. and 6:00 p.m. Monday through Friday; 9:00 a.m. and 5:00 p.m. on Saturday; but not on Sundays or federal holidays. While construction noise levels during these hours may temporarily exceed 80 dBA, such exceedances would be sporadic, and would not be expected to result in average daytime noise levels that would exceed an 8-hour Leq of 80 dBA, which is the FTA's recommended standard for adverse community reaction.

In addition to construction activities, construction noise may also be generated by large trucks moving materials to and from the project site. Large trucks would be necessary to deliver building materials as well as remove dump materials and cut soil.

Excavation and cut and fill would also be required, resulting in grading of approximately 5,600 net cubic yards to be exported from the site, and 2,177 cubic yards to be imported to the project site. Articulated dump trucks typically have a heaped capacity ranging from 20.3 to 30.3 cubic yards (Terex, 2014). Using this estimate, 514 to 766 one-way truck trips would be required to export material from and import material to the project site (assuming a worst case scenario). Additional truck trips would occur to deliver building materials and remove waste materials.

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass by standard is consistent with the federal limit of 80 decibels (dB). The State pass by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. According to the FHWA, dump trucks typically generate noise levels of 76 dBA and flatbed trucks typically generate noise levels of 74 dBA, at a distance of 50 feet from the truck (FHWA, 2006). As such, noise from truck trips associated with the proposed project would not exceed FTA threshold levels of 90 dBA (one-hour Leq) or 80 dBA (eight-hour Leq) (FTA, 2006).

Given that noise levels may temporarily exceed the 70 dBA long-term community standards for noise for commercial uses, and the 60 dBA long-term community standard for noise for residential and lodging uses, standard construction noise measures are required to ensure that impacts are reduced to the maximum extent feasible. Therefore, noise levels generated during on-site construction activity would be significant, and the following mitigation measures are identified to reduce the project's impacts to the extent feasible.

Mitigation for Impact N-1

MM N-1 Construction Noise Reduction

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

To reduce the effects of construction noise, the City of Scotts Valley shall ensure that the project applicants include the following on all construction contracts for the proposed project:

Construction Equipment. Properly maintain construction equipment and ensure that all internal combustion engine driven machinery with intake and exhaust mufflers and engine shrouds (if the equipment had such devices installed as part of its standard equipment package) that are in good condition and appropriate for the equipment. Equipment engine shrouds shall be closed during equipment operation. The applicants shall require all contractors, as a condition of contract, to maintain and tune-up all construction equipment to minimize noise emissions.

Vehicle and Equipment Idling. Construction vehicles and equipment shall not be left idling for longer than 5 minutes when not in use.

Stationary Equipment. All noise-generating stationary equipment, such as air compressors or portable power generators, shall be located as far as possible from sensitive receptors. Temporary noise barriers shall be constructed to screen stationary noise generating equipment when located near adjoining sensitive land uses. Temporary noise barriers could reduce construction noise levels by 10 dBA.

Construction Route. All construction traffic to and from the project site shall be routed via designated truck routes where feasible. All construction-related heavy truck traffic in residential areas shall be prohibited where feasible.

Workers' Radios. All noise from workers' radios shall be controlled to a point that they are not audible at sensitive receptors near the construction activity.

Construction Plan. Prior to issuance of any grading and/or building permits, the contractor shall prepare and submit to the City of Scotts Valley Building Department for approval a detailed construction plan identifying the schedule for major noise-generating construction activity.

Disturbance Coordinator. A "noise disturbance coordinator" shall be designated by the contractor and be responsible for responding to any local complaints about construction noise. The noise disturbance coordinator shall determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and shall require that reasonable measures warranted to correct the problem be implemented. The coordinator shall conspicuously post a name and telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

Impact N-2: Result in a substantial permanent increase in ambient noise levels (Class III).

Implementation of the proposed project would generate increased traffic volumes. According to the traffic impact analysis, the proposed project would result in a net total of 1,341 average daily weekday trips, which would result in noise increases on City streets and Highway 17. In general, traffic noise increase of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable (Caltrans, 2009). Therefore, permanent increases in ambient noise levels of less than 3 dBA are typically considered to be less than significant.

Generally, traffic volumes on area streets would have to approximately double for the resulting traffic noise levels to increase by 3 dBA. The proposed project would not result in a doubling of traffic on any City street, nor on Highway 17. Moreover, project traffic would traverse and disperse over City roadways and Highway 17, where existing ambient noise levels are very high.

Regarding mechanical equipment, the proposed hotel would generate stationary-source noise associated with heating, ventilation, and air conditioning (HVAC) units. Such HVAC units typically generate noise levels of approximately 55 dBA at a reference distance of 100 feet from the operating units during maximum heating or air conditioning operations (Bolt, Baranek, and Newman, 1971). As stated above, the nearest existing sensitive receptors are located more than 100 feet from the project site. In addition, the proposed residential uses would be located more than 100 feet from the hotel HVAC equipment. Given that existing and project-related sensitive receptors would be located beyond 100 feet from onsite HVAC units, noise generated by HVAC units would not result in a significant impact.

Based on the analysis above, the proposed project would not have a noticeable effect on ambient noise levels in the project site vicinity, and the impact would be Class III, less than significant.

Impact N-3: Expose project residents and hotel guests to existing and future noise levels in excess of standards established in the City of Scotts Valley General Plan (Class II).

The traffic noise analysis was prepared that analyzed the exposure of project residents and hotel patrons to existing and future traffic noise from Highway 17 (see [Appendix 6 – Traffic Noise Analysis](#)). Based on this analysis, exterior noise levels would range from 58 dB DNL to 60 dB DNL, which meets the City's General Plan standard of 60 dBA DNL for exterior noise levels at the property line of new residential development.

Regarding interior noise, the analysis determined that indoor sensitive residential and hotel occupants would be exposed to noise levels of 59 dB DNL to 61 dB DNL (assuming a standard 15 dB noise attenuation provided by standard building shell assembly). These noise levels would exceed the City's General Plan standard of 45 dBA DNL for private dwellings and hotels, which would be a significant impact. Implementation of [Mitigation Measure MM N-3.1: Interior Noise Attenuation: Windows](#) and [Mitigation Measure MM N-3.2: Interior Noise Attenuation: Building](#)

Shell would reduce noise levels to 45 dBA DNL or lower and thereby reduce the impact to a less-than-significant level.

Mitigation for Impact N-3

MM N-3.1 Interior Noise Attenuation: Windows

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

To achieve compliance with the 45 dB DNL interior noise standard of the City of Scotts Valley Noise Element and Title 24, the following window controls shall be incorporated as part of the building plans and approved by the City prior to issuance of a building permit:

- At habitable spaces within 110 ft. of the west property line with a direct or side view of Highway 17 (north, west and south facades) including the facades in between the buildings, provide mechanical ventilation which brings in fresh air from the outside of the unit, in conformance with Mechanical Code requirements.
- For habitable spaces within 110 ft. of the west property line, the project applicants shall install operable windows and glass doors with a rated minimum Sound Transmission Class (STC) 36 and entry doors rated minimum STC 32.
- For habitable spaces between 110 ft. and 185 ft. of the west property line, the project applicants shall install windows and glass doors with a rated minimum STC 32 and entry doors rated minimum STC 28.
- For habitable spaces between 185 ft. and 245 ft. of the west property line, the project applicants shall install windows, glass doors and entry doors with a rated minimum STC 28.
- To ensure that the sound insulation features of project windows will be maintained, all window frames within 245 feet of the west property line shall be caulked to the wall opening around their entire perimeter with an acoustical sealant. The sliding window panels shall form an air-tight seal with the frame when in the closed position.
- All other windows of the development and all bathroom windows may use any type of glazing and may be kept open as desired with the exception of bathroom windows that are an integral part of a living space and not separated by a closeable door.
- Prior to issuance of a building permit, the acoustical test report of all sound rated windows shall be reviewed by a qualified acoustician to

ensure that the chosen windows will adequately reduce traffic noise to acceptable levels.

MM N-3.2 Interior Noise Attenuation: Building Shell

The applicants for both the hotel development and the residential development shall implement this mitigation measure.

For all habitable spaces within 110 ft. of the west property line, the shall be incorporated as part of the building plans and submitted to the Community Development Director for review and approval prior to issuance of a building permit:

- Unshielded entry doors having a direct or side orientation toward the primary noise source must be 1-5/8" or 1-3/4" thick, insulated metal or solid-core wood construction, with effective weather seals around the full perimeter. Mail slots should not be used in these doors or in the wall of a living space, as a significant noise leakage can occur through them.
- Where penetrations in the building shell are required for vents, piping, conduit, etc., sound leakage around these penetrations shall be minimized by sealing all cracks and clearance spaces with a non-hardening caulking compound.
- Ventilation devices or openings shall not compromise the acoustical integrity of the building shell.

13.5.4 Cumulative Impacts

The geographic area for the analysis of cumulative impacts to noise is the City of Scotts Valley.

Impact N-4: Contribute to cumulatively considerable noise impacts (Class II).

Cumulative development would result in construction-related and operational noise increases in the project site vicinity. However, based on the noise analysis above, impacts from the proposed project's noise would be less than significant with mitigation. Based on the fact that noise dissipates as it travels away from its source, noise impacts from on-site activities and other stationary sources would be limited to the project site and vicinity. Thus, cumulative operational noise impacts from related projects, in conjunction with project-specific noise impacts, would not be cumulatively significant.

13.5.5 Level of Significance after Mitigation

Table 13-4: Summary of Impacts and Mitigation Measures – Noise summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to noise.

Table 13-4: Summary of Impacts and Mitigation Measures – Noise

Impact	Impact Significance	Mitigation
Impact N-1: Cause a temporary or periodic increase in ambient noise levels during construction that would substantially disturb sensitive receptors.	Less than Significant with Mitigation	MM N-1: Construction Noise Reduction
Impact N-2: Result in a substantial permanent increase in ambient noise levels.	Less than Significant	None required.
Impact N-3: Expose project residents and hotel guests to existing and future noise levels in excess of standards established in the City of Scotts Valley General Plan.	Less than Significant with Mitigation	MM N-3.1: Interior Noise Attenuation: Windows Mitigation Measure MM N-3.2: Interior Noise Attenuation: Building Shell
Impact N-4: Contribute to cumulatively considerable noise impacts.	Less than Significant with Mitigation	MM N-1: Construction Noise Reduction MM N-3.1: Interior Noise Attenuation: Windows MM N-3.2: Interior Noise Attenuation: Building Shell

13.6 References

Bolt, Baranek, and Newman. 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. Prepared for the United States Environmental Protection Agency.

California Department of Transportation (Caltrans). 2009. “Technical Noise Supplement.” pp. 248 – 249. Available online: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. November.

Edward L. Pack Associates. Inc. 2015. Traffic Noise Assessment Study for the Planned “100 Enterprise Way” Condominium Development, Highway 17, Scotts Valley. June 8.

FHWA (Federal Highway Administration). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). Available at: <http://www.fhwa.dot.gov/environment/noise/handbook/index.htm>

FICON (Federal Interagency Committee on Noise). 1992. Federal Agency Review of Selected Airport Noise Analysis Issues. August. <http://www.fican.org/pdf/nai-8-92.pdf>.

FTA (Federal Transit Administration). 2006. Transit Noise and Vibration Impact Assessment Final Report. Available at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

OPR (California Governor's Office of Planning and Research). 2003. State of California General Plan Guidelines. Appendix A, Guidelines for the Preparation and Content of the Noise Element. Available at: http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf

Terex. Articulated Dump Trucks. Available at:

<http://www.terex.com/construction/en/products/new-equipment/trucks/articulated-trucks/index.htm>

USEPA (United States Environmental Protection Agency). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Available at:

http://www.fican.org/pdf/EPA_Noise_Levels_Safety_1974.pdf

14 Public Services, Utilities & Service Systems

14.1 Introduction

This section describes effects on public services, utilities, and service systems that would be caused by implementation of the project. The discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from project construction and operation. In addition, existing laws and regulations relevant to public services, utilities, and service systems are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the project.

14.2 Scoping Issues Addressed

During the scoping period for the proposed project, no public scoping meetings were conducted, but written comments by agencies and the public regarding the project were received. No issues related to public services or utilities were raised during the scoping period.

14.3 Environmental Setting

This section presents information on public services, utilities, and service systems in the project area. Physical impacts to public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities.

14.3.1 Public Services

Police Protection

The Scotts Valley Police Department (SVPD) is headquartered at One Civic Drive in the City of Scotts Valley, approximately 1.5 miles southwest of the project site. The major goals of SVPD are to reduce crime through prevention, detection and apprehension; to provide the orderly and safe movement of vehicular traffic through law enforcement, to provide accident prevention and accident investigation; to ensure public safety through regulation and control of hazardous conditions; to recover and return of lost and stolen property and; to provide non-enforcement services through programs reflecting community needs and desires.

SVPD has 20 sworn officers and eight civilian employees. In 2014, the SVPD's Emergency Dispatch Center handled 3,217 emergency calls. The average response time to emergency calls in 2014 was 2.03 minutes (SVPD, 2015).

Fire Protection

The Scotts Valley Fire District (SVFD) provides emergency response to all fires, medical calls and vehicle accidents for both the City of Scotts Valley and the surrounding unincorporated areas. SVFD is an autonomous special district, with all funding generated from the area's property

taxes. SVFD serves approximately 18,600 people in a 22-square-mile area. The City of Scotts Valley lies within the district boundaries and represents 4.5 square miles of the total area served and approximately 60 percent of the SVFD's service area population.

The SVFD boundaries run from the Scotts Valley city limits to the south to just beyond Laurel Road along upper Highway 17 to the north, and from east of Highway 17 to west of Lockhart Gulch Road. SVFD has a mutual aid agreement with numerous regional fire districts, including the Santa Cruz City Fire Department, Central Fire Protection District, Aptos/La Selva Fire Protection District, Felton Fire Protection District, Zayante Fire Department, and Cal Fire, the State's firefighting agency.

SVFD operates two fire stations (both within the Scotts Valley city limits) and has 24 line firefighting personnel. Station One (headquarters), is located at 7 Erba Lane, approximately 1.5 miles southwest of the project site. Station Two is located on Glenwood Drive, approximately 0.3 miles west of the project site. The district currently operates two engines (plus a third in relief), a wildland engine, a 2,500-gallon water tender, and a hazardous materials response truck, along with other support equipment.

SVFD responded to approximately 1,802 district wide calls in 2011 (the most recent year for which data is posted). The majority (more than 55 percent) of these calls were medical emergency calls. The SVFD's response time goal is 5 minutes or less of notification. Response time is measured from the time a call is received in the Fire Dispatch Center until the time the first unit arrives on the scene of an emergency (SVFD, 2015).

Schools

The Scotts Valley Unified School District (SVUSD) operates the public school system within City of Scotts Valley. SVUSD administers two elementary schools (Vine Hill Elementary and Brook Knoll Elementary), Scotts Valley Middle School, and Scotts Valley High School.

Total school enrollment for elementary and secondary students for the 2014/2015 academic year was 2,482, eight more than 2,474 students in 2013/2014 (California Department of Education, 2015).

Additionally, there are students that reside in the City of Scotts Valley who attend private schools. Baymonte Christian School offers classes from pre-school to grade twelve and had an enrollment of approximately 400 students in 2013/2014 (Baymonte Christian School, 2015).

14.3.2 Utilities and Service Systems

Water

Water Supply

As described in Chapter 11: Hydrology & Water Quality, the project site is located within the service area boundaries of the Scotts Valley Water District (SVWD), which has a service area of

5.5 square miles. SVWD relies entirely on local groundwater for its water supply; no surface water is used. SVWD access the Santa Margarita Groundwater Basin (the Basin or SMGB) (Kenney/Jenks, 2015).

SVWD maintains 55 miles of potable water mains, seven potable water storage tanks, nine booster pump stations, six production wells, and four potable water treatment plants/facilities. Additionally, SVWD operates a 625,000-gallon recycled water storage tank, a recycled water booster pump station, and six miles of recycled water distribution mains.

Groundwater

SVWD currently operates six wells that have a combined capacity of 1,995 gallons per minute (gpm), or 2.87 million gallons per day (mgd), or 3,214 acre feet per year (afy) (Kennedy/Jenks, 2015). Groundwater production by the SVWD in WY 2014 was 1,376 afy, which is 23 afy less than WY 2013 (Kennedy/Jenks, 2015). SVWD maintains a number of ongoing programs to support the sustainable management of the groundwater resource, including the use of recycled water and water conservation. These programs have contributed to the reduced water demand that results in less groundwater production.

As described in [Chapter 11: Hydrology & Water Quality](#), groundwater production in the Groundwater Reporting Area (GWRA) includes pumping from wells by other water districts and private wells, in addition to pumping by SVWD. Total groundwater pumping in the GWRA was estimated at 2,261 afy in WY 2014, representing a 58 afy decrease in GWRA than in WY 2013 (Kennedy/Jenks, 2015).

The sustainable yield, which represents the annual amount of water that can be taken from existing wells in the portion of the SMGB underlying Scotts Valley without causing adverse effects, is 2,600 afy. This sustainable yield is shared with the San Lorenzo Valley Water District (SLVWD) and other small public and private pumpers. An existing potable water line runs through the project site beneath the Santa's Village Road right of way.

Recycled Water

SVWD, in coordination with the City of Scotts Valley Water Reclamation Facility, produces recycled water that is also available for non-potable uses, such as landscape irrigation. Recycled water deliveries have gradually increased since the program started in WY 2002 and in WY 2014, recycled water deliveries were approximately 199 afy. For each gallon of recycled water use, it is assumed that an equivalent volume of groundwater has remained in the SMGB and is available for future water supply needs (Kennedy/Jenks, 2015).

The SVWD currently requires the use of reclaimed water for irrigation in any development near a reclaimed water distribution main. An existing recycled water line traverses the project site beneath the Santa's Village Road right of way.

Water Demand

SVWD Service Area

Pursuant to the California Urban Water Management Planning Act, SVWD in the process of its 5-year update to the UWMP for WY 2015; however, the UWMP is not anticipated to be completed until 2016. SVWD's 2010 UWMP stated that, in 2010, water demand from metered deliveries was 1,389 afy (Kennedy/Jenks, 2011). 2015 water demand was predicted to be 1,675 afy, and 2035 water demand was predicted to be 1,802 afy (Kenney/Jenks, 2011).

SVWD, in response to the drought, reduced system-wide potable water demand by 21 percent from July through December 2014, and by 17 percent in the period from February 2014 through June 2015, compared to the same periods in 2013 (SVWD, 2015).

Project Site

Both groundwater and reclaimed water lines extend beneath the Santa's Village Road extension to serve the approved Polo Ranch project, as well as serve the project site. The project site is currently vacant and does not contribute to SVWD total demand for groundwater or reclaimed water.

Vulnerability to Water Shortages

Aquifer Storage Analysis

Aquifer storage is a measure of the volume of groundwater present in the aquifer. The change in aquifer storage measures the increase or decrease in the volume of groundwater in the aquifer resulting from changes in groundwater levels primarily in response to variations in annual precipitation and groundwater pumping. As part of the SVWD's 2014 Groundwater Management Program, aquifer storage analysis was conducted for SMGB.

Given the geologic complexity of the SMGB, the updated SMGB Model in the Groundwater Management Program provides an appropriate quantitative tool to evaluate the changes in groundwater conditions over time. The updated SMGB Model was set up using data from WY 1985 through WY 2014.

The results of the model-based calculations for change in aquifer storage since WY 1985 are shown [Table 14-1: Average Annual Change in Aquifer Storage \(AFY\)](#), shows the average annual change in aquifer storage, per aquifer, using the updated SMGB Model. The model results show that during the WY 2013 and WY 2014 drought, aquifer storage shifted from an increase in WY 2011 to a decrease of 922 afy in WY 2014.

Table 14-1: Average Annual Change in Aquifer Storage (AFY)

Aquifer	WY 1985 – WY 1992	WY 2005 – WY 2011	WY 2013	WY 2014
Santa Margarita	-310	91	-344	-302
Monterey	-201	20	-29	-44
Lompico	-793	92	-174	-369
Butano	-378	-93	-152	-208
Total	-1,682	111	-699	-922

Source: Kennedy/Jenks Consultants, 2015.

The model results indicate that groundwater in aquifer storage in the GWRA decreased by 699 and 922 afy for WY 2013 and WY 2014, respectively. The storage decreases over those two WYs were minor compared to the storage decreases during the WY 1987 to WY 1992 drought (Kennedy/Jenks, 2015).

Global Climate Change

Increasing attention has been paid to the issue of global climate change and its effects on water resources and supplies. Potential impacts and consequences of climate change on California's water resources include reduction of the State's average annual snow pack; changes in the timing, intensity, location, amount, form and variability of precipitation; long-term changes in watershed vegetation that can change intensity and timing of runoff; sea level rise; increased water temperatures that can affect water quality; and changes in evapotranspiration rates that can result in increased water demands.

Studies prepared by the State of California indicate that climate change may seriously affect the State's water resources as a result of temperature increases, changes in timing and amount of precipitation, and sea level rise that could adversely affect coastal areas. Simulations conducted by the State of California predict drier conditions in the future, although at the same time there is continued risk from intense rainfall events that can generate more frequent and/or more extensive runoff; some recent reports indicate that warming temperatures, combined with changes in rainfall and runoff patterns, will exacerbate the frequency and intensity of droughts. Although average annual precipitation may not change, more intense wet and dry periods also are anticipated. Regions that rely heavily upon surface water could be particularly affected as runoff becomes more variable.

Wastewater

Sanitary sewer service would be provided by the City of Scotts Valley Department of Public Works – Wastewater Division. The collection system comprises 40 miles of pipeline, as well as seven lift stations (City of Scotts Valley, 2013). Currently, the collection system extends along the western boundary the project site, beneath the Santa's Village Road right of way.

Wastewater in the City is conveyed to and treated at the Scotts Valley Water Reclamation Facility. This facility is owned and operated by the City and provides wastewater treatment services as well as recycled water for landscape irrigation and other uses. The plant's current capacity is 1.5 million gallons per day (mgd) for wastewater treatment and 1 mgd for recycled water processing (City of Scotts Valley, 2015). In 2013, average dry weather flow (ADWF) was 0.786 mgd. Therefore, the plant has a remaining dry weather capacity of 0.714 mgd (City of Scotts Valley, 2013).

An 8-inch wastewater main currently terminates at the southwest corner of the project site. This main runs beneath Santa's Village Road, adjacent to the Enterprise Way Center (ETC), and connects to a 12-inch main that crosses beneath Highway 17 just north of the main entrance to the ETC. The 8-inch main is currently only used on Wednesdays when the wastewater treatment plant dumps backwash (V&A, 2015).

Electricity

Electricity in Scotts Valley is provided by Pacific Gas & Electric (PG&E). In 2012 (the most recent year for which data is provided), the electricity mix comprised 27 percent natural gas, 21 percent nuclear, 11 percent large hydroelectric, 19 percent renewables, and 21 percent unspecified (PG&E, 2012).

Natural Gas

PG&E operates one of the largest natural gas distribution networks in the country, including 48,850 miles of natural gas transmission and distribution pipelines (PG&E, 2015a). Service is provided to 4.3 million accounts statewide. A transmission gas pipeline traverses the southern portion of Scotts Valley, and small-diameter pipelines serve the City (PG&E, 2015b).

Solid Waste

GreenWaste Recovery, a private contractor, provides weekly collection of garbage, recyclable materials, and yard trimmings for residents and businesses in the City of Scotts Valley. Solid waste is transported to either the Buena Vista Sanitary Landfill, which is operated by Santa Cruz County; or the Ben Lomond Transfer Station, where it is then delivered to the Monterey Peninsula Landfill; which is operated by the Monterey Regional Waste Management District.

The Buena Vista Sanitary Landfill, located in Santa Cruz County, is permitted until 2031 and has a maximum capacity of 7,537,700 cubic yards of solid waste, with approximately 3,303,649 cubic yards of remaining capacity. The Buena Vista Sanitary Landfill is permitted to receive 838 tons of solid waste per day. The Monterey Peninsula Landfill, located in Marina, has a maximum capacity of 49,700,000 cubic yards of solid waste, with approximately 48,560,000 cubic yards of remaining capacity. The Monterey Peninsula Landfill is permitted to receive 3,500 tons of solid waste per day (CalRecycle, 2015). Given the project site is currently vacant, no solid waste is currently collected by GreenWaste Recovery.

14.4 Applicable Regulations, Plans, and Standards

14.4.1 Federal

Wastewater

Clean Water Act

The Federal Water Pollution Control Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the U. S. Under the CWA, the United States Environmental Protection Agency (U.S. EPA) implements pollution control programs and sets wastewater treatment standards.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established pursuant to the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

In California, the federal requirements are administered by the State Water Resources Control Board (SWRCB), and individual NPDES permits are issued by the California Regional Water Quality Control Boards (RWQCBs).

14.4.2 State

Police Services

All law enforcement agencies within California are organized and operate in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for police officers.

Fire Protection

Fire hazards are addressed mainly through the application of the State Fire Code and the Uniform Building Code (UBC). The Fire Code addresses access, including roads, and vegetation removal in high fire hazard areas. The UBC requires development in high fire hazard areas to show proof of nearby water sources and adequate fire flows.

Schools

Senate Bill (SB) 50 (1998), which is funded by Proposition 1A, limits the power of cities and counties to require mitigation of developers as a condition of approving new development and provides instead for a standardized fee. SB 50 generally provides for a 50/50 state and local school facilities match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether state funding is available; whether the school district is eligible for state funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

California Government Code sections 65995–65998 set forth provisions to implement SB 50. Specifically, in accordance with Section 65995(h), the payment of statutory fees is “deemed to be full and complete mitigation of the impacts of any 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...on the provision of adequate school facilities.” The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Pursuant to Government Code section 65995(i), “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 of a person’s refusal to provide school facilities mitigation that exceeds the amounts authorized pursuant to this section or pursuant to Section 65995.5 or 65995.7, as applicable.”

California Education Code Section 17620(a)(1) states that the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

Water Supply

Senate Bill 610

Senate Bill (SB) 610 amended the Public Resources and Water Codes as they pertain to consultation with water supply agencies and water supply assessments. SB 610 requires water supply assessments (WSAs) for “projects” as that term is defined by Water Code Section 10912, which are subject to CEQA.

The proposed project does not meet the definition of a “project” as specified in the Water Code, therefore the preparation of a WSA in compliance with SB 610 is not required.

Senate Bill 221

Whereas SB 610 requires a written assessment of water supply availability, SB 221 requires lead agencies to obtain an affirmative written verification of sufficient water supply prior to approval of certain specified subdivision projects. For this purpose, water suppliers may rely on an Urban Water Management Plan (if the proposed project is accounted for within the UWMP), a Water Supply Assessment prepared for the project, or other acceptable information that constitutes “substantial evidence.”

“Sufficient water supply” is defined in SB 221 as the total water supplies available during normal, single-dry and multiple-dry water years within the 20-year (or greater) projection period that are available to meet the projected demand associated with a proposed project, in addition to existing and planned future uses.

The 2014 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA), enacted in October 2014, applies to all groundwater basins in the state. Any local agency that has water supply, water management or land use responsibilities within a groundwater basin may elect to be a “groundwater sustainability agency” for that basin. Local agencies have until January 1, 2017, to elect to become or form a groundwater sustainability agency.

In the event a basin is not within the management area of a groundwater sustainability agency, the county within which the basin is located will be presumed to be the groundwater sustainability agency for the basin. By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdictions.

Executive Order B-29-15

On April 1, 2015, Governor Brown signed an executive order that recognized the possibility of the ongoing drought extending into 2016 and beyond. The order includes a series of statewide measures intended to reduce overall water demand, including updating the State Model Water Efficient Landscape Ordinance, replacing 50 million square feet of lawns with artificial turf or drought-tolerant landscapes, restricting landscape irrigation, revising water rate structures to encourage conservation, and requiring agricultural suppliers to prepare drought management plans, among several other measures.

Under the order, the SWRCB and California Public Utilities Commission (PUC) must impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 2016, as compared to the amount of water used in 2013. Water suppliers with higher per capita use shall achieve proportionally greater reductions than suppliers with lower per capita use.

Wastewater

Central Coast Regional Water Quality Control Board

The Central Coast RWQCB is the local division of the SWRCB that has oversight authority over the project. SWRCB is a State department that provides a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses of water in California. NPDES permits allow RWQCB to collect information on where the waste is disposed, what type of waste is being disposed, and what entity is disposing of the waste. RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance.

Solid Waste

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) requires that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity.

To help achieve this goal, the Act requires that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), a department within the California Natural Resources Agency, which administers programs formerly managed by the State's Integrated Waste Management Board and Division of Recycling.

As part of CalRecycle's Zero Waste Campaign, regulations affect what common household items can be placed in the trash. Household materials—including fluorescent lamps and tubes, batteries, electronic devices and thermostats—that contain mercury are no longer permitted in the trash and must be disposed separately.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires areas in development programs to be set aside for collecting and loading recyclable materials. The Act requires CalRecycle to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own, governing adequate areas in development programs for collection and loading of recyclable materials.

CALGreen Building Code

The California Green Building Standards Code (CALGreen) came into effect for all projects beginning after January 1, 2011. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. The Code requires the applicant to have a waste management plan for on-site sorting of construction debris.

14.4.3 Local

City of Scotts Valley General Plan

Project-relevant general plan policies for public services are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Scotts Valley Water District Drought Emergency Regulations

Pursuant to Executive Order B-29-15, the SWRCB established a mandate that SVWD reduce its total water production by 16 percent by each month, compared to the same month in 2013. (As indicated in the Setting, above, SVWD has met the 16-percent reduction target over longer periods, including July through December 2014, and February 2014 through June 2015).

In response to B-29-15, on April 9, 2015, the SVWD Board adopted the Policy on Outdoor Irrigation Limitation, which requires all potable water consumers to follow an established an irrigation schedule and restrictions post-rainfall, a district-wide goal of 75 gallons per customer per day (gpcd), and an updated rebate program for efficient fixtures (SVWD, 2015).

14.5 Environmental Impacts and Mitigation Measures

14.5.1 Significance Criteria

The following significance criteria for public services, utilities, & service systems were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of impacts of the project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire protection, Police protection, schools, parks, other public facilities.

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new water storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

14.5.2 Summary of No and/or Beneficial Impacts

Compliance with Solid Waste Regulations

The proposed project would be located within City limits and would be provided solid waste collection and disposal services by a City contractor requiring compliance with federal, state, and local solid waste regulations. Therefore, there would be no impact.

14.5.3 Impacts of the Proposed Project

Impact PSU-1: Introduce in a new service population requiring the construction of new or altered police or fire facilities (Class III).

The proposed project would result in the construction of up 50 residential units and a 120-room hotel on the project site. Based on the 2009–2013 U.S. Census American Community Survey,

the average household size is 2.67 persons per household in the City of Scotts Valley (U.S. Census, 2015). Therefore, the construction of 50 residential units would generate approximately 134 new residents.

As indicated in the Population and Housing Discussion in **Chapter 4: Introduction to Environmental Analysis**, the City’s General Plan was crafted with a projected buildout of 6,500 housing units and 15,000 residents. Therefore, the population increase generated by the proposed project would not exceed the planned public service provision of the City. Similarly, the proposed hotel use is within the total square footage of commercial service uses projected in the General Plan.

Additionally, the project site is located within City limits and is surrounded by areas of the residential and recreational use that are currently within the service areas of SVPD and SVFD. Both the police and fire department would require project plans prior to issuance of a building permit to ensure adequate emergency services can be provided.

Therefore, given the population generation from development on the project site would not represent a substantial increase of population, and the project site is currently within the service area of police and fire protection service providers, the proposed project would not trigger the need to construct new police or fire facilities or altered facilities. Impacts would be Class III, less than significant.

Impact PSU-2: Require construction of new or expanded educational facilities. (Class III).

The proposed project would result in the construction of up to 50 residential units on the project site. Based on SVUSD’s student yield factor of 0.4346 students per dwelling unit, the proposed project could generate up to 22 school-age children (see **Table 14-2: Proposed Project Estimated Student Generation**) (SVUSD, 2014).

Table 14-2: Proposed Project Estimated Student Generation

Residential Units	Student Yield Factor (per unit)*	Students Generated
50	0.4346	22

Source: SVUSD, 2014 and Kimley-Horn, 2015

These students would be expected to attend schools within SVUSD. Enrollment in SVUSD has been decreasing since the 2004–2005 school year, and is projected to continue decreasing (SVUSD, 2014). Therefore, SVUSD schools would not be required to operate above capacity as a result of residential development on the project site. Moreover, as stated above, payment of statutory fees for new development is deemed adequate to address impacts to public schools. Therefore, the establishment of residential development would not require construction of new or expanded educational facilities and impacts to schools would be Class III, less than significant.

Impact PSU-3: Require new or expanded water treatment facilities (Class III).

The proposed project's water demand is shown in **Table 14-3: Project Water Demand**. Based on a water demand of up to 120 gallons per day (gpd) per person and an average household occupancy of 2.67 for the City,¹² the 50-unit residential portion of the project would result in an average daily demand of up to 16,020 gpd (0.049 acre-feet), and an average annual demand of 5.85 million gallons per year (17.945 acre-feet per year [afy]).

Assuming that hotels generate an average daily wastewater flow of 150 mgd per room, and conservatively assuming that all water is discharged as wastewater, the 120 proposed hotel rooms would generate an average daily demand of up to 18,150 gpd (0.056 acre-feet), and an average annual demand of 6.625 million gallons per year (20.331 afy) (Ciceron, 2008).

Table 14-3: Project Water Demand

Use	Daily Water Use Factor	Annual Water Demand (AFY)
50 residential units	120 gallons per resident ¹	17.945
121 hotel rooms ²	150 gallons per hotel room ³	20.331
Total	--	38.275

Notes:

1. SVWD 2010 UWMP
2. The hotel plans were revised from 121 to 120 units after this analysis was prepared.
3. Ciceron, 2008

Source: SVWD 2010, Ciceron, 2008, and Kimley-Horn, 2015.

According to the SVWD 2010 Urban Water Management Plan (UWMP), which was adopted in 2011, SVWD 2015 water demand was projected to be 1,675 afy, and 2035 water demand was projected to be 1,802 afy. As stated above, the sustainable yield for the portion of the SMGB beneath Scotts Valley is 2,600 afy, although the sustainable yield is shared among SVWD, SLVWD, and other water districts. Regardless, the projected SVWD 2035 demand, plus demand of the proposed project, would not exceed the entitlements of the SVWD.

Regarding the capacity of the SVWD treatment and distribution system, SVWD's six production wells have an estimated capacity of 2.87 mgd, or 3,214 afy. The demand of approximately 38 afy of water generated by the project would not exceed the capacity of the groundwater production system, and no new wells or treatment plants would be required.

¹² Per U.S. Census 2009–2013 American Community Survey.

The environmental impacts of construction of the water and recycled water distribution system are included within the environmental impacts of construction for the proposed project, as described in Chapter 6, Air Quality; Chapter 7, Biological Resources; Chapter 8: Cultural Resources; Chapter 9, Geology and Soils; Chapter 10, Greenhouse Gases; Chapter 11, Hydrology and Water Quality; Chapter 13, Noise; and Chapter 15, Transportation and Circulation.

Construction and operational impacts would be Class III, less than significant.

Impact PSU-4: Require the construction or expansion of new wastewater treatment facilities (Class III).

Conservatively assuming that all of the proposed project's water use exits the site as wastewater, the proposed project would generate 34,170 gallons of wastewater per day (gpd). This wastewater would exit this site via connections to the wastewater line installed beneath Santa's Village Road extension. The proposed project's wastewater would be accommodated within the Scotts Valley Water Reclamation Facility's remaining dry weather capacity of 0.714 mgd.

The environmental impacts of construction of the wastewater collection system are included within the environmental impacts of construction for the proposed project, as described in Chapter 6, Air Quality; Chapter 7, Biological Resources; Chapter 8: Cultural Resources; Chapter 9, Geology and Soils; Chapter 10, Greenhouse Gases; Chapter 11, Hydrology and Water Quality; Chapter 13, Noise; and Chapter 15, Transportation and Circulation.

Construction and operational impacts would be Class III, less than significant.

Impact PSU-5: Require the construction or expansion of stormwater drainage facilities (Class III).

The rate and amount of surface runoff is determined by multiple factors, including the amount and intensity of precipitation; amount of other imported water that enters a watershed; and amount of precipitation and imported water that infiltrates to the groundwater. Infiltration is determined by several factors, including soil type, antecedent soil moisture, rainfall intensity, the amount of impervious surfaces within a watershed, and topography. The rate of surface runoff is largely determined by topography and the intensity of rainfall over a given period of time.

In July 2013, the Central Coast Regional Water Quality Control Board (RWQCB) adopted Order R3-2013-0032, which requires new and more stringent Post-Construction Requirements (PCRs) for proposed development projects. The PCRs mandate that development projects use Low Impact Development (LID) features and facilities to detain, retain, and treat site runoff. LID incorporates and conserves on-site natural features, together with constructed hydrologic controls to more closely mimic pre-development hydrology and watershed processes. Projects

that receive their first discretionary approval after March 6, 2014, are subject to the PCRs if they create or replace 2,500 sf or more of impervious area on a site.

The PCR tiers range from Tier 1 to Tier 4, with requirements strengthened for each additional tier. The largest projects considered by the new guidelines, Tier 4 projects, have the most stringent requirements. For these projects which create or replace 22,500 sf or more of impervious surface, post-development peak flows discharged from the site must not exceed pre-project peak flows for the 2-year through 10-year storm events. This requirement is in addition to other requirements for Tier 1-3 projects, which also apply to Tier 4 projects.

Based on preliminary engineering plans, the proposed project would result in 3.50 acres of net new impervious surface on the project site, and it would entail construction of a new stormwater collection, retention, and treatment system to meet Tier 4 requirements. This would be accomplished through construction of bioswales, on-site bio-retention areas, and landscaping. As indicated in [Chapter 11: Hydrology and Water Quality](#), based on preliminary estimates, post-construction stormwater flows for a 10-year storm event would be 3.87 cubic feet per second, compared to 3.93 cubic feet per second under existing conditions. [Table 11-3: Stormwater Flows for a 10-Year Storm Event](#) summarizes the preliminary calculation of stormwater flows that would result from the proposed project.

The environmental impacts of construction of the stormwater collection system for the project site are included within the environmental impacts of construction of the proposed project are described in [Chapter 6, Air Quality](#); [Chapter 7, Biological Resources](#); [Chapter 8: Cultural Resources](#); [Chapter 9, Geology and Soils](#); [Chapter 10, Greenhouse Gases](#); [Chapter 11, Hydrology and Water Quality](#); [Chapter 13, Noise](#); and [Chapter 15, Transportation and Circulation](#).

Given that existing regulations require the project applicant to adhere to Tier 4 PCR requirements, and the fact that post stormwater run-off would not existing pre stormwater runoff conditions, impacts from the proposed project would be less than significant (Class III).

[Impact PSU-6: Generate solid waste that would exceed the capacity of area landfills \(Class III\).](#)

Solid waste generated by operation of the proposed 120-unit hotel and 50-unit residential project is shown in [Table 14-4: Proposed Project Estimated Daily Solid Waste Generation](#).

Table 14-4: Proposed Project Estimated Daily Solid Waste Generation

Use	Units	lbs. per Unit per Day ¹	Total lbs. per Day
Residential	50	12.23	611.5
Hotel	121 ²	4.00	484.0
Total	--	--	1,095.5

Notes:

1. U.S. Census 2009–2013 American Community Survey and CalRecycle, 2015b

2. The hotel plans were revised from 121 to 120 units after this analysis was prepared.

Source: Kimley-Horn, 2015

The 1,095.5 pounds of daily solid waste generated by the proposed project would represent 0.06 percent (6 hundredths of 1 percent) and 0.02 percent (2 hundredths of 1 percent) of the daily permit capacities of Buena Vista and Monterey Peninsula landfills, respectively. As described above, both landfills have adequate capacity.

The proposed project would also generate waste during the construction phase. As stated above, CalGREEN Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction (and demolition) debris must be recycled or salvaged. Adherence to the Building Code would reduce total waste generated by demolition and construction, and the waste would be appropriately sorted disposed at landfills with adequate capacity.

Construction and operational impacts would be Class III, less than significant.

14.5.4 Cumulative Impact Analysis

The geographic area for the analysis of cumulative public service and utility service impacts is the service area of provider.

Impact PSU-7: Contribute to cumulatively considerable public services, utilities and service system impacts (Class III).

Public Services

Regarding police and fire protection services, the General Plan includes adequate public services to buildout of 6,500 housing units at 15,000 people. The proposed project, combined with past, present, and reasonably foreseeable future projects, would not exceed those projections, and impacts to police and fire protection services would be less than significant.

Regarding schools, SVUSD total enrollment has been decreasing since the 2004–2005 school year, and it is anticipated to continue decreasing (SVUSD, 2015). Moreover, payment of statutory fees for new development is deemed adequate to address impacts to public schools.

Developers of present and reasonably foreseeable future projects would be required to pay these fees and impacts to schools would be less than significant.

Utilities

Regarding water demand, the SVWD has analyzed water demand through 2035—inclusive of past, present, and reasonably foreseeable future projects—and finds that adequate entitlement and groundwater pumping capacity exists to serve that development (SVWD, 2011).

Wastewater generation from cumulative projects would similarly be accommodated within the City's Water Reclamation Facility's remaining dry weather capacity of 0.714 mgd. Based upon the sewer capacity study prepared for the proposed project, peak allowable flows from the hotel and residential development, as well as from the Polo Ranch project to the northeast, would be accommodated within the 8-inch and 12-inch mains (V&A, 2015).

Regarding stormwater, adherence to the RWQCB's stringent Post-Construction Requirements (PCRs) for proposed development projects would ensure that cumulative development minimizes stormwater flows. Lastly, the Buena Vista and Monterey Peninsula landfills have estimated closure years of 2031 and 2107, respectively, which based upon anticipated tipping tonnage and volume, as well as capacity. Solid waste generation from past, present, and reasonably foreseeable future projects would be accommodated within those capacities.

In conclusion, cumulative impacts to public services, utilities and service systems would be less than significant (Class III).

14.5.5 Level of Significance after Mitigation

Table 14-5: Summary of Impacts and Mitigation Measures – Public Services, Utilities & Service Systems summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to public services, utilities, & service systems.

Table 14-5: Summary of Impacts and Mitigation Measures – Public Services, Utilities & Service Systems

Impact	Impact Significance	Mitigation
Impact PSU-1: Introduce in a new service population requiring the construction of new or altered police or fire facilities.	Less than Significant	None required
Impact PSU-2: Require construction of new or expanded educational facilities.	Less than Significant	None required
Impact PSU-3: Require new or expanded water treatment facilities.	Less than Significant	None required
Impact PSU-4: Require the construction or expansion of new wastewater treatment facilities.	Less than Significant	None required
Impact PSU-5: Require the construction or expansion of stormwater drainage facilities.	Less than Significant	None required
Impact PSU-6: Generate solid waste that would exceed the capacity of area landfills.	Less than Significant	None required
Impact PSU-7: Contribute to cumulatively considerable public services, utilities and service system impacts.	Less than Significant	None required

14.5.6 References

CalRecycle. 2015a. Solid Waste Facilities, Sites, and Operation. Available at:

<http://www.calrecycle.ca.gov/SWFacilities/>

CalRecycle. 2015b. Waste Characterization. Service Sector: Estimate Solid Waste Generation and Disposal Rates. Available at:

<http://www.calrecycle.ca.gov/wastechar/wastegenrates/Service.htm>. Accessed October 15, 2015.

Ciceron, Ferdinand. 2008. Sanitary Sewer Design Standards. City of Oakland. Engineering Design & ROW Management Division. Department of Engineering and Construction. Community & Economic Development Agency.

Kennedy/Jenks Consultants. 2015. Annual Report 2014 Water Year SVWD Groundwater Management Program. Available at:

http://svwd.org/sites/default/files/documents/reports/SVWD-2014-Annual-Report_06-16-15_0.pdf

Kennedy/Jenks Consultants. 2010. Revised 2010 SVWD Urban Water Management Plan.

Available at:

http://svwd.org/sites/default/files/documents/reports/UWMP_2010_Rev2.pdf

Pacific Gas & Electric. 2012. Electric Power Mix Delivered to Retail Customers. Available online:

[http://www.pge.com/myhome/edusafety/systemworks/electric/energymix/.](http://www.pge.com/myhome/edusafety/systemworks/electric/energymix/)

Pacific Gas & Electric. 2015a. Company Profile. Available online:

[http://www.pge.com/en/about/company/profile/index.page.](http://www.pge.com/en/about/company/profile/index.page)

Pacific Gas & Electric. 2015b. Gas Transmission Pipelines. Web page:

[http://www.pge.com/en/safety/systemworks/gas/transmissionpipelines/index.page.](http://www.pge.com/en/safety/systemworks/gas/transmissionpipelines/index.page)

Scotts Valley, City of. 2014. *Wastewater Reclamation Facility Annual Report*. Department of Public Works.

Scotts Valley, City of. 2015. Wastewater/Recycling web page:

http://www.scottsvalley.org/wastewater_recycling/wastewaterhistory.html, accessed October 3, 2015.

Scotts Valley Unified School District. 2014. Scotts Valley Unified School District Enrollment Projection for Budget Development. Available at:

<http://www.svusd.santacruz.k12.ca.us/finance/documents/Enrollmentpres031114.pdf>

Scotts Valley Water District. 2015. Web site: <http://svwd.org/>. Accessed October 15, 2015.

V&A Engineers. 2015. Sanitary Sewer Capacity Study in Scotts Valley, California. December.

15 Transportation & Circulation

15.1 Introduction

This section describes environmental effects on transportation and circulation that would be caused by implementation of the proposed project. Information used to prepare this section came from the following resources:

- Scotts Valley General Plan
- California Department of Transportation (Caltrans)
- Highway Demand Manual (HDM) 6th Edition, Caltrans
- Highway Capacity Manual (HCM) 2010, Transportation Research Board
- National Association of City Transportation Officials (NACTO)
- City of Scotts Valley Bicycle Transportation Plan (2012)
- City of Scotts Valley Guide for the Preparation of Traffic Impact Studies (2003)
- Caltrans Guide for the Preparation of Traffic Impact Studies (2002)
- Aerial photography
- Project application and related materials
- Transportation Modelling Data & Analysis, Kimley-Horn, 2015 (see [Appendix 5](#))

15.2 Environmental Setting

This section presents information on transportation and circulation conditions in the project area.

15.2.1 Existing Roadway Network

Regional access to the project site is from Highway 17, approximately six miles north of Highway 1 in Santa Cruz. Primary local access to the project site is from Santa's Village Road. Scotts Valley Drive is the only arterial roadway in the vicinity of the project site. An overview of the existing street and highway system is provided below.

State Highways

Highway 17

Highway 17 is a four-lane north-south freeway connecting the San Francisco Bay Area to Scotts Valley and Santa Cruz. Major connectors include SR 85, I-880 and I-280 in the north, and Highway 1 in the south. The posted speed limit on Highway 17 is 65 miles per hour (mph) in the project site vicinity.

The California Department of Transportation (Caltrans) is currently developing the Highway 17 Access Management Plan (Caltrans, 2015). The plan's purpose is to provide access management strategies and recommendations addressing access, mobility, and safety needs along the Highway 17 corridor. The development of plan concepts and scenarios are scheduled to be completed in the summer of 2016. At present, Caltrans has no identified planned improvements at the study intersections identified below, nor along Highway 17 adjacent to or near the project site.

City Streets

Scotts Valley Drive

Scotts Valley Drive connects the north Scotts Valley area to the Mt. Hermon Road arterial. From Mt. Herman Road to Glenwood Drive / Highway 17 southbound (SB), Scotts Valley Drive is a four-lane divided arterial. North of Glenwood Drive, it is a two-lane undivided roadway. Scotts Valley Drive is an important road within the City because it connects local residents to retail, businesses, and amenities. The posted speed limit is 35 mph in the project site vicinity.

Santa's Village Road

Santa's Village Road is a two-lane undivided roadway from Granite Creek Road in the south to the proposed project site to the north. Access from and to northbound (NB) Highway 17 is available from Santa's Village Road just west of the project site. The posted speed limit on Santa's Village Road is 25 mph.

As part of the entitled Polo Ranch project, Santa's Village Road will be extended along the western border of the project site. Construction is planned for mid-2016.

Granite Creek Road

Granite Creek Road is a two-lane undivided roadway extending from Scotts Valley Drive over Highway 17 and eventually becoming Branciforte Drive just north of the City of Santa Cruz. Granite Creek Road provides access to Highway 17 SB ramps, Baymonte Christian School and local residences. The posted speed limit in the project site vicinity is 30 mph.

Meadow Way

Meadow Way is a two-lane undivided roadway serving a residential neighborhood located south of Granite Creek Road. The roadway intersects Granite Creek Road and does not have a posted speed limit.

Glenwood Drive

Glenwood Drive is a two-lane undivided roadway intersecting Scotts Valley Drive and Highway 17 SB Ramps in the project site vicinity. Glenwood Drive provides access to Scotts Valley High School north of Scotts Valley Drive, as well as the regional transportation system via Highway 17. The posted speed limit in the project site vicinity is 30 mph.

15.2.2 Pedestrian Facilities

Existing pedestrian facilities in the study area include a sidewalk on the east side of Santa's Village Road, extending from the Enterprise Technology Center to Granite Creek Road. A sidewalk on the south side of Granite Creek Road connects the residential areas east of Navarra Drive to the retail, business, and residential community along Scotts Valley Drive. No sidewalks currently exist along the project site frontage.

15.2.3 Bicycle Facilities

Bicycle facilities are divided into three classes. Class I bike paths are physically separated from motor vehicle lanes and offer two-way bicycle travel. Class II bike lanes on roadways are marked by signage and pavement striping. Class III bike routes share the travel lane with motor vehicles and only have signs to guide bicyclists on recommended routes.

In the project site vicinity, Class II bike lanes run along Scotts Valley Drive and along Glenwood Drive. Class III bike lanes run along Granite Creek Road, approximately 0.5 miles south of the project site. No existing bike lanes or routes provide direct access to the project site.

15.2.4 Transit Facilities

The Santa Cruz Metropolitan Transit District (SCMTD) provides transit service in the City of Scotts Valley. SCMTD bus routes in the project site vicinity are Routes 17, 30, and 35. Bus stops are located at Granite Creek Road / Meadow Way (approximately 0.5 miles south of project site), Scotts Valley Drive / Glenwood Drive (approximately 0.75 miles southwest of the project site), and Scotts Valley Drive / Granite Creek Road (approximately 0.75 miles southwest of project site).

15.2.5 Study Intersections & Segments

The study intersections are those through which the majority of the project-generated traffic would traverse, and where potential traffic impacts would be most likely to occur. Study intersection selection criteria are based on City of Scotts Valley and Caltrans traffic impact study guidelines, which indicated that study intersections shall be selected based on the expected project-generated trips and assumed trip distribution.

Given that access to the project site is provided from Highway 17 via the Santa's Village Road NB ramps and from the Scotts Valley Drive SB ramps, the highway segments north and south of these terminals were considered for analysis.

Fewer than 50 peak hour project trips were assigned to Highway 17, and the existing level of service (LOS) on Highway 17 segments in the project site vicinity is LOS D or better during peak periods. Therefore, Highway 17 segments were not included in this analysis.

As shown in [Figure 15-1: Study Intersections & Trip Distribution](#), the following intersections were analyzed as part of the traffic analysis:

Intersections

1. Santa's Village Road / Hwy 17 NB Ramps (Unsignalized)
2. Santa's Village Road / Club Drive (Unsignalized)
3. Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps (Signalized)
4. Granite Creek Road / Meadow Way (Unsignalized)
5. Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps (Signalized)
6. Scotts Valley Drive / Granite Creek Road (Signalized)

15.2.6 Traffic Analysis Methodology

Level of Service

Traffic conditions are measured by average daily traffic (ADT), peak hour traffic volumes, LOS, average delay, and volume to capacity (V/C) ratio. Average daily traffic is the total number of cars passing over a segment of the roadway, in both directions, on an average day. Peak hour volumes are the total number of cars passing over a roadway segment during the peak hour in the morning (AM) or afternoon/evening (PM). Based on traffic counts, the weekday AM peak occurs between 7:00 am and 9:00 am in the project site vicinity. The weekday PM peak occurs between 2:00 pm and 6:00 pm.

Signalized Intersections

Signalized intersections were analyzed based on the *Highway Capacity Manual* (HCM) 2010 method using Synchro Version 9 software. The 2010 HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Control delay is the amount of delay that is attributed to the particular traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Both the City of Scotts Valley and Caltrans endeavors to maintain a target LOS at signalized intersections at the transition between C and D. These standards are identified in both the *City of Scotts Valley Traffic Impact Studies Guide (2003)* and the *Caltrans Traffic Impact Study Guide (2002)*.

Unsignalized Intersections

LOS at unsignalized intersections is based on the 2010 Highway Capacity Manual (2010 HCM) method using Synchro Version 9 software. This method is applicable for both two-way and all-way stop-controlled intersections. For two-way stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. For two-way stop controlled intersections, the overall average delay and LOS are reported, as are the delay and LOS for the worst intersection movement. For all-way stop controlled intersections, the overall intersection average delay and LOS are reported.

Both the City of Scotts Valley and Caltrans endeavors to maintain a target LOS at unsignalized intersections at the transition between C and D. These standards are identified in both the *City of Scotts Valley Traffic Impact Studies Guide (2003)* and the *Caltrans Traffic Impact Study Guide (2002)*.

Table 15-1: Signalized and Unsignalized Intersection LOS Criteria summarizes the relationship between the control delay and LOS for signalized and unsignalized intersections.

Table 15-1: Signalized and Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)	
		Signalized	Unsignalized
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010

Study Conditions

This traffic analysis evaluates project impacts under the following four traffic scenarios:

1. **Existing Conditions:** Existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from current AM and PM peak hour traffic counts.
2. **Existing + Project Conditions:** Projected peak hour traffic volumes are estimated by adding to existing traffic volumes the traffic generated by the project.

3. Cumulative Conditions: “Cumulative Conditions” are represented by year 2030 traffic volumes on the roadway network.
4. Cumulative + Project Conditions: This condition represents the cumulative condition plus the traffic generated by the proposed project.

15.2.7 Existing Conditions

Existing conditions lane geometry for study intersections are shown in [Appendix 5 Figure 5-1: Existing Conditions Lane Geometry](#). Existing conditions traffic volumes at study intersections are shown in [Appendix 5 Figure 5-2: Existing Conditions Peak Hour Volumes](#).

As shown in [Table 15-2: Existing and Cumulative Transportation Delay & LOS without Project](#), all study intersections operate at acceptable levels of service under the Existing Conditions during the weekday AM and PM peak hours with the exception of:

Santa’s Village Road / Granite Creek Road / Hwy 17 NB Ramps

- Operates at **LOS E** during AM Peak
- Operates at **LOS D** during PM Peak

Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps

- Operates at **LOS D** during AM Peak
- Operates at **LOS D** during PM Peak

Roadway Improvements

Scotts Valley Short Term Capital Improvement Plan (CIP) Projects

There are no funded roadway improvement projects in the project study area that are expected to be completed in the near term.

15.2.8 Cumulative Conditions

To evaluate “Cumulative + Project Conditions,” it is necessary to develop a forecast of cumulative traffic volumes in the study area under “Cumulative Conditions” without the project. This forecast provides a basis against which to measure the project’s traffic impacts. The City of Scotts Valley provided a Cumulative Projects list, which is included in [Appendix 5](#). The year 2030 was selected for analysis based on the cumulative buildout condition based on population growth projections, assumed in the Town Center EIR, which will affect future travel patterns in the study area and traffic volumes on the highways serving the project site.

Traffic volumes under “Cumulative Conditions” are based on the peak hour forecasts determined in collaboration with City of Scotts Valley staff and are shown in [Appendix 5, Figure 5-3: Cumulative Conditions Peak Hour Volumes](#).

As shown in Table 15-2: Existing and Cumulative Transportation Delay & LOS without Project, all study intersections operate at acceptable levels of service under “Cumulative Conditions” during the weekday AM and PM peak hours with the exception of:

Santa’s Village Road / Granite Creek Road / Hwy 17 NB Ramps

- Operates at **LOS E** during AM Peak
- Operates at **LOS D** during PM Peak

Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps

- Operates at **LOS D** during AM Peak
- Operates at **LOS D** during PM Peak

Scotts Valley Drive / Granite Creek Road

- Operates at **LOS D** during AM Peak

Table 15-2: Existing and Cumulative (2030) Transportation Delay & LOS without Project

	Intersection	Control Type	Agency	LOS Threshold	Existing						Cumulative (Year 2030)					
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
					Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS
1	Santa's Village Road / Hwy 17 NB Ramps	SSSC	Caltrans	C/D	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
	<i>Worst Approach</i>				NB/SB	0.0	A	NB/SB	0.0	A	NB/SB	0.0	A	NB/SB	0.0	A
2	Santa's Village Road / Club Drive	SSSC	City	C/D	-	0.9	A	-	4.6	A	-	1.0	A	-	3.6	A
	<i>Worst Approach</i>				SB	9.8	A	SB	9.6	A	SB	10.2	B	SB	10.0	B
3	Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps	Signal	Caltrans	C/D	-	58.1	E	-	46.4	D	-	59.8	E	-	49.1	D
4	Granite Creek Road / Meadow Way	SSSC	City	C/D	-	1.6	A	-	1.3	A	-	1.8	A	-	1.3	A
	<i>Worst Approach</i>				EB	15.1	C	EB	13.4	B	EB	16.3	C	EB	15.5	C
5	Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps	Signal	Caltrans	C/D	-	39.4	D	-	39.3	D	-	43.2	D	-	42.9	D
6	Scotts Valley Drive / Granite Creek Road	Signal	Caltrans	C/D	-	34.5	C	-	29.8	C	-	39.9	D	-	29.7	D

Notes:

1. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
2. Analysis performed using 2010 Highway Capacity Manual methodologies.
3. Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
4. Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop controlled intersections, instead the worst approach control delay is used in seconds.
5. If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay is decreased.
6. Intersections that are operating below acceptable levels are shown in **BOLD** and shaded light blue.

Source: Kimley-Horn & Associates, Inc. 2015

15.3 Applicable Regulations, Plans, and Standards

15.3.1 Federal

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 prohibits discrimination toward people with disabilities and guarantees that they have equal opportunities as the rest of society to become employed, purchase goods and services, and participate in government programs and services. The ADA includes requirements pertaining to transportation infrastructure. The Department of Justice's revised regulations for Titles II and III of the ADA, known as the 2010 ADA Standards for Accessible Designs, set minimum requirements for newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. These standards apply to accessible walking routes, curb ramps, and other facilities.

Surface Transportation Assistance Act Routes (STAA – Federal Designation)

The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks, referred to as STAA trucks that comply with maximum length and wide requirements, to operate on routes that are part of the National Network. The National Network includes the Interstate System and other designated highways that were a part of the Federal-Aid Primary System on June 1, 1991; states are encouraged, however, to allow access for STAA trucks on all highways. Highway 17 is classified as a STAA route (Terminal Access).

15.3.2 State

California Complete Streets Act of 2008

This act requires that the circulation elements of local general plans accommodate a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways in a manner that is suitable to the rural, suburban, or urban context of the jurisdiction. Users are defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and riders of public transportation.

California Transportation Development Act

The Mills-Alquist-Deddeh Act (SB 325) (also known as the Transportation Development Act [TDA]) was enacted in 1971 to improve public transportation services and encourage regional transportation coordination. This law provides funding to be allocated to transit- and non-transit-related purposes that comply with regional transportation plans. The TDA provides two funding sources: 1) the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, and 2) the State Transit Assistance fund (STA), which is derived from the statewide sales tax on diesel fuel.

California Environmental Quality

The Steinberg Act (SB 743) (also known as the Environmental Act) was enacted in 2013 to shift the focus of transportation analysis from driver delay to reducing greenhouse gas emissions, creating multimodal networks, and promoting mixed land uses. SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide alternative level of service metrics for transportation impact evaluations. The alternative criteria must encourage greenhouse gas emissions reductions, support the development of multimodal transportation networks, and promote a diversity of land uses. In August 2014, OPR released a preliminary discussion draft of changes to the CEQA Guidelines for review and comment, and the office is currently developing a revised draft for further review and comment. Under the new guidelines, measurements of transportation impacts may include vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated.

15.3.3 Local

Scotts Valley General Plan

Project relevant general plan policies regarding public transit, bicycle or pedestrian facilities are addressed in [Table 12-1: General Plan Consistency Analysis](#). Where inconsistencies exist, if any, they are addressed in the respective impact analysis below.

Scotts Valley Bicycle Transportation Plan

Relevant plans, policies, and programs regarding bicycle facilities are included in the *Scotts Valley Bicycle Transportation Plan (2012)*. The project site is not located along a designated bicycle route.

15.4 Environmental Impacts and Mitigation Measures

15.4.1 Significance Criteria

CEQA Criteria

The following significance criteria for transportation and circulation were derived from the Environmental Checklist in CEQA Guidelines Appendix G. These significance criteria have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following criteria.

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant

components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- 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.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

City of Scotts Valley Criteria

As stated in the City of Scotts Valley *Guide for the Preparation of Traffic Impact Studies (2003)*, the City of Scotts Valley considers intersections with LOS C or better under “Existing Conditions” to be operating at an acceptable level. For intersections operating at LOS C or better under “Cumulative Conditions,” a proposed project would result in a significant impact if it would result in intersection operations of LOS D, LOS E, or LOS F. This criteria is applied to intersections within the City’s jurisdiction, as well as Caltrans intersections. There are no other adopted plans, ordinances, or policies that establish “measures of effectiveness” for the performance of the circulation system.

For intersections that already operate at unacceptable (LOS D, E, or F) under “Existing Conditions” or “Cumulative Conditions,” the City considers project impacts to be significant if congestion would worsen measurably at the intersection as a result of the project.

Caltrans Criteria

The following criterion applies to all Caltrans facilities:

- Change the LOS of a state highway roadway segment from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E, or F) or result in a change in LOS for a segment currently operating at a deficient level based on Caltrans significance criteria (Caltrans, 2002).

Significance Classifications

The significance of each impact is identified according to the classifications listed below.

Class I: Significant impact; cannot be mitigated to a level that is less than significant.

Class II: Significant impact; can be mitigated to a level that is less than significant through implementation of recommended mitigation measures.

Class III: Adverse impact but less than significant; no mitigation recommended.

Class IV: Beneficial impact; mitigation is not required.

No Impact.

15.4.2 Summary of No and/or Beneficial Impacts

Inadequate Parking Supply and Dimensions

The proposed project would provide 122 parking spaces for the hotel component and 119 parking spaces for the residential component for a total of 241 parking spaces. The Scotts Valley Municipal Code (17.44.030) requires 126 parking spaces for the hotel component and 110 parking spaces for the residential component for a total of 236 parking spaces. The proposed Planned Development (PD) district would resolve the parking space requirements for the project site.

Parking dimensions are consistent with Scotts Valley Municipal Code (17.44.030), which specifies dimensions of 20 feet in length and 9 feet in width for full-sized spaces and 16 feet in length and 9 feet in width for compact spaces. Compact spaces compose 20 percent or less of the overall parking supply for each component.

Therefore, there would be no parking impact.

Americans with Disabilities Act (ADA)

The hotel component would provide five ADA compliant spaces and the residential component would provide one ADA-compliant spaces, which is consistent with state law.

Change in Air Traffic Patterns

The project site is not located near an airport or private air strip and would not result in a change in air traffic patterns. Therefore, there would be no impact.

Conflict with Adopted Policies, Plans, or Programs Supporting Alternative Transportation

The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or decrease the performance or safety of such facilities. Therefore, there would be no impact.

Emergency Access

Access via public roadways to the project site would remain unchanged and would be adequate for emergencies. Therefore, there would be no impact.

15.4.3 Trip Generation Estimates

Trip generation estimates were prepared for weekday traffic conditions (worst case). In determining project trip generation, the magnitude of traffic accessing and departing the project site is estimated for the AM and PM peak hours. Through empirical research, data have been collected that correlate common land uses with their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the traffic increases that would result from a new development. Project trip generation was estimated by applying to the proposed size and uses of the development the appropriate trip generation rates published in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition (2012)*.

As shown in **Table 15-3: Proposed Project Trip Generation**, the proposed project would generate 1,341 net new daily trips, with 94 net new trips (43 in and 51 out) occurring during the AM peak hour and 107 net new trips (60 in and 47 out) occurring during the PM peak hour.

Table 15-3: Proposed Project Weekday Trip Generation

Land Use	ITE Land Use Code	Size	Daily		AM Peak Hour				PM Peak Hour			
			Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Residential Townhouse ¹	230 ¹	50 DU	7.04	352	0.60	5	25	30	0.68	23	11	34
Hotel ²	310 ²	121 Rooms ³	8.17	989	0.53	38	26	64	0.60	37	36	73
Net New Project Trips			-	1341	-	43	51	94	-	60	47	107

Notes:

1. ITE Code 230; Based on ITE equation.
2. ITE Code 310; Based on average rate.
3. The hotel plans envision 120 hotel rooms. To provide a conservative estimate of trip generation, 121 rooms are included in the analysis.

Source: Kimley-Horn & Associates, 2015

15.4.4 Trip Distribution and Assignment

Project trip distribution estimates the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. The directional distribution of project-generated traffic to and from the site was developed based on a select zone analysis from the AMBAG forecast model and knowledge of the study area. **Figure 15-1: Study Intersections & Trip Distribution** shows the distribution of project trips throughout the study area. The peak hour trips generated by the proposed uses are assigned to the roadway system by the model at each study location.

As shown in **Figure 15-1: Study Intersections & Trip Distribution**, it was estimated that 32 percent of the estimated project trips will travel between Scotts Valley and the San Francisco Bay Area on Highway 17, 48 percent of the trips will travel between Scotts Valley and Santa Cruz on Highway 17, and 20 percent of the trips will stay within Scotts Valley. These trip

distribution estimates were based on the Association of Monterey Bay Area Government (AMBAG) travel demand model, trip distribution characteristics for other recent traffic studies in Scotts Valley, and consultation with City staff.

Project trip assignments to the network are shown in [Appendix 5, Figure 5-4: Project Trip Assignment Peak Hour Volumes](#). Project trips added to existing and cumulative volumes are summarized in [Appendix 5, Figure 5-5: Existing + Project Peak Hour Volumes](#) and [Appendix 5, Figure 5-6: Cumulative + Project Peak Hour Volumes](#), respectively.

15.4.5 Impacts of the Proposed Project

Impact TR-1: Increase congestion and travel delays on regional and local roadways or exceed an established LOS standard (Class I).

As shown in [Table 15-4: Existing + Project Transportation Delay & LOS](#), all study intersections operate at acceptable levels of service under the “Existing + Project Conditions” during the weekday AM and PM peak hours with the exception of:

Santa’s Village Road / Granite Creek Road / Hwy 17 NB Ramps

- Operates at **LOS E** during AM Peak
- Operates at **LOS D** during PM Peak

Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps

- Operates at **LOS D** during AM Peak
- Operates at **LOS D** during PM Peak

Santa’s Village Road / Granite Creek Road / Hwy 17 NB Ramps

The addition of project traffic to the intersection to Santa’s Village Road / Granite Creek Road / Hwy 17 NB Ramps would exacerbate the already deficient delay from 58.1 seconds to 58.3 seconds (a 0.2-second increase) during the AM peak hour and from 46.6 to 46.8 seconds (a 0.4-second increase). The LOS would remain at LOS E during the AM peak hour and LOS D during the PM peak hour. Given that the Caltrans threshold of significance is any increase in delay on an already-deficient facility, the Existing + Project impact at this intersection would be significant.

Mitigation of this impact would require the provision of additional eastbound and northbound left turn lanes. The addition of these lanes would require improvements of the intersection, improvements of the Highway 17 Northbound On/Off Ramps, widening of the northbound bridge, less school parking, and acquisition of additional right-of-way. Space for such improvements, however, is unavailable because the intersection is surrounded by existing private development and roadways. The parking lot for the Baymonte Christian School and Gateway Bible Church is located on the north side of Granite Creek Road and Santa’s Village Road, and residential properties abut the south side of Granite Creek Road. Meadow Way, a

dead-end street with several houses, intersects Granite Creek Road immediately west of the Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps intersection. Based on the location of these uses, expansion of the intersection to accommodate additional turning lanes is not feasible. Because no feasible mitigation can be identified to avoid the delay, the impact would be significant and unavoidable.

Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps

The addition of project traffic to the intersection to Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps would exacerbate the already deficient delay from 39.4 seconds to 39.8 seconds (a 0.4 second increase) during the AM peak hour and from 39.3 to 39.5 seconds (a 0.2 second increase). The LOS would remain at LOS E during the AM peak hour and LOS D during the PM peak hour. Given that the Caltrans threshold of significance is any increase in delay on an already-deficient facility, the Existing + Project impact at this intersection would be significant. Because no feasible mitigation can be identified to avoid the delay, the impact would be significant and unavoidable.

Table 15-4: Existing and Existing + Project Transportation Delay & LOS

	Intersection	Control Type	Agency	LOS Threshold	Existing						Existing + Project					
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
					Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS
1	Santa's Village Road / CA 17 Hwy Ramps	SSSC	Caltrans	C/D	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
	<i>Worst Approach</i>				NB/SB	0.0	A	NB/SB	0.0	A	NB/SB	0.0	A	NB/SB	0.0	A
2	Santa's Village Road / Club Drive	SSSC	City	C/D	-	0.9	A	-	4.6	A	-	0.8	A	-	3.9	A
	<i>Worst Approach</i>				SB	9.8	A	SB	9.6	A	SB	9.7	A	SB	9.8	A
3	Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps	Signal	Caltrans	C/D	-	58.1	E	-	46.4	D	-	58.3	E	-	46.8	D
4	Granite Creek Road / Meadow Way	SSSC	City	C/D	-	1.6	A	-	1.3	A	-	1.6	A	-	1.3	A
	<i>Worst Approach</i>				EB	15.1	C	EB	13.4	B	EB	15.1	C	EB	13.4	B
5	Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps	Signal	Caltrans	C/D	-	39.4	D	-	39.3	D	-	39.8	D	-	39.5	D
6	Scotts Valley Drive / Granite Creek Road	Signal	Caltrans	C/D	-	34.5	C	-	29.8	C	-	34.9	C	-	31.4	C

Notes:

1. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
2. Analysis performed using 2010 Highway Capacity Manual methodologies.
3. Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
4. Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop controlled intersections, instead the worst approach control delay is used in seconds.
5. If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay is decreased.
6. Intersections that are operating below acceptable levels are shown in **BOLD** and shaded light blue.

Source: Kimley-Horn & Associates, Inc. 2015

Impact TR-2: Substantially increase hazards due to a roadway design feature (Class II).

To serve the already approved Polo Ranch project, Santa's Village Road will be extended northward through the project site. As shown in [Figure 3-3: Proposed Project Site Plan](#), the extension will curve eastward and southeastward in the northern portion of the project site. Sight distances would be limited along these curves.

As part of the proposed project, the residential development's private roadways would intersect the Santa's Village Road extension at or near these curves in the roadway, which may result in safety hazards to vehicles, cyclists, and pedestrians. Implementation of [Mitigation Measure MM TR-2: Traffic Control Plan](#), would reduce the impact to a less-than-significant level (Class II).

Mitigation for Impact TR-2

MM TR-2 Traffic Control Plan

The applicant for the residential development shall implement this mitigation measure.

The applicant shall hire a registered traffic engineer to prepare a Traffic Control Plan for review and approval by the Public Works Department and the Community Development Director prior to approval of the Final Subdivision Map. The Traffic Control Plan shall include:

- Preparation of a detailed sight distance evaluation for all project roadways.
- Installation of all-way stop control at connecting public and private streets to eliminate insufficient sight distance.
- Designation and posting of a 25-mile-per-hour speed limit on the Santa's Village Road extension and project private roadways.

15.4.6 Cumulative Impact Analysis

The geographic context for the analysis of cumulative transportation and circulation impacts includes intersections within the City of Scotts Valley (under both Scotts Valley and Caltrans jurisdictions).

Impact TR-3: Contribute to cumulatively considerable transportation and circulation impacts (Class I).

As shown in [Table 15-5: Cumulative + Project Transportation Delay & LOS](#), all study intersections operate at acceptable levels of service under the "Cumulative + Project Conditions" during the weekday AM and PM peak hours with the exception of:

Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps

- Operates at **LOS E** during AM Peak
- Operates at **LOS D** during PM Peak

Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps

- Operates at **LOS D** during AM Peak
- Operates at **LOS D** during PM Peak

Scotts Valley Drive / Granite Creek Road

- Operates at **LOS D** during AM Peak

Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps

The addition of project traffic to the intersection to Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps would exacerbate the already deficient delay from 59.8 seconds to 60.1 seconds (a 0.3 second increase) during the AM peak hour and from 49.1 to 49.9 seconds (a 0.8 second increase). The LOS would remain at LOS E during the AM peak hour and LOS D during the PM peak hour. Given that the Caltrans threshold of significance is any increase in delay on an already-deficient facility, the Cumulative + Project impact would be significant. Because no feasible mitigation can be identified to avoid the delay, the impact would be significant and unavoidable.

Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps

The addition of project traffic to the intersection to Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps would exacerbate the already deficient delay from 43.2 seconds to 43.7 seconds (a 0.5 second increase) during the AM peak hour and from 42.9 to 43.1 seconds (a 0.2 second increase). The LOS would remain at LOS E during the AM peak hour and LOS D during the PM peak hour. Given that the Caltrans threshold of significance is any increase in delay on an already-deficient facility, the Cumulative + Project impact would be significant. Because no feasible mitigation can be identified to avoid the delay, the impact would be significant and unavoidable.

Scotts Valley Drive / Granite Creek Road

The addition of project traffic to the intersection to Scotts Valley Drive / Granite Creek Road would exacerbate the already deficient delay from 39.9 seconds to 40.1 seconds (a 0.2 second increase) during the AM peak hour. The LOS would remain at LOS D during the AM peak hour. Given that the Caltrans threshold of significance is any increase in delay on an already-deficient facility, the Cumulative + Project impact would be significant. Because no feasible mitigation can be identified to avoid the delay, the impact would be significant and unavoidable.

Table 15-5: Cumulative and Cumulative + Project Transportation Delay & LOS

	Intersection	Control Type	Agency	LOS Threshold	Cumulative						Cumulative + Project					
					AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
					Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS	Movement	Delay (sec)	LOS
1	Santa's Village Road / CA 17 Hwy Ramps	SSSC	Caltrans	C/D	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
	<i>Worst Approach</i>				NB/SB	0.0	A	NB/SB	0.0	A	NB/SB	0.0	A	NB/SB	0.0	A
2	Santa's Village Road / Club Drive	SSSC	City	C/D	-	1.0	A	-	3.6	A	-	1.0	A	-	3.4	A
	<i>Worst Approach</i>				SB	10.2	B	SB	10	B	SB	10.3	B	SB	10.7	B
3	Santa's Village Road / Granite Creek Road / Hwy 17 NB Ramps	Signal	Caltrans	C/D	-	59.8	E	-	49.1	D	-	60.1	E	-	49.9	D
4	Granite Creek Road / Meadow Way	SSSC	City	C/D	-	1.8	A	-	1.3	A	-	1.8	A	-	1.3	A
	<i>Worst Approach</i>				EB	16.3	C	EB	15.5	C	EB	16.3	C	EB	15.5	C
5	Scotts Valley Drive / Glenwood Drive / Hwy 17 SB Ramps	Signal	Caltrans	C/D	-	43.2	D	-	42.9	D	-	43.7	D	-	43.1	D
6	Scotts Valley Drive / Granite Creek Road	Signal	Caltrans	C/D	-	39.9	D	-	29.7	C	-	40.1	D	-	30.9	C

Notes:

1. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
2. Analysis performed using 2010 Highway Capacity Manual methodologies.
3. Each study intersection is controlled by a traffic signal, a side-street stop-controlled (SSSC), or an all-way stop-controlled (AWSC).
4. Delay refers to the average control delay for the entire intersection measured in seconds per vehicle. According to HCM methodology, overall LOS is not defined for side street stop controlled intersections, instead the worst approach control delay is used in seconds.
5. If a specific movement has a delay less than the approach or intersection average, and the trips are increased for this movement, the overall intersection delay is decreased.
6. Intersections that are operating below acceptable levels are shown in **BOLD** and shaded light blue.

Source: Kimley-Horn & Associates, Inc. 2015

15.4.7 Level of Significance after Mitigation

Table 15-6: Summary of Impacts and Mitigation Measures – Transportation and Circulation, summarizes the environmental impacts, significance determinations, and mitigation measures for the proposed project with regard to transportation and circulation.

Table 15-6: Summary of Impacts and Mitigation Measures – Transportation and Circulation

Impact	Impact Significance	Mitigation
Impact TR-1: Increase congestion and travel delays on regional and local roadways or exceed an established LOS standard.	Significant and Unavoidable	None identified
Impact TR-2: Substantially increase hazards due to a roadway design feature	Less than Significant with Mitigation	MM TR-2: Traffic Control Plan
Impact TR-3: Contribute to cumulatively considerable transportation and circulation impacts.	Significant and Unavoidable	MM TR-2: Traffic Control Plan

15.4.8 References

Caltrans (California Department of Transportation). 2002. Guide for the Preparation of Traffic Impact Studies. Available at:

http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

Caltrans. 2015. Highway 17 Access Management Plan. Web site: <http://www.ca-hwy17amp.org/>. Accessed December 9, 2015.

City of Scotts Valley. 2003. Guide for the Preparation of Traffic Impact Studies. Available at:

http://www.scottsvalley.org/downloads/public_works/Traffic_Impact_Studies_Guide.pdf

City of Scotts Valley. 2012. Bicycle Transportation Plan. Available at:

http://www.scottsvalley.org/downloads/public_works/BicycleTransportationPlan.2012.pdf

City of Scotts Valley. 2008. Town Center Specific Plan - Final EIR. Available at:

http://www.scottsvalley.org/planning/town_center_page2.html

16 Alternatives

This section describes the CEQA requirements related to alternatives and describes the process used to define alternatives to the proposed project. It describes three alternatives to the proposed project and provides a comparative analysis for each of these alternatives to the proposed project. It includes the evaluation of the No Project Alternative, as required by CEQA, and a comparison of alternatives. Finally, it identifies the environmentally superior alternative.

16.1 CEQA Requirements for Alternatives

CEQA requires that an EIR “...describe 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 project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.” (CEQA Guidelines §15126.6(a))

To comply with this requirement, the City of Scotts Valley evaluated possible alternatives based on the following factors:

- Does the alternative accomplish most of the basic project objectives?
- Is the alternative potentially feasible (from economic, environmental, legal, social, technological standpoints)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed project? Alternatives need be environmentally superior to the proposed project in only some, not all, respects.
- Is the alternative reasonable and realistic? An EIR need not consider an alternative whose effect cannot reasonably be ascertained or whose implementation is remote and speculative, because unrealistic alternatives do not contribute to a useful analysis.

Each of these requirements is described in more detail in the following sections.

16.2 Consistency with Project Objectives

The basic purpose of an EIR's discussion of alternatives is to suggest ways project objectives might be achieved at less environmental cost. Accordingly, alternatives must be able to meet most project objectives, but they need not be able to meet all of them. As stated in the CEQA Guidelines, the EIR's alternatives analysis should focus on alternatives that can eliminate or reduce significant environmental impacts even if they would impede attainment of project objectives to some degree or be more costly (14 CCR §15126.6(b)). The alternatives discussed must, however, be able to attain most of the basic objectives of the proposed project (14 CCR §15126.6(a)). As stated in [Chapter 3: Project Description](#), the following objectives have been identified for the proposed project:

- Develop financially feasible, attached single-family townhouse market-rate residential units to contribute to the region's housing supply.
- Construct a financially feasible hotel in the City of Scotts Valley that leverages proximity to, and is visible from, Highway 17 and contributes Transient Occupancy Tax to the City.
- Activate Santa's Village Road between the approved Polo Ranch project to the north and the existing Enterprise Technology Center campus to the south through the introduction of 24-hour uses.
- Incorporate passive outdoor areas into the housing development for shared use by residents.

The determination of whether to eliminate or retain alternatives in this EIR was based on each alternative's ability to meet most or all of these objectives, even if the alternative may be more costly than the proposed project.

16.3 Potential Feasibility

CEQA requires that an EIR analyze alternatives that are potentially feasible. Among the factors that may be taken into account when addressing the potential feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites in determining the range of alternatives to be evaluated in the EIR (14 CCR 15126.6(f)(1)). The potential feasibility of potential alternatives considers the following factors:

- **Economic Feasibility.** Is the additional cost of the alternative or lost profits from the alternative sufficiently severe to render it impractical and not feasible? Alternatives that are capable of eliminating or reducing significant environmental effects even though they may be more costly must be considered (14 CCR 15126.6(b)). However, if the additional costs of implementing an alternative or lost profitability associated with an alternative are sufficiently severe, then these factors may render the alternative impractical or economically infeasible.
- **Legal Feasibility.** Are there legal constraints to implementing the alternative? For example, constructing the proposed project on an alternative site may not be legally feasible if the applicant does not own the site or applicable land use regulations or property restrictions prohibit the proposed project. For example, the proposed project may not be legally permissible in wilderness areas, wilderness study areas, restricted military bases, airports, and Indian reservations or on property that is not zoned to allow such a use. Any potential legal constraints affecting an alternative are identified based on a review of applicable local, State, and federal laws, regulations, plans, and policies.
- **Social Feasibility.** Would the alternative cause significant damage to the socioeconomic structure of the community and be inconsistent with important community values and

needs? Similar to the environmental feasibility addressed below, this subject is primarily considered in regard to significant environmental effects.

- **Technical Feasibility.** Is the alternative feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?

16.4 Potential to Eliminate Significant Environmental Effects

A key CEQA requirement for an alternative is that it must have the potential to “avoid or substantially lessen any of the significant effects of the project” (CEQA Guidelines Section 16126.6(a)). If an alternative is identified that clearly does not have the potential to provide an overall environmental advantage as compared to the proposed project, it is usually eliminated from further consideration. The significant environmental effects of the proposed project are summarized in the Executive Summary, Impact Summary Table for significant and unavoidable impacts (Class I impacts) and significant impacts that can be mitigated (Class II impacts). The significant impacts include the following:

- Impact AES-2: Introduce new light and glare to the project site and project area (Class II)
- Impact AQ-1: Construction activities would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants (Class II)
- Impact AQ-4: Contribute to cumulatively considerable air quality impacts (Class II)
- Impact BIO-1: Result in a potentially adverse effect on the Carbonera Creek riparian habitat (Class II)
- Impact BIO-2: Cause a direct and/or indirect adverse effect on native trees and associated nesting bird sites (Class II)
- Impact BIO-4: Contribute to cumulatively considerable effects on biological resources (Class II)
- Impact CR-1: Cause a substantial adverse change to a known archeological resource (Class II)
- Impact CR-2: Directly impact a paleontological resource or unique geologic feature (Class II)
- Impact CR-4: Contribute to cumulatively considerable effects on cultural resources (Class II)
- Impact GEO-2: Expose people or structures to substantial safety risks as a result of seismically induced ground shaking, liquefaction, settlement, lateral spreading, and/or surface cracking (Class II)
- Impact GEO-3: Contribute to cumulatively considerable effects on geology and soils (Class II)

- Impact N-1: Cause a temporary or periodic increase in ambient noise levels during construction that would substantially disturb sensitive receptors (Class II)
- Impact N-3: Expose project residents and hotel guests to existing and future noise levels in excess of standards established in the City of Scotts Valley General Plan (Class II)
- Impact N-4: Contribute to cumulatively considerable noise impacts (Class II)
- Impact TR-1: Increase congestion and travel delays on regional and local roadways or exceed an established LOS standard (Class I)
- Impact TR-2: Substantially increase hazards due to a roadway design feature (Class II)
- Impact TR-3: Contribute to cumulatively considerable transportation and circulation impacts (Class I)

16.5 No Project Alternative

In addition to studying a reasonable range of alternatives based on the criteria set forth above, CEQA requires the EIR to analyze a “no-project” alternative. Consideration of the No Project Alternative is required by Section 15126.6(e) of the CEQA Guidelines. The analysis of the No Project Alternative must discuss the existing conditions at the time the Notice of Preparation was published (March 25, 2015), as well as: “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (CEQA Guidelines Section 15126.6 (e)(2)). The requirements also specify that: “If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this ‘no project’ consequence should be discussed” (CEQA Guidelines Section 15126.6 (e)(3)(B)). The No Project Alternative is defined and analyzed in Section 16.7.

16.6 Alternatives Evaluation Process

The City of Scotts Valley identified a range of alternatives based on the screening criteria set forth above. The City of Scotts Valley also considered oral and written comments received during the CEQA scoping process that recommended or identified potential project alternatives. The range of alternatives considered in the screening analysis encompasses:

- Potentially feasible alternatives that may have been identified during the public scoping process.
- Potentially feasible alternatives that the City has identified as a result of the independent review of the proposed project impacts.

16.7 Alternatives Eliminated from Further Consideration

A prior application for development of the project site proposed a 74-unit residential development. This alternative was eliminated from further consideration because it would not reduce or avoid impacts of the proposed project. The 74-unit development would encroach on

the riparian area, resulting in similar impacts to the riparian area adjacent to Carbonera Creek. In addition, this alternative would likely generate more peak-hour trips than would the proposed project, which would result in longer delays at local intersections, than would the proposed project.

16.8 No Project Alternative

Description

The Enterprise Way project site is designated for Research and Development (R&D) use in the General Plan, and the project site is within a Research & Development (Planned Development) zoning district (I-RD (PD)). PD zoning districts require discretionary approval of a planned development application. No such application exists at the present time. As such, under the No Project Alternative, the project site would primarily remain in its existing condition. No grading would occur with the intent to construct a hotel or residential development, and the existing berm on the project site's western side would remain. No new hotel or residential development would be constructed, and most existing vegetation would remain. The project site would undergo regular mowing and outdoor maintenance, as under existing conditions.

To serve the already-approved Polo Ranch project northeast of the Enterprise Way project site, Santa's Village Road would be paved through the project site, along the same alignment shown in the site plan. The road would be opened to vehicular, cyclist, and pedestrian traffic. On both sides of the newly paved roadway, access to the Enterprise Way project site would be restricted by chain-link fences, as under existing conditions. The extension of Santa's Village Road through the project site would occur regardless of the proposed project or alternatives. As such, environmental impacts associated with that extension would occur, but they would not be attribute to the alternative.

Ability to Meet Project Objectives

The No Project Alternative would meet none of the project objectives. No multifamily housing or hotel would be constructed, and as such no open space associated with those uses would be provided. Although Santa's Village Road would be extended through the project site, both sides of the road would be inactive and restricted by chain-link fences.

Comparative Analysis of Environmental Impacts

The No Project Alternative would avoid all project-related environmental impacts. There would be no project construction, which would avoid the construction-related impacts to air quality, biological resources, cultural resources, geology and soils, and noise. In addition, no residences would be placed in proximity to Highway 17. As such, no operational impacts associated with freeway noise would occur. Operational impacts related to transportation would not occur.

16.9 Alternatives Selected for Analysis

16.9.1 Alternative A: Residential Only

Description

Under Alternative A: Residential Only, residential development would be built on the project site. Fifty townhouses would be constructed in a series of buildings on the project site east and south of the Santa's Village Road extension. Parking for the townhouses would be included in the garages of each unit, and guest spaces would be available in a surface parking lot. The development would avoid the riparian area adjacent to Carbonera Creek, which would be protected from construction activities and preserved as open space.

Ability to Meet Project Objectives

Alternative A would meet most of the project objectives. It would entail development of 50 units of housing, which would contribute to the region's housing supply. It would activate Santa's Village Road with a 24-hour use (residential), as well as incorporate open space preservation proximate to Carbonera Creek. Alternative A would not, however, meet the objective of developing a hotel that leverages proximity to Highway 17.

Potential Feasibility

Alternative A would be potentially feasible. Regional demand for housing is high, and the grading and utility installation required to prepare the project site for 50 housing units would be similar to the project site work required for the proposed project. Given the size of the project site, however, it is not clear that the construction and sale of 50 units would be enough to accommodate the economic investment of site purchase and preparation.

Comparative Analysis of Environmental Impacts

The environmental impacts of Alternative A would be similar to those of the proposed project. Alternative A would require tree removal, grading, utility construction, and building and parking lot construction, which would result in significant-but-mitigatable impacts to air quality, cultural resources, and noise. Given the alternative would avoid the riparian area adjacent to Carbonera Creek, however, it would not result in significant impacts to biological resources. The alternative's new structures would result in potential effects related to geology and seismicity, but these impacts would be reduced to a less-than-significant level.

Regarding operations, Alternative A would place residences in proximity to Highway 17, which would result in significant-but-mitigatable impacts from freeway noise. Given that the alternative would have 50 residential units, it would result in a similar number of a.m. and p.m. peak-hour trips as would the proposed project. Total daily trips, however, would be reduced when compared to the hotel use. Hazard impacts would be similar to those under the proposed project. Light and glare impacts would be similar to those under the proposed project.

Alternative Conclusions

Alternative A would entail construction of residential development. The alternative would meet most of the project objectives, but it would not result in a new hotel proximate to a regional transportation corridor. The environmental impacts of the Residential Only Alternative would be similar to the environmental impacts of the proposed project, although vehicular trip generation would be slightly different due to the differences in uses. In addition, trips could have a different temporal distribution than would the proposed project. Due to avoidance of the riparian area adjacent to Carbonera Creek, impacts to biological resources would be less than under the proposed project.

16.9.2 Alternative B: Existing Zoning

Description

The Enterprise Way project site is designated for Research and Development (R&D) use in the General Plan, and the project site is within a Research & Development (Planned Development) zoning district (I-RD (PD)).

Under Alternative B: Existing Zoning, the project site would be developed with a research-and-development use similar to that proposed for Phase II of the Borland Campus. The development would comprise a building approximately 50 feet in height, containing approximately 160,000 square feet of office space on three levels, as well as 490 below-grade parking spaces, to accommodate a total of 900 employees. The building would be located on the western side of the project site, fronting upon Santa's Village Road. In contrast to the 1991 proposal, however, the remainder of the project site would not be developed or landscaped. The existing vegetation in proximity to Carbonera Creek would remain undisturbed.

Ability to Meet Project Objectives

Alternative B would meet approximately half of the project objectives. Development of the research-and-development use would activate Santa's Village Road between its current terminus and Carbonera Creek, although that activation would be only with daytime uses, in comparison to the 24-hour residential uses of the proposed project or Alternative A. Alternative A would also incorporate open space into the project site, in effect expanding the open space of the Enterprise Technology Center campus northward to Carbonera Creek. Alternative B, however, would not develop housing or contribute to the region's housing supply, and it would not result in the development of a hotel use in proximity to the town's regional transportation corridor (Highway 17).

Potential Feasibility

Development of the project site with research and development uses is physical feasible. Such development was originally contemplated and analyzed in the *Borland International Headquarters Campus Environmental Impact Report*, prepared in 1991. Under that vision, the project site would have been developed as Phase II of the Borland development.

Currently, regional demand for commercial office space is high, as evidenced by the increase in leased space at the Enterprise Technology Center campus since that property's sale in 2013. Given the project site's location away from major employers in Silicon Valley, however, a large, new 160,000 commercial office / research-and-development use may not be an economically viable project.

Comparative Analysis of Environmental Impacts

Similar to the proposed project, Alternative B would require development of the project site, and as such would result in similar construction-related impacts to cultural resources, and noise. Given that Alternative B would require excavation for construction of below-grade parking, construction air quality impacts would be more significant under this alternative than they would be under the proposed project. The alternatives new structures would result in potential effects related to geology and seismicity, but these impacts would be reduce to a less-than-significant level. Significant impacts to biological resources would be avoided through avoidance of the riparian area adjacent to Carbonera Creek.

Regarding operational impacts, Alternative B would not include residential uses, and as such would be less sensitive to existing freeway noise from Highway 17. Total daily trip generation would be similar to that of the proposed project, and therefore operational air quality impacts would be similar to the proposed project. Given the travel patterns of workday office users, however, peak-hour transportation impacts under Alternative B would be more significant than under the proposed project at local intersections, specifically at the intersection of Granite Creek Road with the northbound SR 17 on-ramp, Granite Creek Road and Scotts Valley Drive, and Highway 17 off-ramp and Scotts Valley Drive. Depending on site layout, traffic hazard impacts could be similar to the proposed project. Light and glare impacts would be similar to those under the proposed project.

Alternative Conclusions

Alternative B would entail construction of a research and development use, consistent with existing zoning and similar to the use proposed as "Phase II" of the Borland development in 1991. This alternative would meet project objectives related to activation of the Santa's Village Road corridor and inclusion of development-serving open space, but it would not contribute to regional housing supply or result in the operation of a hotel in proximity to Highway 17. Most construction- and operational-related impacts would be similar to those of the proposed project, although biological resource impacts would be avoided. Alternative B would not expose new residential sensitive receptors to existing freeway noise. This alternative would, however, result in decreased levels of service at local intersections, as well as increased construction-related pollutant emissions.

16.10 Comparison of Alternatives

CEQA requires the following for alternatives analysis and comparison:

The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6(d)).

Table 16-1: Alternatives Impacts Comparison, shows the significant impacts of the proposed project. For each significant impact identified, the table provides a comparison of the relative impact under the No Project Alternative, Alternative A, and Alternative B.

Table 16-1: Comparison of Significant Impacts: Proposed Project and Alternatives

Impact	Proposed Project	No Project Alternative	Alternative A: Residential Only	Alternative B: Existing Zoning
Impact AES-2: Introduce new light and glare to the project site and study area.	Class II	NI	Class II	Class II
Impact AQ-1: Construction activities would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants.	Class II	NI	Class II	Class II ↑
Impact AQ-4: Contribute to cumulatively considerable air quality impacts.	Class II	NI	Class II	Class II ↑
Impact BIO-1: Result in a potentially adverse effect on the Carbonera Creek riparian habitat.	Class II	NI	Class III ↓	Class III ↓
Impact BIO-2: Cause a direct and/or indirect adverse effect on native trees and associated nesting bird sites.	Class II	NI	Class III ↓	Class III ↓
Impact BIO-4: Contribute to cumulatively considerable effects on biological resources.	Class II	NI	Class III ↓	Class III ↓
Impact CR-1: Cause a substantial adverse change to a known archeological resource.	Class II	NI	Class II	Class II
Impact CR-2: Directly impact a paleontological resource or unique geologic feature.	Class II	NI	Class II	Class II
Impact CR-4: Contribute to cumulatively considerable effects on cultural resources.	Class II	NI	Class II	Class II
Impact GEO-2: Expose people or structures to substantial safety risks as a result of seismically induced ground shaking, liquefaction, settlement, lateral spreading, and/or surface cracking.	Class II	NI	Class II	Class II
Impact GEO-3: Contribute to cumulatively considerable effects on geology and soils.	Class II	NI	Class II	Class II
Impact N-1: Cause a temporary or periodic increase in ambient noise levels during construction that would substantially disturb sensitive receptors.	Class II	NI	Class II	Class II

Impact	Proposed Project	No Project Alternative	Alternative A: Residential Only	Alternative B: Existing Zoning
Impact N-3: Expose project residents and hotel guests to existing and future noise levels in excess of standards established in the City of Scotts Valley General Plan	Class II	NI	Class II	Class III↓
Impact N-4: Contribute to cumulatively considerable noise impacts	Class II	NI	Class II	Class III↓
Impact TR-1: Increase congestion and travel delays on regional and local roadways or exceed an established LOS standard	Class I	NI	Class I	Class I
Impact TR-2: Substantially increase hazards due to a roadway design feature	Class II	NI	Class II	Class II
Impact TR-3: Contribute to cumulatively considerable transportation and circulation impacts	Class I	NI	Class I	Class I
Notes: Class I = Significant and Unmitigable Impact Class II = Less than Significant with Identified Mitigation Measures Class III = Less than Significant NI = No Impact ↑ = Impact of Greater Severity than Under the Proposed Project ↓ = Impact with Lesser Severity than Under the Proposed Project				

16.10.1 Environmentally Superior Alternative

In this section, the City of Scotts Valley has identified the Environmentally Superior Alternative, as required by CEQA Guidelines Section 15126.6(d) and (e)(2). Based upon the comparison above, the No Project Alternative would result in the fewest environmental impacts.

If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)).

Pursuant to the CEQA Guidelines, Alternative A would be the Environmentally Superior Alternative. This alternative would avoid the significant impacts to biological resources adjacent to Carbonera Creek. Although this alternative would not reduce noise impacts as substantially as would Alternative B, this alternative would generate fewer peak-hour trips and result in

better intersection levels of service and reduced air pollutant emissions, as compared to Alternative B.

None of the alternative analyzed would avoid the significant unavoidable traffic impacts associated with development of the project site.

17 Other CEQA Considerations

This section presents several topics required by CEQA: cumulative analysis, alternatives analysis, growth-inducing effects, significant irreversible commitment of resources, significant effects of the proposed project, and energy conservation.

17.1 Growth-Inducing Effects

Section 15126.2(d) of the State CEQA Guidelines provides the following guidance on growth-inducing impacts: a project is identified as growth inducing if it “could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.”

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involves construction of new housing. A project can have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand.

Similarly, under CEQA, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The proposed project’s 50 residential units would directly result in a population increase of 134 persons, based on a 2.67 person per household generation rate. This population increase would not represent a substantial increase in housing and/or residents in the City. Furthermore, this amount of growth would be within existing growth projections for the City. Equally, the increase in population would not represent a substantial indirect growth inducement factor. Residential development on the project site would not propose new infrastructure that would induce substantial growth in the project site vicinity that was not previously considered for development. Residential development on the project site, like other development in the project site vicinity, would connect to existing utilities and occur within an urbanized area adequately served by transportation systems and infrastructure.

The proposed hotel’s approximately 30 permanent employees would likely be accommodated within the existing regional labor pool. Similarly, short-term construction jobs would likely be filled by existing residents of the City of Scotts Valley and the Santa Cruz/San Jose area.

Therefore, the proposed project would not result in a substantial increase in housing demand in the City or region.

17.2 Significant Irreversible Commitment of Resources

Section 15126.2(c) of the State CEQA Guidelines states that irreversible commitments of resources should be evaluated to assure that such consumption is justified. Uses of nonrenewable resources during the initial and continued phases of the proposed project may be irreversible because a large commitment of such resources makes removal or nonuse thereafter unlikely, and certain types of impacts may commit future generations to similar uses.

Changes that Commit Future Generations to Similar Uses

The proposed project would change the current land use designation and zoning of the project site and commit future generations to similar land uses. Depending on market demand, the hotel use could change or be replaced in the future. However, residential development, once constructed, is rarely replaced by new uses within the first few generations after construction.

Use of Nonrenewable Resources

Construction of the proposed project would consume natural resources (gasoline, sand and gravel, asphalt, oil, etc.) during construction activities. During operation of both the hotel and the residential units, energy would be consumed for lighting, heating/cooling, and transportation. Neither the construction nor operation would consume nonrenewable resources in amounts substantially different from or greater than typical urban development or similar land uses. The proposed project would not affect agricultural resources or mineral resources or access to such resources. Therefore, the proposed project would not involve a large commitment of nonrenewable resources.

Irreversible Damage from Environmental Accidents

The proposed project may include storage of hazardous materials, such as cleaning products and other products, which would not be regarded as sufficient to create a significant hazard to the public. All hazardous materials would be subject to existing storage, handling, and disposal regulations that limit the potential exposure to workers and the public.

17.3 Significant Effects that Cannot Be Avoided

17.3.1 Significant Direct Effects of the Project

As indicated in Chapter 15: Transportation and Circulation, project implementation would increase congestion and travel delays on regional and local roadways or exceed an established LOS standard (Impact TR-1). There is no feasible mitigation measure identified.

17.3.2 Significant Cumulative Effects

As indicated in Chapter 15: Transportation and Circulation, the proposed project, combined with past, present, and reasonably foreseeable future projects, would result in significant

impacts to transportation and circulation, and the proposed project would considerably contribute to the cumulative impact (**Impact TR-1**). There is no feasible mitigation measure identified.

Energy Conservation

According to Appendix F of the State CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy including decreasing reliance on natural gas and oil and increasing reliance on renewable energy sources. The proposed project would be constructed to Title 24 standards, which would reduce energy demand as compared to traditional development. Moreover, multi-family housing consumes less energy than single-family, detached housing (Brown and Wolfe, 2007). Therefore, the proposed project would not result in substantial or wasteful consumption of energy.

17.4 References

Brown, Matthew and Mark Wolfe. 2007. Energy Efficiency in Multi-Family Housing: A Profile and Analysis. Available online:
http://aceee.org/files/pdf/resource/brown_and_wolfe_energy_efficiency_in_multifamily_housing_2007.pdf. June.

18 EIR Preparers, Glossary, Acronyms, & Abbreviations

18.1 EIR Preparers

Kimley-Horn and Associates

- Bill Wiseman, Planning Practice Leader
- Jonathan Carey, Senior Planner
- Frederik Venter, Transportation Practice Leader
- Jacob Mirabella, Transportation Engineer
- Morgan Cowick, Environmental Planner

18.2 City Reviewers

- Michelle Fodge, Senior Planner
- Corrie Kates, Deputy City Manager
- Kirsten Powell, City Attorney
- Joel Ricca, Bowman & Williams Civil Engineers and Land Surveyors

18.3 Acronyms

A

AB ##	Assembly Bill ##
ADA	Americans with Disabilities Act
ADWF	average dry weather flow
ADT	average daily traffic
afy	acre-feet / year
AMBAG	Association of Monterey Bay Area Governments
AMSL	above mean sea level
APCD	Air Pollution Control District
AQMP	Air Quality Management Plan
ARM	Archaeological Resources Management
AWSC	all-way stop-controlled

B

BACT	Best Available Control Technology
bgs	below ground surface
BMPs	Best Management Practices
B.P.	before present

C

CAAQS	California Ambient Air Quality Standards
-------	--

CalEEMod	California Emissions Estimator Model
CalGREEN	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
Cal EPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resource Board
CASQA	California Stormwater Quality Association
CBC	California Building Code
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCCC	California Climate Change Center
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish & Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CEUS	California Commercial End Use Survey
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
City	City of Scotts Valley
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNDDDB	California Natural Diversity Database
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalents
CWA	Clean Water Act
CRHR	California Register of Historical Resources
CRLF	California Red-Legged Frog
CWA	Clean Water Act

D

dB	decibel
dBA	A-weighted decibel
DBH	diameter at breast height
DMG	California Division of Mines and Geology
DOC	California Department of Conservation
DOE	Department of Energy
DNL	Ldn

DPM Diesel Particulate Matter
DWR California Department of Water Resources

E

EIA Energy Information Administration
EIR Environmental Impact Report
EO Executive Order
ESA Endangered Species Act

F

FCAA Federal Clean Air Act
FEMA Federal Emergency Management Agency
FICON Federal Interagency Committee on Noise
FIRM Flood Insurance Rate Map
FMMP Farmland Mapping and Monitoring Program
FTA Federal Transit Administration
FHWA Federal Highway Administration

G

GHG greenhouse gas(es)
GIS Geographic Information System(s)
gpd gallons per day
GWP global warming potential
GWRA Groundwater Reporting Area

H

HAP Hazardous Air Pollutant
HCFC hydrochlorofluorocarbon
HCM Highway Capacity Manual
HCP Habitat Conservation Plan
HDM Highway Demand Manual
HFC hydrofluorocarbon
HMBP Hazardous Materials Business Plan
HVAC heating, ventilation, and air conditioning
H&SC California Health and Safety Code

I

IBC International Building Code
ICU intersection capacity utilization
IPCC Intergovernmental Panel on Climate Change

L

LEV Low Emission Vehicle

Ldn	Average Day-Night Noise Level
Leq	Equivalent Continuous Noise Level
LID	Low Impact Development
LOS	level of service
LTF	Local Transportation Fund
LUST	Leaking Underground Storage Tank
KVP	Key Viewpoint

M

MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
mgd	million gallons per day
MHA	Mount Hermon Association
M _L	Richter Magnitude
MRDS	Mineral Resource Data System
MRZ	Mineral Resource Zone
MSAT	Mobile source air toxic
MMT	million metric tons
MPG	miles per gallon
MPO	Metropolitan Planning Organization
MT	metric tons
M _w	Moment Magnitude

N

NAAQS	National Ambient Air Quality Standards
NACTO	National Association of City Transportation Officials
NB	Northbound
NCCAB	North Central Coast Air Basin
NCCP	Natural Communities Conservation Plan
NCEP	Northern California Earthquake Potential
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHTSA	National Highway Traffic Safety Administration
NOAA	Oceanic and Atmospheric Association
NOP	Notice of Preparation
NO _x	Oxides of Nitrogen
NPDES	National Pollutant Discharge and Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center

O

OEHAA	State Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark

OPR	California Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
O ₃	Ozone

P

PAED	Project Approval and Environmental Document
Pb	Lead
PCRs	Post-Construction Requirements
PD	Planned Development
PG&E	Pacific Gas & Electric
PFC	perfluorocarbon
PM _{2.5}	Particulate Matter, less than 2.5 microns in diameter
PM ₁₀	Particulate Matter, less than 10 microns in diameter
ppm	parts per million
PRC	Public Resources Code
PPV	peak particle velocity
PSR	Project Study Report
PUC	California Public Utilities Commission

R

RASS	Residential Appliance Saturation Survey
REAP	Rain Event Action Plan
ROG	Reactive Organic Gas
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
R&D	Research and Development

S

SB	Southbound
SB ##	Senate Bill ##
SCAQMD	South Coast Air Quality Management District
SCMTD	Santa Cruz Metropolitan Transit District
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act of 2014
SIP	State Implementation Plan
SLOAPCD	San Luis Obispo Air Pollution Control District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLVWD	San Lorenzo Valley Water District
SMBG	Santa Margarita Groundwater Basin
SO _x	Oxides of Sulfur
SSSC	side-street stop-controlled

STA	State Transit Assistance
STAA	Surface Transportation Assistance Act
STC	Sound Transmission Class
SVFD	Scotts Valley Fire District
SVPD	Scotts Valley Police Department
SVUSD	Scotts Valley Unified School District
SVWD	Scotts Valley Water District
SVGP	Scotts Valley General Plan
SWRCB	State Water Resources Control Board
SWCV	solid waste collection vehicle
SWPPP	Stormwater Pollution Prevention Plan

T

TAC	Toxic Air Contaminant
TDA	Transportation Development Act
TMDL	Total Maximum Daily Load
tpy	tons per year
TSP	Total Suspected Particulate

U

UBC	Uniform Building Code
UCMP	California Museum of Paleontology, Berkeley
USACE	United States Army Corp of Engineers
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWMP	Urban Water Management Plan

V

Vdb	vibration decibels
VOC	volatile organic compound
v/c	volume-to-capacity ratio
WSA	Water Supply Assessment

W

WY	Water Year
----	------------

Z

ZEV	zero emissions vehicle
-----	------------------------

18.4 Glossary of Terms

A-Weighted Decibel Sound Level (dBA): (See decibel, A-Weighted)

Access: A way of approaching or entering a property, including ingress (the right to enter) and egress (the right to leave).

Acoustics: (1) The science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. (2) The physical qualities of a room or other enclosure (such as size, shape, amount of noise) that determine the audibility and perception of speech and music.

Acre: A unit of land equal to 43,560 square feet.

Acre-foot: Volume of liquid or solid required to cover an area of one acre to a depth of 1 foot. Equivalent to approximately 325,850 gallons of water.

Acres, Net: The portion of a site that can actually be built upon. The following generally are not included in the net acreage of a site: public or private road rights-of-way, public open space, and floodways.

Adverse Impact: A term used to describe unfavorable, harmful, or detrimental environmental changes. Adverse impacts may be significant or not significant (See Significant Impact).

Air Basin: An area of the State designated by the Air Resources Board pursuant to Section 39606(a) of the *California Health and Safety Code* for air quality planning purposes.

Air Monitoring: The periodic or continuous sampling and analysis of air pollutants in ambient air or from individual pollutant sources.

Air Pollutants: Substances that are foreign to the atmosphere or are present in the natural atmosphere to the extent that they may result in adverse effects on humans, animals, vegetation, and materials. Common air pollutants are ozone, nitrogen dioxide, particulate matter, and carbon monoxide. Air pollution is defined in the *California Health and Safety Code* as any discharge, release, or other propagation into the atmosphere and includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof.

Air Pollution: The presence of contaminants in the air in concentrations that exceed naturally occurring quantities and that are undesirable or harmful.

Air Pollution Control District (APCD): A local agency with authority to regulate stationary sources of air pollution (such as refineries, manufacturing facilities, and power plants) within a given county, and governed by an Air Pollution Control Board that is composed of elected county supervisors and city representatives.

Air Quality Management Plan (AQMP): A plan prepared by an air pollution control district or agency to comply with either the Federal Clean Air Act or the California Clean Air Act. An AQMP contains measures that will be taken to attain and maintain federal and State ambient air quality standards. In California, air districts prepare air quality management plans that are included in the State's State Implementation Plan (SIP) that is required by the Federal Clean Air Act. Such plans are also referred to as Clean Air Plans or Clean Air Attainment Plans.

Air Quality Model: An algorithmic relationship between pollutant emissions and pollutant concentrations used in the prediction of a project's pollutant impact.

Air Quality Standards: Standards promulgated by State or federal pollution control districts. The specified average concentration of an air pollutant in ambient air during a specified time period at or above which undesirable effects may be produced.

Air Toxics: Any air pollutant for which a national ambient air quality standard (NAAQS) does not exist (i.e., excluding ozone, carbon monoxide, particulate matter, sulfur dioxide, nitrogen dioxide) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunctions, neurological disorders, heritable gene mutations, or other serious or irreversible chronic or acute health effects in humans.

Alluvium: Soils deposited by stream action.

Alquist-Priolo Earthquake Fault Zoning Act: A California law that mitigates the hazard of surface faulting to structures for human occupancy.

Ambient Conditions: The conditions that occur on all sides of a project site without a project; used to describe measurements of existing conditions with respect to traffic, noise, air and other environments.

Ambient Noise Level: The background noise associated with a given environment, usually a composite of sounds from many sources near and far. The ambient noise level constitutes the normal or existing level of environmental noise at a given location.

applicant: A person who proposes to carry out a project which needs a lease, permit, license, certificate, or other entitlement for use or financial assistance from one or more public agencies when that person applies for the governmental approval or assistance (Source: State CEQA Guidelines §15351).

Approval: The decision by a public agency which commits the agency to a definite course of action in regard to a project intended to be carried out by any person. The exact date of approval of any project is a matter determined by each public agency according to its rules, regulations, and ordinances. A legislative action in regard to a project often constitutes approval. With private projects, approval occurs upon the earliest commitment to issue or the issuance by the public agency of a discretionary contract, grant, subsidy, loan, or other form of

financial assistance, lease, permit, license, certificate, or other entitlement for use of the project. (Source: State CEQA Guidelines §15352).

Aquifer: An underground bed or layer of earth, gravel, or porous stone that contains water. A geological formation that is sufficiently permeable to conduct groundwater and to yield significant quantities of water to wells and springs.

Arterial: A major street with controlled intersections that carries traffic of local and collector streets to and from freeways and other major streets, and that generally provides direct access to nonresidential properties (Source: Newport Beach General Plan 2006).

Attainment: Achieving and maintaining the air quality standards (both State and federal) for a given air pollutant.

Attainment Area: A geographical area identified to have air quality as good as or better than the National and/or California Ambient Air Quality Standards (NAAQS/CAAQS). An area may be an attainment area for one pollutant and a nonattainment area for others.

Average Daily Traffic (ADT): The number of vehicles (trips) passing a given point on a road going in a direction during a 24-hour period (measured in vehicles per day).

Background Noise: See Ambient Noise.

Base Flood Elevation: The highest flood water elevation expected to occur during a 100-year flood (i.e., a flood that has 1 percent likelihood of occurring in any given year). Base Flood Elevation is expressed as the number of feet above sea level,

Bedrock: Solid rock underlying soil and younger rock layers. Bedrock is generally the oldest exposed geological unit.

Best Management Practice (BMP): Methods determined to be the most effective, practical means of preventing or reducing pollution conveyance in storm water and urban runoff from non-point sources.

Best Available Control Technology (BACT): The most stringent emissions control which has been (1) achieved in practice; (2) identified in a State Implementation Plan; or (3) found by the South Coast Air Quality Management District (SCAQMD) to be technologically achievable and cost-effective for a given air emission source (as defined under SCAQMD rules).

Bicycle Lane (Class II facility): A corridor expressly reserved for bicycles that exists on a street or roadway with lanes for use by motorized vehicles (Source: Newport Beach General Plan 2006).

Bicycle Path (Class I facility): A paved route that traverses an otherwise unpaved area and that is not on a street or roadway and that is expressly reserved for bicycles. Bicycle paths may

parallel roads but typically are separated from them by landscaping (Source: Newport Beach General Plan 2006).

Bicycle Route (Class III facility): A facility shared with motorists and identified only by signs, with no pavement markings or lane stripes (Source: Newport Beach General Plan 2006).

Bikeways: A term that encompasses bicycle lanes, bicycle paths, and bicycle routes (Source: Newport Beach General Plan 2006).

Biodiversity: A term used to quantitatively or qualitatively describe species richness and plant and animal abundance within an ecosystem.

Buffer: A development setback that provides essential open space between development and protected habitat. Buffers keep disturbance at a distance; accommodate errors when estimating habitat boundaries; and provide important auxiliary habitat that may be used for foraging, pollinator maintenance, or refuge from high tides. Buffers should be measured from the delineated boundary of an Environmentally Sensitive Habitat Area (ESHA) or wetland or, for streams, from the top of bank or the landward edge of riparian vegetation, which ever provides the larger buffer (Source: Newport Beach Local Coastal Program Land Use Plan 2005).

Building: Any structure having a roof supported by columns or walls and intended for the shelter, housing, or enclosure of any individual, animal, process, equipment, goods, or materials of any kind or nature (Source: Newport Beach General Plan 2006). A building is a relatively permanent, enclosed construction over a plot of land. It has a roof and usually windows and often more than one level used for any of a wide variety of activities such as living, entertaining, or manufacturing (Source: Dictionary.com).

Building Height: The vertical distance from the average contact ground level of a building to (1) the highest point of the coping of a flat roof; (2) the deck line of a mansard roof; or (3) the mean height level between eaves and ridge for a gable, hip, or gambrel roof. The exact definition varies by community. For example, in some communities building height is measured to the highest point of the roof, not including elevator and cooling towers (Source: Newport Beach General Plan 2006).

Buildout: Development of land to its full potential or theoretical capacity, as permitted under current or proposed planning or zoning designations; the year in which project construction has been/will be completed.

Bulk: The mass or volume of buildings.

California Air Resources Board (CARB): California's leading air quality agency, which consists of a nine-member, Governor-appointed board responsible for motor vehicle air pollution control and which oversees California's air pollution management program.

California Ambient Air Quality Standards (CAAQS): Specified concentrations of air pollutants recommended by the California Department of Health Services and adopted into regulation by the Air Resources Board that relate the intensity and composition of air pollution to the pollution's undesirable effects. CAAQS are the standards that must be met per the requirements of the California Clean Air Act.

California Clean Air Act (CCAA): A California law passed in 1998 that provides the basis for air quality planning and regulation independent of federal regulations and which establishes new authority for attaining and maintaining California's air quality standards by the earliest practicable date. A major element of the CCAA is the requirement that local Air Pollution Control Districts in violation of the CAAQS must prepare attainment plans that identify air quality problems, causes, trends, and actions to be taken for attainment.

California Code of Regulations (CCR): The official compilation and publication of the regulations adopted, amended or repealed by State agencies pursuant to the Administrative Procedure Act (APA). Properly adopted regulations that have been filed with the Secretary of State have the force of law.

California Department of Fish & Wildlife (CDFW): Maintains native fish, wildlife, plant species, and natural communities for their intrinsic and ecological value and benefits to people. The CDFW is responsible for habitat protection and maintenance in a sufficient amount and of sufficient quality to ensure the survival of all species and natural communities. The CDFW is also responsible for the diversified uses of fish and wildlife, including recreational, commercial, scientific, and educational.

California Department of Transportation (Caltrans): The State government agency responsible for the construction, maintenance, and operation of State and federal highways in California.

California Endangered Species Act (CESA): Prohibits the take of plant and animal species designated by the Fish and Game Commission as either Threatened or Endangered in the State of California, and provides a consultation process for the determination and resolution of potential adverse impact to the species. The CDFW administers the CESA (*Fish and Game Code* §§ 2050–2097).

California Environmental Protection Agency (CalEPA): The State agency that assigns environmental responsibilities to the State Water Resources Control Board, the Integrated Waste Management Board, and other agencies.

California Environmental Quality Act (CEQA): A statute that requires State and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible (Source: California Natural Resources Agency 2009). Also at *California Public Resources Code* Sections 21000 et seq. (Source: State CEQA Guidelines §15353).

Capital Improvement Program (CIP): A proposed timetable or schedule of all future capital improvements (government acquisition of real property, major construction project, or acquisition of long lasting, expensive equipment) to be carried out during a specific period and listed in order of priority with cost estimates and the anticipated means of financing each project. Capital improvement programs are usually projected five or six years in advance and should be updated annually.

Carbon Dioxide (CO₂): A colorless gas that enters the atmosphere as the result of natural and artificial combustion processes. It is also a normal part of the ambient air.

Carbon Monoxide (CO): A colorless, odorless, poisonous gas resulting from the incomplete combustion of fossil fuels. CO interferes with the blood's ability to carry oxygen to the body's tissues and can result in adverse health effects. CO is a criteria air pollutant.

Census: The official decennial enumeration of the population conducted by the federal government.

Circulation Element: One of the seven State-mandated elements of a general plan that identifies the general location and extent of existing and proposed major roads, transportation routes, terminals, and public utilities and facilities. It must be correlated with the Land Use Element.

City Council: The governing board of a city.

Clean Air Act (CAA): A federal law passed in 1970 and amended in 1977 and 1990 that sets primary and secondary National Ambient Air Quality Standards for major air pollutants and that forms the basis for the national air pollution control effort.

Clean Fuels: Blends and/or substitutes for gasoline fuels. These include compressed natural gas, methanol, ethanol, and others.

Code of Federal Regulations (CFR): The document that codifies all rules of the executive departments and agencies of the federal government. It is divided into 50 volumes, known as titles. Title 40 of the CFR (referenced as 40 CFR) lists all environmental regulations.

Collector: A street for traffic moving between arterial and local streets that generally provides direct access to properties.

Collector Roadway: A collector roadway is a two- to four-lane, unrestricted access roadway with capacity ranging from 7,000 vehicles per day (VPD) to 20,000 VPD. It differs from a local street in its ability to handle through traffic movements between arterials (Source: Newport Beach General Plan 2006).

Community Noise Equivalent Level (CNEL): A noise compatibility level established by *California Administrative Code*, Title 21, Section 5000. CNEL represents a time-weighted, 24-hour average

noise level based on the A-weighted decibel (dBA). The CNEL scale includes an additional 5-dB adjustment to sounds occurring in the evening (7:00 PM to 10:00 PM) and a 10-dB adjustment to sounds occurring in the late evening and early morning between (10:00 PM and 7:00 AM).

Compatibility: Different uses or activities that can be located near each other in harmony and without conflict based on and permitted by their characteristics. The designation of permitted and conditionally permitted uses in zoning districts are intended to achieve compatibility within the district. Some elements affecting compatibility include (1) occupancy intensity, as measured by dwelling units per acre; (2) pedestrian or vehicular traffic generation; (3) volume of goods handled; and (4) such environmental effects as noise, vibration, glare, air pollution, or the presence of hazardous materials. Alternatively, many aspects of compatibility are based on personal preference and are much harder to measure quantitatively, at least for regulatory purposes (Source: Newport Beach General Plan 2006).

Condominium: A building or group of buildings in which units are owned individually, but the structure, common areas, and facilities are owned by all owners on a proportional, undivided basis.

Conformity: A requirement of the federal Clean Air Act that no department, agency, or instrumentality of the federal government shall engage in, support in any way, or provide financial assistance for the licensing, permitting, or approval of any activity that does not conform with the State Implementation Plan (SIP) in that it causes or contributes to (1) an increase in air pollution emissions; (2) violates an air pollution standard; or (3) increases the frequency of violating that standard.

Congestion Management Plan/Program (CMP): A State-mandated program that requires each jurisdiction to prepare a plan to relieve congestion and air pollution. Growth management techniques include traffic Level of Service requirements; standards for public transit; trip reduction programs involving transportation systems management and jobs/housing balance strategies; and capital improvement programming in order to control and/or reduce the cumulative regional traffic impacts of development. Assembly Bill (AB) 1791, effective August 1, 1990, requires all cities and counties that contain urbanized area(s) to adopt and annually update a Congestion Management Plan.

Construction: Any site preparation, assembly, erection, substantial repair, alteration, or similar action for or of public or private rights-of-way, structures, utilities, or similar property.

Contiguous: Lands or legal subdivisions sharing a common boundary. Lands having only a common corner are generally not contiguous.

Contour: A line on a topographic map or bathymetric (depth) chart representing points of equal elevation with relation to a datum (point or set of points). Contour lines are usually spaced into intervals for easier comprehension and utilization.

Council of Governments (COG): Regional planning and review authority whose membership includes representation from all communities in the designated region. The Southern California Association of Governments (SCAG) is an example of a COG in Southern California.

Coverage: The proportion of the footprint area of a building to the area of the lot on which it stands (Source: Newport Beach General Plan 2006).

Criteria Pollutant: An air pollutant for which acceptable levels of exposure can be determined and for which a federal or State ambient air quality standard or criteria for outdoor concentrations has been set in order to protect public health.

Cul-de-Sac: A short street or alley with only a single means of ingress and egress at one end and with a turnaround at its other end.

Cumulative Impact: A cumulative impact refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that 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 also result from individually minor but collectively significant projects taking place over a period of time (Source: State CEQA Guidelines §15355).

Day-Night Average Sound Level (L_{dn}): The A-weighted average sound level in decibels during a 24-hour period with a 10-dB weighing applied to nighttime sound levels (10:00 PM to 7:00 AM). This exposure method is similar to the CNEL, but deletes the evening time period (7:00 PM to 10:00 PM) as a separate factor.

Decibel (dB): A unit for expressing the relative intensity (loudness) of sounds. The decibel is the logarithm of the ratio of the intensity of a given sound to the faintest sound discernible by the human ear.

Decibel, A-Weighted (dBA): A frequency correction that correlates overall sound pressure levels with the frequency response of the human ear; a numerical method of rating human judgment of loudness. The A-weighted scale reduces the effects of low and high frequencies in order to simulate human hearing. The unit of measurement is defined as dBA.

Decision-Making Authority/Body: Any person or body vested with the authority to make recommendations or act on application requests. The final decision-making authority is the one which has the authority to approve or deny a request. This may include the Community Development Director or his/her designee, the Planning Commission, or the City Council. Any person or group of people within a public agency permitted by law to approve or disapprove the project at issue (Source: State CEQA Guidelines §15356).

Dedication: The turning over of private land for public use by an owner or developer, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Cities often make dedications for roads, parks, school sites, or other public uses often developmental conditions for approval.

Dedication, In lieu of: Cash payments that may be required of an owner or developer as a substitute for a dedication of land, usually calculated in dollars per lot and referred to as “in lieu fees” or “in lieu contributions”.

Demolition: Any dismantling, intentional destruction, or removal of structures, utilities, public or private rights-of-way surfaces, or similar property; the deliberate removal or destruction of the frame or foundation of any portion of a building or structure for the purpose of preparing a site for new construction or other use.

Density: The number of families, individuals, dwelling units, or housing structures per unit of land; usually density is expressed “per acre.” Thus, the density of a development of 100 units occupying 20 acres is 5 units per acre.

Density, Employment: A measure of the number of employed persons per specific area (for example, employees per acre).

Density, Residential: The number of permanent residential dwelling units per acre of land. Densities specified in a general plan may be expressed in units per gross acre or per net developable acre.

Developable Acres, Net: The portion of a site that can be used for density calculations. Some communities calculate density based on gross acreage. Public or private road rights-of-way are not included in the net developable acreage of a site.

Developable Land: Land that is suitable as a location for structures and that can be developed free of hazards to, without disruption of, or free of significant impacts on natural resource areas.

Developer: An individual who or business which prepares raw land for the construction of buildings or causes to be built physical building space for use primarily by others, and in which the preparation of the land or the creation of the building space is in itself a business and is not incidental to another business or activity.

Development: The division of a parcel of land into two or more parcels; the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any structure; any mining, excavation, landfill or land disturbance; and any use or extension of the use of land. This also includes (1) the placement or erection of any solid material or structure on land or in or under water; (2) discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; (3) the grading, removing, dredging, mining, or extraction of any

materials; (4) change in the density or intensity of a land use, including but not limited to subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the *Government Code*) or any other division of the land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; (5) change in the intensity of water use or of access thereto; (6) construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and (7) the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations that are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511). The placement or erection of any solid material or structure on land, in or under water; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act, and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes (Source: Newport Beach Municipal Code §20.70.020).

Development Impact Fees: A fee or charge imposed on developers to pay for the city's or community's costs of providing services to a new development. It is a means of providing a fund for financing new improvements without resorting to deficit financing.

Development Plan: A plan, to scale, showing uses and structures proposed for a parcel or multiple parcels of land. It includes lot lines, streets, building sites, public open space, buildings, major landscape features, and locations of proposed utility services.

Direct Effects: Effects that are caused by an action and that occur at the same time and place.

Discretionary Approval/Decision/Action: A decision requiring the exercise of judgment, deliberation, or decision on the part of the decision-making authority in the process of approving or disapproving a particular activity, as distinguished from situations where the decision-making authority merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations. A discretionary approval/decision/action is an approval by a decision-making body that has the legal discretion to approve or deny a project or action. Conditions can be imposed on a project action prior to approval for implementation. The approval would therefore "at the discretion" of an agency.

Discretionary Project: A project which requires the exercise of judgment or deliberation of public agency or body deciding to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has

been conformity with applicable statutes, ordinances, or regulations (Source: State CEQA Guidelines §15357).

Dispersion: The process by which atmospheric pollutants disseminate due to wind and vertical stability.

Dwelling: A structure or portion of a structure used exclusively for human habitation.

Dwelling, Multi-family: A building containing two or more dwelling units for the use of individual families maintaining households, for example an apartment or condominium building.

Dwelling, Single-family Attached: A one-family dwelling attached to one or more other one-family dwellings by a common vertical wall, for example duplexes and townhomes.

Dwelling, Single-family Detached: A dwelling that is designed for and occupied by not more than one family, that is surrounded by open space or yards, and that is not attached to any other dwelling by any means.

Dwelling Unit: One or more rooms in a structure, including a kitchen, occupied or intended for occupancy as separate living quarters with cooking, sleeping, and sanitary facilities provided within the unit for the exclusive use of a single family maintaining a household.

Easement: A right given by the landowner to another party for specific limited use of that land. An easement may be acquired by a government through dedication when the purchase of an entire interest in the property may be too expensive or unnecessary.

Effects: “Effects” and “impacts” as used in the State CEQA Guidelines are synonymous. Effects include (1) direct or primary effects that are caused by the project and occur at the same time and place and (2) indirect or secondary effects that are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects; other effects related to induced changes in the pattern of land use, population density, or growth rate; and related effects on air and water and other natural systems, including ecosystems. Effects analyzed under CEQA must be related to a physical change (Source: State CEQA Guidelines §15358).

Emergency: A sudden, unexpected occurrence involving a clear and imminent danger and demanding immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services. Emergencies include fires; floods; earthquakes or other soil or geologic movements; and such occurrences as riots, accidents, or sabotage (Source: State CEQA Guidelines §15359).

Emission Factor: The amount of a specified pollutant emitted from a specified polluting source per unit/quantity of material handled, processed, or burned.

Emission Standards: U.S. Environmental Protection Agency (USEPA), California Air Resources Board (CARB), or South Coast Air Quality Management District (SCAQMD) standards or limits for air contaminant emissions.

Endangered Species: An animal or plant species whose prospects for survival and reproduction are in immediate jeopardy due to one or more causes.

Environment: The physical conditions (including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance) that exist within an area that will be affected by a proposed project. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The “environment” includes both natural and man-made features (Source: State CEQA Guidelines §15360).

Environmental Documents: Initial Studies; Negative Declarations; Draft and Final Environmental Impact Reports (EIRs); documents prepared as substitutes for EIRs; Negative Declarations under a program certified pursuant to *Public Resources Code* Section 21080.5; and documents prepared under the National Environmental Policy Act (NEPA) and used by a State or local agency in place of an Initial Study, Negative Declaration, or an EIR (Source: State CEQA Guidelines §15361).

Environmental Impact Report: A detailed statement prepared under the California Environmental Quality Act (CEQA) that describes and analyzes the significant environmental effects of a project and discusses ways to mitigate or avoid the effects. The term “EIR” may mean either a Draft or a Final EIR depending on the context. A Draft EIR means an EIR containing the information specified in CEQA Guidelines Sections 15122–15131. A Final EIR means an EIR containing the Draft EIR information, comments either verbatim or in summary received in the review process, a list of persons commenting, and the response of the Lead Agency to the comments received (Source: State CEQA Guidelines §15362).

Equivalent Noise Level (L_{eq}): A single-number representation of the fluctuating sound level in decibels over a specified period of time (the sound-energy average of the fluctuating level); the sound level corresponding to a steady state noise level over a given measurement period with the same amount of acoustic energy as the actual time varying noise level.

Erosion: The gradual wearing away and removal of land surface by various agents such as waves; opposite of accretion. On a beach, erosion is the carrying away of beach material by wave action, currents, or the wind.

Fault: A rock fracture accompanied by displacement.

Fault, Active: A fault that has moved within the last 11,000 years and that is likely to move again within the next 100 years.

Fault, Inactive: A fault that has had no surface or subsurface displacement within the last 35,000 years. Inactivity is demonstrated by a confidently located fault trace that is consistently overlain by unbroken geologic materials 35,000 years or older, or by other observation indicating lack of displacement. Faults that have no suggestion of Quaternary activity are presumed to be inactive.

Fault, Potentially Active: A fault that last moved within the Quaternary Period (the last 2 million to 11,000 years) before the Holocene Epoch (11,000 years to the present), or a fault that, because it is judged to be capable of ground rupture or shaking, poses an unacceptable risk for a proposed structure.

Feasible: Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (Source: State CEQA Guidelines §15364).

Federal Endangered Species Act of 1973: Protects plants and animals that are listed by the federal government as Endangered or Threatened. FESA makes it unlawful for anyone to “take” a listed animal, which includes significant modification of its habitat. This applies to private parties and private land; a landowner is not allowed to harm an Endangered animal or its critical habitat on his/her property.

Fill: Earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area (Source: California Coastal Act).

Final Map: A map of an approved subdivision filed in the County recorder’s office. It shows surveyed lot lines; street rights-of-way; easements; monuments; and distances, angles, and bearings pertaining to the exact dimensions of all parcels, street lines, and other site features.

Findings of Fact: The conclusions made regarding a project’s significance in light of its environmental impacts, as required by CEQA. A public agency cannot approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding (Source: State CEQA Guidelines §15091).

Fire Flow: Water flow rate that should be maintained in order to halt and reverse the spread of a fire.

Fire Hazard Zone: An area where, due to slope, fuel, weather or other fire-related conditions, the potential loss of life and property from a fire necessitates special fire protection measures and planning before development occurs.

Fixed Noise Source: A stationary device that creates sounds while fixed or motionless, including but not limited to residential, agricultural, industrial, and commercial machinery and equipment; pumps; fans; compressors; air conditioners; and refrigeration equipment.

Flood Insurance Rate Map (FIRM): It is the official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community.

Flood, Regulatory Base: Flood having a 1 percent chance of being equaled or exceeded in any given year (100-year flood).

Floodplain: A lowland or relatively flat area adjoining the banks of a river or stream which is subject to a one percent or greater chance of flooding in any given year (i.e., 100-year flood).

Floodway: The channel of a watercourse or river and portions of the floodplain adjoining the channel that is reasonably required to carry and discharge the base flood of the channel.

Floor Area Ratio (FAR): The ratio of gross floor area of all buildings permitted on a site divided by the total net area of the site, expressed in decimals to one or two places. For example, on a site with 10,000 net square feet of land area, a Floor Area Ratio of 1.0 will allow a maximum of 10,000 gross square feet of building floor area to be built. On the same site, a FAR of 1.5 would allow 15,000 square feet of floor area; a FAR of 2.0 would allow 20,000 square feet; and a FAR of 0.5 would allow only 5,000 square feet. Also commonly used in zoning, FARs are typically applied on a parcel-by-parcel basis as opposed to an average FAR for an entire land use or zoning district.

Footprint (Building): The outline of the total area of a lot or site that is surrounded by the exterior walls of a building or portion of a building, exclusive of courtyards. In the absence of surrounding exterior walls, the building footprint shall be the area under the horizontal projection of the roof (Source: WikiAnswers.com 2009).

Formation: A unit of rock that is distinctive and persistent over a large area.

Freeway: A high-speed, high-capacity, limited-access road serving regional and county-wide travel. Such roads are free of tolls, as contrasted with “turnpikes” or other “toll roads” now being introduced into Southern California. Freeways generally are used for long trips between major land use generators. At Level of Service “E”, they carry approximately 1,875 vehicles per lane per hour in both directions. Major streets cross at a different grade level.

General Plan: A compendium of city or county policies regarding long-term development in the form of maps and accompanying text. A general plan is a legal document required of each local agency by *California Government Code* Section 65301 and adopted by a city council or board of supervisors. California law requires the preparation of seven elements or chapters in a general

plan: Land Use, Housing, Circulation, Conservation, Open Space, Noise, and Safety. However, additional elements are permitted.

General Plan Amendment: A change or addition to a community's general plan. A general plan can be amended up to four times a year.

General Plan Consistency: Compatibility and agreement with a general plan. Consistency exists when the standards and criteria of a general plan are met or exceeded.

Geographic Information System (GIS): A computer system capable of assembling, storing, manipulating, and displaying geographically referenced information. A GIS allows analysis of spatial relationships between many different types of features based on their location in the landscape.

Glare: A reflected or direct, annoying or distracting light source; the effect produced by lighting sufficient to cause annoyance, discomfort, or loss of visual performance and visibility. Glare can occur when the luminaire or associated lens of a light fixture is directly viewable from a location off the property that it serves.

Goal: The ultimate purpose of an effort stated in a way that is general in nature and immeasurable; a broad statement of intended direction and purpose (e.g., "Achieve a balance of land use types within the city").

Grade: The degree of rise or descent of a sloping surface.

Grading: Alteration of existing slope and shape of the ground surface. Any excavation or filling of earth material or any combination thereof conducted at a site to prepare said site for construction or other improvements thereon.

Gross Area: The entire land area within the boundary of a Land Use District, Planning Area, Development Area, or other area within the site, including roads and driveways, open space, and slopes.

Gross Residential Density: Project density calculated by dividing the total number of dwelling units by the gross area of the project in acres.

Ground Failure: Mudslide, landslide, liquefaction (refer to this Glossary for definition of these terms), or soil compaction due to ground shaking from an earthquake.

Ground Shaking: Ground movement resulting from the transmission of seismic waves during an earthquake.

Groundwater: Subsurface water occupying the zone of saturation, usually found in porous rock strata and soils. Water found beneath the land surface in the zone of saturation below the water table.

Growth Management: Community use of a wide range of techniques in combination to determine the amount, type, and rate of development desired by the community and to channel that growth into designated areas. Growth management policies can be implemented through growth rates, zoning, capital improvement programs, public facilities ordinances, urban limit lines, standards for levels of service, and other programs.

Hazardous Material: A substance or combination of substances that because of its quantity; concentration; or physical, chemical, or infectious characteristics may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Hazardous Waste: A waste or combination of wastes that because of its quantity; concentration; or physical, chemical, or infectious characteristics may either (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous waste consists of a hazardous material(s) than cannot be reused or recycled. Hazardous waste possesses at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity—or appears on special USEPA or State lists. Hazardous waste is regulated under the federal Resource Conservation and Recovery Act and the *California Health and Safety Code* Sections 25100 et seq.

Height: The vertical distance from the adjacent grade to the highest point of that which is being measured; the extent or distance upward or the distance upward from a given level to a fixed point (Source: Dictionary.com 2009).

Hertz: Unit of measurement of frequency, numerically equal to cycles per second.

Historic Preservation: The preservation of historically significant structures and neighborhoods until restoration and rehabilitation of the building(s) to a former condition can take place.

Historic Resource: Any object, building, structure, site, area, place, record, or manuscript that is historically or archeologically significant, or that is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural history of the City of Newport Beach and/or the State of California and/or the United States (Source: Newport Beach General Plan 2006).

Horizontal and Vertical Building Envelopes: The maximum width and height of a structure based on minimum setback requirements and maximum building height limitations for the zone within which the project is located. These envelopes may be used to evaluate visual impacts when specific architectural plans are not provided for subdivision review.

Hotel: A facility in which guest rooms or suites are offered to the general public for lodging with or without meals and for compensation, and where no provision is made for cooking in any individual guest room or suite (Source: Newport Beach General Plan 2006).

Hot Spot: A localized concentration of an air pollutant associated with restricted dispersion conditions, often occurring in such places as street intersections or close to the emission source.

Household: All persons living in a dwelling unit whether or not they are related, as defined by the U.S. Census. Both a single person living in an apartment and a family living in a house are considered households.

Housing Element: One of the seven state-mandated elements of a local general plan that (1) assesses the existing and projected housing needs of all economic segments of the community; (2) identifies potential sites adequate to provide the amount and kind of housing needed; and (3) contains adopted goals, policies, and implementation programs for the preservation, improvement, and development of housing. Under State law, a housing element must be updated every five years.

Housing Unit: A room or group of rooms used by one or more individuals living separately from others in the structure, with direct access to the outside or to a public hall and containing separate toilet and kitchen facilities.

Hydrocarbons (HC): Unburned and wasted fuel that comes from incomplete combustion of gasoline and from evaporation of petroleum fuels.

Hydrology: The dynamic processes of water within an environment, including the sources, timing, amount, and direction of water movement.

Impact: The effect, influence, or imprint of an activity on the environment. Impacts include (1) direct or primary effects that are caused by the project and that occur at the same time and place and (2) indirect or secondary effects that are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects; other effects related to induced changes in the pattern of land use, population density, or growth rate; and related effects on air, water, and other natural systems (including ecosystems).

Impact Fee: A fee, also called a development fee, levied on the developer of a project by a city, county, or public agency as compensation for otherwise-unmitigated impacts the project will produce. *California Government Code* Section 66000 et seq. specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions of fund use.

Implementation Measure: An action, procedure, program, or technique that carries out a general plan policy.

Implementing Actions: The ordinances, regulations, or programs that implement either the provisions of the certified local coastal program or the policies of Chapter 3 of the Coastal Act and that are submitted pursuant to Section 30502 of the *California Public Resources Code*.

Incorporation by Reference: Reliance on a previous environmental document for some portion of the environmental analysis of a project. An EIR or Negative Declaration may incorporate by reference all or portions of another document that is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR or Negative Declaration (Source: State CEQA Guidelines §15150).

Indirect Impact: Effects caused by an action that are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects; other effects related to induced changes in the pattern of land use, population density, or growth rate; and related effects on air, water, and other natural systems, including ecosystems.

Indirect Source: Any structure or installation that attracts an activity that emits pollutants. For example, a major employment center, a shopping center, an airport, or a stadium can all be considered to be indirect sources. For purposes of air quality, facilities, buildings, structures, properties, and/or roads which, through their construction, indirectly contribute to air pollution are considered indirect sources. Also included are projects and facilities that attract or generate mobile sources activities (autos and trucks) such as shopping centers, employment sites, schools, and housing developments that result in emissions of any regulated air pollutant.

Infrastructure: The physical systems and services that support development and population such as roadways; railroads; and water, sewer, natural gas, electrical generation and transmission, telephone, cable television, and storm drainage services, among others.

Initial Study: Under CEQA, a preliminary analysis prepared by the Lead Agency to (1) determine whether an EIR, Negative Declaration, or Mitigated Negative Declaration must be prepared or (2) identify the significant environmental effects to be analyzed in an EIR (Source: State CEQA Guidelines §15365).

In Situ: A Latin phrase meaning “in place.” Archaeologically, it refers to an artifact or object being found in its original, undisturbed position.

Institute of Transportation Engineers (ITE): Organization for professional transportation engineers. ITE publishes the Trip Generation Manual, which provides information on trip generation for land uses and building types. For instance, if an individual needs to know the number of trip ends produced by an industrial park, the report provides a trip rate based upon

the size of the building. The report also divides the trip rate into peak hour rates, weekday rates, and other calculations.

Intensity, Building: For residential uses, the actual number or the allowable range of dwelling units per net or gross acre; for non-residential uses, the actual or the maximum permitted floor area ratios (FARs).

Intersection Capacity: The maximum number of vehicles that has a reasonable expectation of passing through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.

Intersection Capacity Utilization Method (ICU): A method of analyzing intersection level of service by calculating a volume-to-capacity (V/C) ratio for each governing “critical” movement during a traffic signal phase. The V/C ratio for each phase is summed with the others at the intersection to produce an overall V/C ratio for the intersection as a whole. The ICU is usually expressed as a percent. The percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The V/C ratio represents the percent of intersection capacity used. For example, a V/C ratio of 0.85 indicates that 85 percent of capacity is being used.

Inversion Layer: A condition in the atmosphere through which the temperature increases with altitude, holding cooler surface air down along with its pollutants.

Invertebrates: Animals, such as insects or mollusks that lack a backbone or spinal column (Source: Dictionary.com 2009).

Land Use: The purpose or activity for which a piece of land or its buildings is designed, arranged, or intended or for which it is occupied or maintained.

Land Use Classification: A system for classifying and designating the appropriate use of properties.

Land Use Element: Designates the general location and intensity of housing, business, industry, open space, education, public buildings and grounds, waste disposal facilities, and other land uses.

Land Use Plan: The relevant portions of a local government’s general plan or local coastal element that are sufficiently detailed to indicate the kinds, location, and intensity of land uses; the applicable resource protection and development policies; and, where necessary, a listing of implementation actions (Source: California Coastal Act).

Landslide: A general term for a falling or sliding mass of soil or rocks; a movement of surface material down a slope (Source: USGS 2009, <http://earthquake.usgs.gov/learning/glossary.php?term=landslide>).

Lead Agency: The public agency with the principal responsibility for carrying out or approving a project. The Lead Agency will decide whether an EIR or Negative Declaration will be required for the project and will cause the document to be prepared (Source: State CEQA Guidelines §15367).

Level of Service (LOS): Qualitative measure that incorporates the collective factors of speed, travel time, traffic interruption, freedom to maneuver, safety, driving comfort and convenience, and operating costs provided by a highway facility under a particular volume condition.

Level of Service A: Indicates a relatively free traffic flow with little or no limitation on vehicle movement or speed.

Level of Service B: Describes a steady traffic flow with only slight delays in vehicle movement and speed. All queues clear in a single signal cycle.

Level of Service C: Denotes a reasonably steady, high-volume traffic flow with some limitations on movement and speed and occasional backups on critical approaches.

Level of Service D: Designates the level where traffic nears an unstable flow. Intersections still function, but short queues develop and cars may have to wait through one cycle during short peaks.

Level of Service E: Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion, with frequent stopping, long-standing queues and blocked intersections, is considered severe but is not uncommon at peak traffic hours.

Level of Service F: Describes unsatisfactory stop-and-go traffic characterized by “traffic jams” and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and “upstream” intersections may be blocked by the long queues.

Liquefaction: A process by which water-saturated granular soils transform from a solid to a liquid state due to groundshaking. This phenomenon usually results from shaking from energy waves released in an earthquake.

Local Agency: Any public agency other than a State agency, board, or commission. Local agency includes but is not limited to cities; counties; charter cities and counties; districts; school districts; special districts; redevelopment agencies; local agency formation commissions; and any board, commission, or organizational subdivision of a local agency when so designated by order or resolution of the governing legislative body of the local agency (Source: State CEQA Guidelines §15368).

Local Government: Any chartered or general law city, chartered or general law county, or any city or county.

Local Street: Provides direct access to properties and is designed to discourage through traffic.

Luminaire or Luminary: The light-producing element of a light fixture, for example bulbs and tubes.

Median: A physical divider separating lanes of traffic that typically are traveling in opposite directions. A median is often installed to prohibit unsafe turning movements. It can also be used to beautify a streetscape.

(Federal) Migratory Bird Treaty Act (MBTA) of 1918: U.S. legislation that makes it unlawful to pursue, hunt, take, capture, kill, or sell birds listed therein (“migratory birds”). The statute does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs, and nests. Over 800 species are currently on the list. The MBTA implemented the 1916 convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia) (Source: Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service 2009, <http://www.fws.gov/laws/lawsdigest/migtrea.html>).

Ministerial Decision/Approval: Governmental decision involving little or no personal judgment by the public official as to the wisdom or manner of carrying out the project. The public official merely applies the law to the facts as presented, but uses no special discretion or judgment in reaching a decision. A ministerial decision involves only the use of fixed standards or objective measurements, and the public official cannot use personal, subjective judgment in deciding whether or how the project should be carried out. Common examples of ministerial permits include automobile registrations, dog licenses, and marriage licenses. A building permit is ministerial if the ordinance requiring the permit limits the public official to determining whether the zoning allows the structure to be built in the requested location, the structure would meet the strength requirements in the *Uniform Building Code*, and the applicant has paid his fee (Source: State CEQA Guidelines §15369).

Mitigation: Refers to (1) avoiding impacts altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (5) compensating for the impact by replacing or providing substitute resources or environments (Source: State CEQA Guidelines §15370).

Mitigation Measure: Action taken to reduce or eliminate environmental impacts. (Please refer to “Mitigation” in this Glossary for further information.)

Mitigation Monitoring and Reporting Program: When a lead agency adopts a Mitigated Negative Declaration or an EIR, it must adopt a monitoring or reporting program to ensure that

mitigation measures are implemented (Sources: CEQA Statute §21081.6[a] and State CEQA Guidelines §§15091[d] and 15097).

Mixed Use: Properties on which various uses (such as office, commercial, institutional and residential) are combined in a single building or on a single site in an integrated development project with significant functional interrelationships and a coherent physical design. A “single site” may include contiguous properties.

Mobile Noise Source: Any noise source other than a fixed noise source.

Mobile Sources: A source of air pollution related to transportation vehicles, such as automobiles or buses.

Multiple Family (Multi-family): A building containing three or more dwelling units.

National Ambient Air Quality Standards (NAAQS): Standards set by the U.S. Environmental Protection Agency for the maximum levels of air pollutants that can exist in the ambient air without causing unacceptable effects on human health or public welfare.

National Historic Preservation Act (NHPA): A 1966 federal law that establishes a National Register of Historic Places and the Advisory Council on Historic Preservation, and that authorized grants-in-aid for preserving historic properties.

National Primary (Air Quality) Standards: The levels of air quality necessary with an adequate margin of safety to protect public health.

National Register of Historic Places: The official list established by the National Historic Preservation Act of sites, districts, buildings, structures, and objects significant in the nation’s history or whose artistic or architectural value is unique.

National Secondary (Air Quality) Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Nitrogen Oxides (Oxides of Nitrogen, NO_x): A general term pertaining to compounds of nitric oxide (NO), nitrogen dioxide (NO₂) and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO₂ is a criteria air pollutant, and may result in numerous adverse health effects (Source: CARB Glossary of Air Pollution Terms 2009, <http://www.arb.ca.gov/html/gloss.htm#A>). NO_x is a reddish-brown gas with an odor similar to bleach. The major source of this pollutant is the high temperature combustion of fossil fuels. Health effects include irritation and damage to lungs and lower resistance to respiratory infections.

Nitrogen Dioxide (NO₂): A secondary contaminant formed through a reaction between nitric oxide (NO) and atmospheric oxygen that irritates the lungs at high concentrations and contributes to ozone formation.

Noise: Any sound that is undesirable because it interferes with speech and hearing, is intense enough to damage hearing, or is otherwise annoying. Noise is unwanted sound.

Noise Attenuation: Reduction of the level of a noise source using a substance, material, or surface such as earth berms and/or solid concrete walls. Noise attenuation is specified in decibels.

Noise Barrier: A wall or other solid structure constructed with the objective of attenuating (i.e., reducing) noise behind the barrier; commonly, a noise wall along a roadway.

Noise Contour: A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 L_{dn} contour (measured in dBA) require noise attenuation in residential development.

Noise Element: One of the seven State-mandated elements of a local general plan. It identifies and appraises noise problems and sounds within the affected community and forms the basis for distributing new noise-sensitive land uses.

Noise-Sensitive Land Use: Any land use (i.e., residential development) or designated geographic area (i.e., hospital complex) where “intrusive noise” is incompatible with the conduct of the noise-sensitive uses or constitutes a “noise disturbance” for residents or workers.

Non-attainment: The condition of not achieving a desired or required level of performance, frequently used in reference to air quality. Non-attainment refers to a geographic area identified by the U.S. Environmental Protection Agency and/or CARB as not meeting either National Ambient Air Quality Standards or California Ambient Air Quality Standards for a given pollutant.

Non-attainment area: A geographic area identified by the U.S. Environmental Protection Agency (USEPA) and/or CARB as not meeting either NAAQS or CAAQS standards for a given pollutant (Source: CARB Glossary of Air Pollutant Terms 2009, <http://www.arb.ca.gov/html/gloss.htm#N>).

Notice of Completion (NOC): A brief notice filed with the Office of Planning and Research (OPR) by a Lead Agency as soon as it has completed a Draft EIR and is prepared to send out copies for review (Source: State CEQA Guidelines §15372).

Notice of Determination (NOD): A brief notice to be filed by a public agency after it approves or determines to carry out a project that is subject to the requirements of CEQA. The filing of the NOD starts the statute of limitations period (Source: State CEQA Guidelines §15373).

Notice of Preparation (NOP): A brief notice sent by a lead agency to notify responsible agencies, trustee agencies, and involved federal agencies that the lead agency plans to prepare an EIR for the project. The purpose of the notice is to solicit guidance from those agencies as to

the scope and content of the environmental information to be included in the EIR. Public agencies are free to develop their own formats for this notice (Source: State CEQA Guidelines §15375).

Objective: A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement.

Open Space: Any parcel or area of land or water essentially unimproved and set aside, designated, dedicated, or reserved for public or private use or enjoyment (Source: Newport Beach General Plan 2006).

Open Space Element: One of the seven State-mandated elements of a local general plan that contains an inventory of privately and publicly owned open space lands and adopted goals, policies, and implementation programs for the preservation, protection, and management of open space lands.

Ordinance: A law or regulation set forth and adopted by a governmental authority, usually a city or county.

Overlay: A land use designation on the land use map or a zoning designation on a zoning map that modifies the basic underlying designation in some specific manner.

Ozone (O₃): A compound consisting of three oxygen atoms that is the primary constituent of smog. It is formed through chemical reactions in the atmosphere involving volatile organic compounds, nitrogen oxides, and sunlight. Ozone can irritate the lungs and damage trees, crops, and materials. There is a natural layer of ozone in the upper atmosphere which shields the earth from harmful ultraviolet radiation. Ozone is a criteria pollutant.

Parcel: The basic unit of land entitlement. A designated area of land established by plot, or subdivision, or otherwise legally defined and permitted to be used or built upon.

Parcel Map: A map depicting the establishment of up to four new lots by splitting a recorded lot. Parcel maps are subject to the California Subdivision Map Act and a city's subdivision regulations.

Parking Area, Public: An open area, excluding a street or other public way, used for the parking of automobiles and available to the public, whether for free or for compensation.

Parking Management: An evolving Transportation Demand Management (TDM) technique designed to obtain maximum use from a limited number of parking spaces. Parking Management can involve pricing and preferential treatment for High Occupancy Vehicles, non-peak period users, and short-term users.

Parking Ratio: The number of parking spaces provided per 1,000 square feet of floor area (e.g., 2:1 or "two per one thousand").

Particulate Matter-Fine (PM2.5): A mixture of very small particulates with an aerodynamic diameter equal to or less than 2.5 microns. PM2.5 consists of particles directly emitted into the air and particulates formed in the air from the chemical transformation of gaseous pollutants. PM2.5 particulates are emitted from activities such as industrial and residential combustion, and from vehicle exhaust. Particles 2.5 microns or smaller infiltrate the deepest portions of the lungs, increasing the risks of long-term disease such as chronic respiratory disease, cancer, and increased and premature death.

Particulate Matter (PM10): Any particulate matter with an aerodynamic diameter equal to or less than 10 microns. PM10 consists of particles directly emitted into the air and particulates formed in the air from the chemical transformation of gaseous pollutants. PM10 particulates are emitted from industrial and residential combustion activities and from vehicle exhaust. PM10 causes adverse health effects and reduces atmospheric visibility. It is a criteria pollutant.

Parts Per Million (ppm): The number of weight or volume units of a minor constituent present within each one million units of the major constituent of a solution or mixture, such as salts in water.

Person: Person includes any person, firm, association, organization, partnership, business, trust, corporation, limited liability company, company, district, city, county, city and county, town, the State, and any of the agencies or political subdivisions of such entities (Source: State CEQA Guidelines §15376).

Person Trip: A trip by one person in any mode of transportation. If more than one person is on the trip, each person is considered as making one person trip. For example, four persons traveling together in one automobile account for four person trips (Source: Federal Highway Administration, www.fhwa.dot.gov).

Planning Area: The land area addressed by the general plan. Typically, the Planning Area boundary coincides with the Sphere of Influence that encompasses land both within city limits and potentially annexable land (Source: Newport Beach General Plan 2006).

Planning Commission: A body, usually having five or seven members, created by a city or county in compliance with California law (*California Government Code* §65100) that requires the assignment of the planning functions of the city or county to a planning department, planning commission, hearing officers, and/or the legislative body itself, as deemed appropriate by the legislative body.

Policy: Statements guiding action and implying clear commitment found within each element of the general plan (e.g., “Provide incentives to assist in the development of affordable housing”).

Pollution, Non-Point: Pollution sources that are less definable and usually cover broad areas of land, such as agricultural land with fertilizers that are carried from the land by runoff or automobiles.

Pollution, Point: In reference to water quality, a discrete source from which pollution is generated before it enters receiving waters, such as a sewer outfall, a smokestack, or an industrial waste pipe.

Precursor: A chemical compound that leads to the formation of a pollutant. Reactive organic gases and nitrogen oxides are precursors of photochemical oxidants.

Project: The whole of an action that could potentially result in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1) an activity directly undertaken by any public agency including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local general plans or elements thereof pursuant to *California Government Code* Sections 65100–65700; (2) an activity undertaken by a person who is supported in whole or in part through public agency contacts, grants, subsidies, loans, or other forms of assistance from one or more public agencies; or (3) an activity involving the issuance of a lease, permit, license, certificate, or other entitlement to a person for use by one or more public agencies. Project does not include (1) proposals for legislation to be enacted by the State Legislature; (2) Continuing administrative or maintenance activities such as purchases for supplies, personnel-related actions, general policy and procedure making (except as they are applied to specific instances covered above); (3) the submittal of proposals to a vote of the people of the State or of a particular community; or (4) the creation of government funding mechanisms or other government fiscal activities that do not involve any commitment to any specific project that may result in a potentially significant physical impact on the environment. The term “project” refers to the activity that is being approved and that may be subject to several discretionary approvals by governmental agencies. The term “project” does not mean each separate governmental approval. Where the lead agency could describe the project as either the adoption of a particular regulation under subsection (a)(1) or as a development proposal subject to several governmental approvals under subsections (a)(2) or (a)(3), the lead agency shall describe the project as the development proposal for the purpose of environmental analysis. This approach will implement the lead agency principle as described in Article 4 (Source: State CEQA Guidelines §15378).

Project Description: Describes the basic characteristics of the project including location, need for the project, project objectives, technical and environmental characteristics, project size and design, project phasing, and required permits. The level of detail provided in the project description varies according to the type of environmental document prepared.

Public Agency: Any State agency, board, or commission and any local or regional agency, as defined in these Guidelines. It does not include the courts of the State or agencies of the federal government (Source: State CEQA Guidelines §15379).

Public Facilities: Institutional response to basic human needs such as health, education, safety, recreation, and inspiration. Public facilities also includes facilities and services such as, but not limited to, police, fire, libraries, parks, and flood control.

Rare species: A species, which, although not presently threatened with extinction, is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Reactive Organic Compound (ROC)/Reactive Organic Gases (ROG): Any organic compound containing at least one carbon atom, except for specific exempt compounds found to be non-photochemically reactive and thus not participating in smog formation; classes of hydrocarbons (olefins, substituted aromatics, and aldehydes) that are likely to react with ozone and nitrogen dioxide in the atmosphere to form photochemical smog. ROCs/ROGs are also referred to as non-methane organic compounds or volatile organic compounds.

Recreation, Active: A type of recreation or activity that requires the use of organized play areas, including but not limited to softball, baseball, football and soccer fields; tennis and basketball courts; and various forms of children's play equipment (Source: Newport Beach General Plan 2006).

Recreation, Passive: Type of recreation or activity that does not require the use of organized play areas (Source: Newport Beach General Plan 2006).

Regional: Pertaining to activities or economies at a scale greater than that of a single jurisdiction, and affecting a broad geographic area.

Regional Housing Needs Assessment (RHNA): Based on California projections of population growth and housing unit demand. The RHNA assigns a share of the region's future housing needs to each jurisdiction within the Southern California Association of Governments (SCAG) region. These housing needs numbers serve as the basis for the update of the Housing Element in each California city and county.

Regional Park: A park typically 150 to 500 acres in size focusing on activities and natural features not included in most other types of parks and often based on a specific scenic or recreational opportunity (Source: Newport Beach General Plan 2006).

Regional Water Quality Control Board (RWQCB): Agency which administers the requirements of the California Administrative Code, Title 23, Division 3, Chapter 15 (Section 2595,g,7) to ensure the highest possible water quality consistent with all demands.

Residential: Land designation in a city or county general plan and zoning ordinance for buildings consisting only of dwelling units; may be improved, vacant, or unimproved.

Responsible Agency: A public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of

CEQA, the term “Responsible Agency” includes all public agencies other than the lead agency that have discretionary approval power over the project (Source: State CEQA Guidelines §15381).

Restoration: Activity to improve generally destroyed or degraded habitat areas to a viably functioning level of biological productivity and diversity.

Retaining Wall: A wall used to support or retain an earthen embankment or fill area.

Reviewing Agencies: Local, State, and federal agencies with jurisdiction over the project area or resources potentially affected by the project. Cities and counties are also considered reviewing agencies.

Rezoning: An amendment to the map and/or text of a zoning ordinance to effect a change in the nature, density, or intensity of uses allowed in a zoning district and/or on a designated parcel or land area.

Right-of-Way: A strip of land acquired by reservation, dedication, prescription, or condemnation and intended to be occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary or storm sewer, or other similar uses.

Riparian: Type of area that consists of trees, shrubs, or herbs that occur along watercourses or water bodies. The vegetation is adapted to flooding and soil saturation during at least a portion of its growing season.

Safety Element: One of the seven State-mandated elements of the general plan that establishes the policies and programs to protect the community from risks associated with seismic, geologic, flood, and wildfire hazards.

Sediment: Grains of soil, sand, or rock that have been transported from one location and deposited at another.

Seiche: A standing wave oscillation in an enclosed waterbody that continues (in a pendulum fashion) after the cessation of the originating force. Seiches can be caused by tidal action or an offshore seismic event.

Seismic: Caused by or subject to earthquakes or earth vibrations.

Sensitive Receptors: People or institutions with people that are particularly susceptible to illness from environmental pollution, such as the elderly, very young children, people already weakened by illness (e.g., asthmatics), and people engaged in strenuous exercise.

Sensitive Species: Those plant and animal species considered Threatened or Endangered by the U.S. Fish and Wildlife Service and/or the CDFW according to Section 3 of the Federal

Endangered Species Act. (Refer to definitions of “Endangered” and “Threatened” for more information.) .

Sewer: Any pipe or conduit used to collect and carry sewage from the generating source to a treatment plant.

Significant Impact or Significant Effect on the Environment: As defined by the State CEQA Guidelines, 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 lead agency will determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record (Source: State CEQA Guidelines §15382).

Single-family Dwelling: A building containing one dwelling unit.

Single-family Dwelling, Attached: A building containing two dwelling units with each unit having its own foundation or grade.

Single-family Dwelling, Detached: A building containing one dwelling unit on one lot.

Site: A parcel of land used or intended for use by one or a group of uses and having frontage on a public or an approved private street; a lot.

Site Plan: The development plan for one or more lots on which is shown the existing and proposed conditions of the lot, including topography, vegetation, drainage, floodplains, marshes and waterways; open spaces, walkways, means of ingress and egress, utility services, landscaping, structures and signs, lighting, and screening devices; and any other information that reasonably may be required for the approving authority to make an informed decision.

Slope: Land gradient described as the vertical rise divided by the horizontal run and expressed as a percent.

Solid Waste: Unwanted or discarded material, including garbage, with insufficient liquid content to be free flowing, generally disposed of in landfills or incinerated.

Specific Plan: Under Article 8 of the *California Government Code* (§65450 et seq.), a legal tool for detailed design and implementation of a defined portion of an area covered by a general plan. A specific plan may include all detailed regulations, conditions, programs, and/or proposed legislation that may be necessary or convenient for the systematic implementation of any general plan element(s).

Sphere of Influence: The probable ultimate physical boundaries and service area of a local agency (city or district), as determined by the Local Agency Formation Commission (LAFCO) of a county.

State: The State of California.

State Agency: A governmental agency in the executive branch of the State Government or an entity that operates under the direction and control of an agency in the executive branch of the State Government and is funded primarily by the State Treasury (Source: State CEQA Guidelines §15383).

State Implementation Plan (SIP): A document, prepared by each state and subject to U.S. Environmental Protection Agency (USEPA) approval, which describes existing air quality conditions and identifies actions and programs to be undertaken by the State and its subdivisions to attain and maintain NAAQS. A SIP is a compilation of all a State's air quality plans and rules that have been approved by the USEPA. In California, air districts prepare non-attainment plans that are included in the State's SIP.

Statement of Overriding Considerations: A statement indicating that even though a project would result in one or more unavoidable adverse impacts, specific economic, social or other stated benefits are sufficient to warrant project approval.

Stationary Source: A source of air pollution that is not mobile such as any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. Building, structure, facility, or installation means any pollutant-emitting activities, including activities located in California coastal waters adjacent to District boundaries, which (1) belong to the same industrial grouping; (2) are located on one or more contiguous or adjacent properties (except for activities located in coastal waters); and (3) are under the same or common ownership, operation, or control or which are owned or operated by entities that are under common control.

Stream: A topographic feature that at least periodically conveys water through a bed or channel having banks. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.

Streets: A public thoroughfare, usually paved, in a village, town or city, including the sidewalk or sidewalks (Source: Dictionary.com 2009). Reference to all streets or rights-of-way shall mean dedicated vehicular rights-of-way (Source: Draft Newport Banning Ranch Master Development Plan 2011).

Structure: Anything, including a building, located on the ground in a permanent location or attached to something having a permanent location on the ground.

Subdivision: The division of a lot, tract, or parcel of land that is the subject of an application for subdivision.

Subdivision Map Act: Vests in local legislative bodies the regulation and control of the design and improvement of subdivisions, including the requirement for tentative and final maps (Division 2 *California Government Code* §§66410 et seq.). (See “Subdivision” for more information.)

Subsidence: The sudden sinking or gradual downward settling and compaction of soil and other surface material with little or no horizontal motion. Subsidence may be caused by a variety of human and natural activities, including earthquakes.

Sulfur Dioxide (SO₂): A colorless, extremely irritating gas or liquid. Sulfur dioxide enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. There are NAAQS and CAAQS for sulfur dioxide.

Terrestrial: Land-related; of or pertaining to land as distinct from water (Source: Dictionary.com 2009).

Threatened Species: Species, which, although not presently threatened with extinction, is likely to become endangered in the near future in the absence of special protection and management efforts.

Threshold of Significance: Criteria for each environmental issue area to assist with determinations of significance of project impacts.

Title 24 of the *California Code of Regulations*: Part of the *California Buildings Standards Code*, the building regulations of California; Part 6 is the *Energy Code*. Title 24 is a compilation of three types of building standards from three different origins: (1) building standards that have been adopted by State agencies without change from building standards contained in national model codes; (2) building standards that have been adopted and adapted from the national model code standards to meet California conditions; (3) building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

Notwithstanding, the national model code standards adopted into Title 24 apply to all occupancies in California except for modifications adopted by State agencies and local governing bodies (Source: California Building Standards Commission 2009, http://www.bsc.ca.gov/title_24/default.htm).

Topography: Configuration of a surface, including its relief and the position of natural and man-made features.

Total Maximum Daily Load (TMDL): The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) while maintaining water quality standards. Under Clean Water Act Section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls. TMDL also refers to the written, quantitative analysis and plan for attaining and maintaining water quality standards in all seasons for a specific waterbody and pollutant.

Toxic Air Contaminant (TACs): Airborne chemical compounds determined by the USEPA and Cal EPA, including the Office of Environmental Health Hazard Assessment and CARB, to pose a potential threat to public health. This includes air pollutants (excluding ozone, carbon monoxide, PM10, sulfur dioxide, and nitrogen dioxide) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunctions, neurological disorders, heritable gene mutations, or other serious or irreversible acute or chronic health effects in humans. Toxic air pollutants are regulated under different federal and State regulatory processes than criteria pollutants. Health effects from exposure to toxic air pollutants may occur at extremely low levels.

Traffic Model: A mathematical representation of traffic movement within an area or region based on observed relationships between the kind and intensity of development in specific areas. Many traffic models operate on the theory that trips are produced by persons living in residential areas and are attracted by various non-residential land uses.

Transit: The conveyance of persons or goods from one place to another by means of a local, public transportation system.

Trip: A one-way journey that proceeds from an origin to a destination via a single mode of transportation; the smallest unit of movement considered in transportation studies. Each trip has one origin (often the “production end”, sometimes from home, but not always), and one destination (“attraction end”).

Trip Assignment: The allocation of vehicle trips to available routes between locations in a traffic study area.

Trip End: Every trip has two ends: an origin and a destination. Conversely, every origin or destination generates two trip ends: one arriving and one leaving. For example, traveling from home to work and back involves two trips—home to work and work to home—and four trip ends—home as the origin and home as the destination. Quantification of trip ends is useful in describing the contribution of specific land uses to traffic volumes. A “vehicle trip end” is a single or one-directional vehicle movement with either the origin or destination inside a traffic study site.

Trip Generation: The number of vehicle trip ends associated with (i.e., produced by) a particular land use or traffic study site. A trip end is defined as a single vehicle movement. Roundtrips consist of two trip ends.

Tsunami: A long period wave, or seismic sea wave, caused by an underwater disturbance such as a volcanic eruption or an earthquake. Tsunamis are commonly misnamed “Tidal Waves.”

Turbidity: A measure of the extent to which water is stirred up or disturbed, as by sediment; opaqueness due to suspended sediment.

Turn Lane: A lane devoted to vehicles making a turning movement to go in a different direction. Turn lanes are necessary to ensure the free-flow of traffic in the through lanes by providing a separate area/lane for turning traffic to slow down and complete the turning maneuver without impeding the through traffic.

U.S. Army Corps of Engineers (USACE): The federal agency that reviews navigation aspects of development projects; conducts design studies; and issues dredge and fill permits under the federal Clean Water Act and water construction permits under the Rivers and Harbors Act of 1899.

U.S. Environmental Protection Agency (USEPA): The federal agency with primary responsibility for the implementation of federal environmental statutes, including the Clean Water Act, Clean Air Act, Safe Drinking Water Act, and the Resource Conservation and Recovery Act. The State of California is included within USEPA Region IX, headquartered in San Francisco.

U.S. Fish and Wildlife Service (USFWS): An agency within the Department of the Interior whose mission is to work with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

Vehicle Miles Traveled (VMT): A measure of both the volume and extent of motor vehicle operation; the total number of vehicle miles traveled within a specified geographical area (whether the entire country or a smaller area) over a given period of time.

Vehicle Trips: Vehicle trips describe the number of vehicles traveling from point to point.

Vibration: Any movement of the earth, ground, or other similar surface created by a temporal and spatial oscillation device or equipment located upon or affixed in conjunction with that surface (Source: City of Newport Beach Ordinance 95–38 §11 [part] 1995).

Viewpoint: A location from which a site is visible; a place affording a view of something; position of observation (Source: Dictionary.com 2009).

Viewshed: The surface area that is visible from a given viewpoint or series of viewpoints. It is also the area from which that viewpoint or series of viewpoints may be seen (a collection of viewpoints). The viewshed aids in identifying the views that could be affected by the proposed action.

Visitor-serving Facilities: Facilities that fulfill the Coastal Act purpose of providing public access, recreation, and overnight accommodations within the Coastal Zone.

Volatile Organic Compound (VOC): Any organic compound containing at least one carbon atom, except for specific exempt compounds found to be non-photochemically reactive and thus not participating in smog formation. VOC is synonymous with reactive organic gases and reactive organic compounds.

Volume-to-Capacity Ratio (v/c): In reference to public services or transportation, ratio of peak hour use to capacity. Expressed as v/c, this is a measure of traffic demand on a facility (expressed as volume) compared to its traffic-carrying capacity. A v/c ratio of 0.7, for example, indicates that a traffic facility is operating at 70 percent of its capacity. In evaluating the performance of a roadway, v/c ratios should be considered together with the letter grade system, which is more of a qualitative assessment based heavily on speeds and travel time.

Water Course: Any natural or artificial stream, river, creek, ditch, channel, canal, conduit, culvert, drain, waterway, gully, ravine or wash in which water flows in a definite channel, bed and banks, and includes any area adjacent thereto subject to inundation by overflow of flood water.

Water-Dependent Use: Those uses that are tied to and require water, including fishing and other vessel rental and charter services; water transportation; water public safety and enforcement; marinas; boatyards; yacht/sailing/boating/fishing clubs; water sports; instructional and educational facilities; public and guest docking facilities and landside support uses; dredging; marine construction; and harbor service and maintenance uses and related equipment.

Watershed: The geographical area drained by a river and its connecting tributaries into a common source. A watershed may, and often does, cover a very large geographical region.

Wetland: Land which may be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, mudflats, and fens (Source: California Coastal Act). Wetlands are transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following attributes:

1. At least periodically, the land supports predominantly hydrophytes;
2. The substrate is predominantly undrained hydric soil; and
3. The substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year (Source: Newport Beach General Plan 2006).

Whole of an Action: An action that may result in either a direct or reasonably foreseeable indirect physical change in the environment (Source: State CEQA Guidelines §15378).

Wildlife Corridor: The linkage between large blocks of habitat that allow the safe movement of medium to large mammals from one habitat area to another. The definition of a corridor is varied but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic landbridges.

Windward: Toward the direction from which the wind blows.

Zone: A specifically delineated area or district in a municipality within which regulations and requirements uniformly govern the use, placement, spacing, and size of land and buildings.

Zoning: A police power measure, enacted primarily by units of local government, in which the community is divided into districts or zones within which permitted and special uses are established as are regulations governing lot size, building bulk, placement, and other development standards. Requirements vary from district to district, but they must be uniform within the same district. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.

Zoning Code: Title 20 of the *City of Newport Beach Municipal Code*, as amended.

Zoning Map: Map that shows the zones that a city or county is divided into. *California Government Code* Section 65851 permits a legislative body to divide a county, a city, or portions thereof into zones of the number, shape, and area it deems best suited to carry out the purposes of the zoning ordinance. These zones are delineated on a map or maps, called the Zoning Map.

Zoning Ordinance: A law dividing all land in the city into zones and specifying uses permitted and standards required in each zone.

