

LAGUNA NIGUEL GATEWAY SPECIFIC PLAN

Program Environmental Impact Report

SCH No. 1998111080

Volume I: Draft PEIR

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July 2011

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CHAPTER 1 Introduction

This environmental impact report (EIR) examines the potential effects of the proposed Laguna Niguel Gateway Specific Plan Update project (Specific Plan or proposed project) within the City of Laguna Niguel. The proposed project includes a General Plan Amendment (GPA 11-01), as the proposed project would result in changes to land use and development intensity. A Zone Change (ZC 11-01) is also required to update the City's Zoning Map and to consider the amended Specific Plan document. The proposed Specific Plan update would replace the current Laguna Niguel Gateway Specific Plan adopted in June 1999.

The approximately 315-acre Specific Plan area is geographically located entirely within the City of Laguna Niguel. The Specific Plan area is located in the northeastern corner of the City and is bounded by the I-5 Freeway to the east and the SR-73 toll road to the southwest.

The Gateway area is currently developed with a variety of commercial services, light industrial, auto sales and services, retail and office uses. Currently, there is approximately 1,371,000 square feet (sf) of nonresidential development existing within the Specific Plan area, mostly constructed in the 1970s and 1980s. The adopted 1999 Gateway Specific Plan and General Plan Land Use Element allow up to 3,777,000 sf of nonresidential development.

The proposed Specific Plan Update contemplates the addition of residential and mixed-use, pedestrian and transit-oriented development within the Specific Plan area. The proposed Specific Plan would accommodate a total of up to 2,994 residential dwelling units, 350 hotel rooms, and 2,259,931 sf of nonresidential uses.

The City of Laguna Niguel is the lead agency for this project. As required by the California Environmental Quality Act (CEQA), this EIR (1) assesses the expected individual and cumulative impacts of implementation of the Specific Plan; (2) identifies means of avoiding or minimizing potential adverse environmental impacts; and (3) evaluates a reasonable range of alternatives to the proposed project, including the No Project Alternative. The background for the proposed project and the legal basis for preparing an EIR are described below.

1.1 PURPOSE AND LEGAL AUTHORITY

The proposed project requires review and recommendation by the Planning Commission and the discretionary adoption of the Specific Plan by the City Council of Laguna Niguel. Adoption of the Specific Plan is considered a project under the CEQA and is, therefore, subject to CEQA requirements. In accordance with Section 15121 of the CEQA Guidelines, the purpose of this EIR is to serve as an informational document that:

... will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

The EIR must also disclose significant environmental impacts that cannot be avoided, growth inducing impacts, effects not found to be significant, and significant cumulative impacts of all past, present, and reasonably anticipated future projects.

This EIR has been prepared as a Program EIR pursuant to Section 15168 of the CEQA Guidelines. A Program, or PEIR, is an EIR that is prepared on a series of actions that can be characterized as one large project. As stated in the CEQA Guidelines, the use of a PEIR can provide the following advantages:

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action
2. Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis
3. Avoid duplicative reconsideration of basic policy considerations
4. Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts
5. Allow reduction in paperwork

With respect to future specific development projects that could occur in the Specific Plan area, Section 15168(c) of the CEQA Guidelines requires subsequent activities to be examined in light of the PEIR to determine whether additional environmental documentation must be prepared. If a later activity would have significant effects that were not examined in the PEIR, subsequent environmental documentation must be prepared, consistent with Sections 15162 through 15164 of the CEQA Guidelines. Such subsequent environmental documentation would be “tiered” from the PEIR. As established by Section 21068.5 of CEQA, tiering refers to coverage of general matters and environmental effects in an environmental impact report prepared for a policy, plan, program, or ordinance followed by narrower or site-specific environmental documents that incorporate, by reference, the discussion in any prior environmental impact report and which concentrate on the environmental effects that are (a) capable of being mitigated or (b) were not analyzed as significant effects on the environment in the prior environmental impact report. However, if any subsequent development proposal would not result in new environmental effects or the need for new mitigation measures, the subsequent activity could rely on the environmental analysis provided in this PEIR, and minimal additional environmental documentation would be required. This PEIR is also intended to facilitate CEQA streamlining for transit priority projects, as provided for in Section 21155 of the CEQA Guidelines.

This report serves as an informational document for the public and the City of Laguna Niguel decision-makers. The process will culminate with a public hearing by the City Council to consider certification of a Final EIR (FEIR) and a decision on whether or not to approve the proposed project.

1.2 SCOPE OF THE EIR

This EIR addresses the potential environmental effects of implementation of the proposed project within Laguna Niguel. The scope of the EIR includes environmental issues determined to be potentially significant by the Notice of Preparation (NOP), responses to the NOP, and scoping discussions among the public, consulting staff, and the City of Laguna Niguel. The NOP and comment letters received during the NOP review period are included in Appendix A of this EIR. The NOP identified potentially

significant impacts on the following issue areas associated with the construction and/or operation of the proposed project, which are discussed in detail in this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

This EIR addresses the issues referenced above and identifies potentially significant environmental impacts, including site-specific and cumulative effects of the project, in accordance with the provisions set forth in the CEQA Guidelines. In addition, the EIR recommends feasible mitigation measures, where possible, that would reduce or eliminate adverse environmental effects.

In accordance with Section 15128 (Effects Not Found to Be Significant) of the CEQA Guidelines, Chapter 5 (Other CEQA Considerations) of this EIR provides reasons some environmental impacts related to Agricultural Resources and Mineral Resources were not considered significant and, therefore, are not analyzed further in this EIR.

In preparing the EIR, pertinent City policies and guidelines, existing EIRs, and background documents prepared by the City were all evaluated for their applicability to the proposed project. A list of references is provided at the end of each section.

Chapter 6 (Alternatives) of the EIR was prepared in accordance with Section 15126.6 of the CEQA Guidelines, which requires an evaluation of a reasonable range of alternatives, including the No Project Alternative. It also identifies the “environmentally superior” alternative among the alternatives assessed.

1.2.1 Environmental Setting/Definition of the Baseline

According to Section 15125 of the CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the “baseline condition” against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published. The NOP for the proposed project was published October 1, 2010. The CEQA Guidelines recognize that the date for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time periods, the use of environmental baselines that differ from the date of the NOP is

reasonable and appropriate when doing so results in a more accurate or conservative environmental analysis.

The baseline year (2010) is used for all impact areas analyzed in this EIR to determine impacts. For analytical purposes, impacts associated with implementation of the Specific Plan are derived from the environmental setting in 2010. This EIR presents and analyzes the proposed allowable growth scenario within the City from 2010 through a planning horizon of 2035.

1.2.2 Plan Comparison

This EIR evaluates the potential impacts of the proposed land use changes and associated growth potential compared to the existing setting/baseline conditions, as described above. In some cases, the existing Specific Plan (1999) growth potential is also discussed to provide additional information to the reader of the differences or changes between the existing Specific Plan (1999) and the proposed Specific Plan. However, the impact analysis presented in this EIR is not a comparison of the existing Specific Plan (1999) to the proposed Specific Plan but rather a comparison of the proposed Specific Plan to existing conditions.

1.3 INTENDED USE OF THE EIR

As previously mentioned, this EIR is intended to provide decision-makers and the public with information that enables them to consider the environmental consequences of the proposed project. EIRs not only identify significant or potentially significant environmental effects, but also identify ways in which those impacts can be reduced to less-than-significant levels, whether through the imposition of mitigation measures or through the implementation of specific alternatives to the project. In a practical sense, EIRs function as a technique for fact-finding, allowing an applicant, concerned citizens, and agency staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure.

To gain the most value from this report, certain key points should be kept in mind:

- This report should be used as a tool to give the reader an overview of the possible ramifications of the proposed project.
- A specific environmental impact is not necessarily irreversible or permanent. Most impacts, particularly in urban, more developed areas, can be wholly or partially mitigated by incorporating conditions of approval and/or changes recommended in this report during the design and construction phases of project development.
- This report, while a summary of facts, reflects the professional judgment of the authors. The EIR was prepared by consultants retained by the City and by City staff, and was subject to the independent review and judgment of the City. The City independently reviewed and analyzed the EIR for the proposed project, and the EIR reflects the independent judgment of the City.

1.4 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

Per the CEQA Guidelines, this EIR defines lead, responsible, and trustee agencies. The City of Laguna Niguel is the lead agency for the project because it holds principal responsibility for approving the

project. A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. The proposed Specific Plan is a planning document for the City of Laguna Niguel to utilize for making land use decisions moving forward. As such, the Specific Plan does not contemplate a specific development plan, and no responsible agencies for the proposed project are identified at this time. Subsequent development projects will be subject to discretionary approval by the City and, depending on the development proposal, other public agencies. In addition to the City of Laguna Niguel, future projects within the City may require approval from the Regional Water Quality Control Board (RWQCB) regarding water quality and quantity, as well as potential discharges into surface waters; California Department of Fish and Game (CDFG) regarding biological resources; California Department of Transportation (Caltrans) regarding the San Diego Freeway (I-5), San Joaquin Hills Transportation Corridor (SR-73), and other roadways within the City that are under the maintenance of the state; U.S. Army Corps of Engineers (USACE) regarding waters of the US and wetlands.

A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the state. As discussed above, the Specific Plan is a planning document for the City of Laguna Niguel and does not address a specific or proposed development plan. As such, no trustee agencies are identified at this time. However, in relation to future development within the City, trustee agencies may include the California Department of Fish and Game (CDFG) for biological resources, U.S. Army Corps of Engineers (USACE) for waters of the US and wetlands, and the South Coast Air Quality Management District (SCAQMD) regarding issues of air quality and associated permitting.

1.5 ENVIRONMENTAL REVIEW PROCESS

This EIR has been prepared to meet all of the substantive and procedural requirements of CEQA of 1970 (California Public Resources Code Sections 21000, et seq.), California CEQA Guidelines (California Code of Regulations, Title 14, Section 15000s, et seq.), and the rules, regulations and procedures for the implementation of CEQA as adopted by the City of Laguna Niguel. Accordingly, as discussed above, the City of Laguna Niguel has been identified as the Lead Agency for this project, taking responsibility for conducting the environmental review and approving or denying the project.

The Specific Plan will serve as a comprehensive document that will guide future potential growth and development within the northeast portion of the City. The Lead Agency has determined that an EIR for the Specific Plan would best serve the City if it contains a comprehensive examination of all environmental issues that are contained in Appendix G of the 2011 CEQA Guidelines with the exception of Agricultural Resources and Mineral Resources. The EIR analyzes all aspects of the Specific Plan to determine whether any aspect of the project, either individually or cumulatively, may cause a significant effect on the environment with regards to the environmental issues listed above in Section 1.2.

The City filed a Notice of Preparation (NOP), included in Appendix A, with the California Office of Planning and Research (OPR) as an indication that an EIR would be prepared. In turn, the NOP was distributed to involved public agencies and interested parties for a 30-day public review period beginning October 1, 2010. The purpose of the public review period was to solicit comments on the scope and content of the environmental analysis to be included in the EIR. The City received thirteen comment

letters on the NOP, which are also included in Appendix A of this EIR. Agencies or interested persons who did not respond during the public review period of the NOP will have an opportunity to comment during the public review period for this EIR, as well as at subsequent hearings on the Specific Plan. In addition to the filing of the NOP, the City held two Public Scoping meetings, both on October 20, 2010, to encourage and solicit comments from the general public on the proposed Specific Plan. Approximately thirty people attended these meetings and provided comment.

Moving forward, this EIR will be distributed to affected agencies, surrounding cities, involved public agencies, and interested parties for a 45-day review period in accordance with Section 15087 of the CEQA Guidelines. During the 45-day public review period, which began on July 25, 2011, and ends on September 12, 2011, this EIR is available for general public review on the City's website (<http://www.ci.laguna-niguel.ca.us>) and at the following locations:

City of Laguna Niguel
Community Development Department
27781 La Paz Road
Laguna Niguel, CA 92677
(949) 362-4321

Laguna Niguel Interim Library
30100 Town Center Drive Suite N
Laguna Niguel, CA 92677
(949) 249-5252

Interested parties may provide comments on the EIR in written form. Comments should be addressed to the City of Laguna Niguel to the following address:

Larry Longenecker, Senior Planner
Community Development Department
City of Laguna Niguel
27781 La Paz Road
Laguna Niguel, CA 92677
Telephone: (949) 362-4321
Email: llongenecker@ci.laguna-niguel.ca.us

Upon completion of the 45-day public review period, written responses to all comments raised with respect to environmental issues discussed in the EIR will be prepared and incorporated into the Final EIR (FEIR). Furthermore, written responses to comments received from any public agencies will be made available to these agencies at least 10 days prior to the public hearing during which the certification of the FEIR will be considered. These comments, and their responses, will be included in the FEIR for consideration by the City of Laguna Niguel Planning Commission and City Council, as well as any other public decision-makers.

According to Public Resources Code (PRC) Section 21081, the Lead Agency must make specific Findings of Fact (“Findings”) before approving the FEIR, when the EIR identifies significant environmental impacts that may result from a project. The purpose of the Findings is to establish the link between the contents of the FEIR and the action of the Lead Agency with regard to approval or rejection of the project. Prior to approval of a project, one of three findings must be made:

- Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the FEIR.

- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the FEIR.

Additionally, according to PRC Section 21081.6, for projects in which significant impacts will be avoided by mitigation measures, the Lead Agency must include a mitigation monitoring program (MMP) as part of the FEIR. The purpose of the MMP is to ensure compliance with required mitigation during implementation of the project.

However, environmental impacts may not always be mitigated to a less-than-significant level. When this occurs, impacts are considered significant and unavoidable. If a public agency approves a project that has significant and unavoidable impacts, the agency shall state in writing the specific reasons for approving the project, based on the FEIR and any other information in the public record. This is termed a “Statement of Overriding Considerations” and is used to explain the specific reasons why the benefits of a proposed project make its unavoidable environmental effects acceptable. The statement is prepared, if required, after the FEIR has been completed, yet before action to approve the project has been taken. Ultimately, the lead agency must certify the FEIR, prior to approving a specific project. In the case at hand, the City of Laguna Niguel (as the lead agency), would need to certify the FEIR prior to approving the Specific Plan.

1.6 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

During the environmental review process, NOP comment letters were received from various parties that raised issues of concern. These comment letters and verbal comments received at the public scoping meeting (Appendix A) were used to determine areas of potential controversy and issues to be resolved. These issues are discussed within the technical sections of this document, and listed below.

- Traffic impacts to local, county, and state facilities
- Impacts to school facilities
- Impacts to water quality
- Impacts to air quality

The discussion of environmental effects, mitigation measures, and alternatives, as summarized in Table 2-1 (Summary of Environmental Effects and Project Requirements/Mitigation Measures), and evaluated in detail in this EIR, constitutes the identification of issues to be resolved and areas of controversy, as required for compliance with Section 15123(b)(2) of the CEQA Guidelines.

1.7 DOCUMENT ORGANIZATION

This EIR has been designed for easy use and reference. To help the reader locate information of particular interest, a brief summary of the contents of each section of the EIR is provided. References are contained at the end of each respective chapter. The following chapters are contained within the EIR:

- **Chapter 1: Introduction**—This chapter describes the purpose, approach, intended use, and scope of the EIR, a summary of the environmental and public review process, agencies relevant to the proposed project, the availability of the EIR, documents incorporated by reference, and a brief outline of this document’s organization.
- **Chapter 2: Executive Summary**—This chapter contains a summary of the proposed project, as well as a summary of environmental impacts, proposed mitigation, level of significance after mitigation, and unavoidable impacts.
- **Chapter 3: Project Description**—This chapter provides a detailed description of the Specific Plan, including a description of the project location, environmental setting and regulations, project background, project objectives, and project characteristics.
- **Chapter 4: Environmental Analysis**—This chapter describes and evaluates the environmental issue areas, applicable environmental thresholds, environmental impacts (both short-term and long-term), policy considerations related to the particular environmental issue area under analysis, mitigation measures capable of minimizing environmental harm, and a discussion of cumulative impacts. Where additional actions must be taken to ensure consistency with environmental policies, recommendations are made, as appropriate.
- **Chapter 5: Other CEQA Considerations**—This chapter provides analysis, as required by CEQA, regarding impacts that would result from the Specific Plan, including effects found not to be significant, growth-inducing impacts, significant irreversible change to the environment, and significant and unavoidable impacts.
- **Chapter 6: Project Alternatives**—This chapter analyzes feasible alternatives to the Specific Plan, including No Project/No Build, No Project/Reasonably Foreseeable Development (Continuation of Existing Specific Plan), and a Reduced Project Alternative.
- **Chapter 7: Report Preparers**—This chapter identifies all individuals responsible for the preparation of this EIR.

2.1 PURPOSE OF THE SUMMARY

This section summarizes the characteristics of the proposed Laguna Niguel Gateway Specific Plan Update (Specific Plan or proposed project), the environmental impacts, mitigation measures, and residual impacts with the proposed project.

2.2 INTRODUCTION

This PEIR is intended to provide decision-makers and the public with information that enables them to intelligently consider the environmental consequences of the proposed action. This Program environmental impact report (PEIR) identifies significant or potentially significant environmental effects, as well as ways in which those impacts can be reduced to less-than-significant levels, through the imposition of mitigation measures (MMs), or through the implementation of alternatives to the project.

2.3 SUMMARY OF PROPOSED PROJECT

The proposed Specific Plan update would replace the current Laguna Niguel Gateway Specific Plan adopted in June 1999. The Specific Plan includes a General Plan Amendment (GPA 11-01), as the proposed project would result in changes to land use and development intensity. A Zone Change (ZC 11-01) would also be required to update the City's Zoning Map and to consider the amended Specific Plan document.

The approximately 315-acre Specific Plan area is geographically located entirely within the City of Laguna Niguel. The Specific Plan area is located in the northeastern corner of the City and is bounded by the Interstate 5 (I-5) Freeway to the east and the State Route 73 (SR-73) toll road to the southwest. The Gateway area is currently developed with a variety of commercial services, light industrial, auto sales and services, retail and office uses. Currently, there is approximately 1,371,000 square feet (sf) of nonresidential development existing within the Specific Plan area, mostly constructed in the 1970s and 1980s. The adopted 1999 Gateway Specific Plan and General Plan Land Use Element allow up to 3,777,000 sf of nonresidential development.

The proposed project provides for the orderly and efficient development and revitalization of the project site (referred to as either the Specific Plan area or Gateway area in this PEIR) by allowing and guiding development of high-quality commercial, office, residential, and mixed-use projects, including transit- and pedestrian-oriented districts where people can live, work, shop, are entertained, and recreate. The Specific Plan establishes the overall policies, maps, densities, development standards, building form, and design guidelines that apply specifically to properties within the Gateway area. The Specific Plan also identifies various circulation and mobility, streetscape, open space, signage and infrastructure improvements that are envisioned to unify the project area and accommodate the anticipated development.

The proposed Specific Plan Update contemplates the addition of residential and mixed-use, pedestrian and transit-oriented development within the Specific Plan area. The proposed Specific Plan would accommodate a total of up to 2,994 residential dwelling units, 350 hotel rooms, and 2,259,931 sf of nonresidential uses.

2.4 CLASSIFICATION OF ENVIRONMENTAL IMPACTS

Under CEQA, a “significant impact” represents a substantial or potentially substantial adverse physical change to the environment. In evaluating specific effects, this PEIR identifies thresholds of significance for each effect, evaluates the potential environmental change associated with each effect, and then characterizes the effects as impacts in the following categories:

- **Less Than Significant**—Results in no substantial adverse change to existing environmental conditions
- **Potentially Significant**—Constitutes a substantial adverse change to existing environmental conditions that can be mitigated to less-than-significant levels by implementation of proposed potentially feasible mitigation measures or by the selection of an environmentally superior project alternative
- **Significant and Unavoidable**—Constitutes a substantial adverse change to existing environmental conditions that cannot be fully mitigated by implementation of all feasible mitigation measures.

2.5 SIGNIFICANT AND UNAVOIDABLE IMPACTS

The following significant and unavoidable impacts would result from future development of the proposed project. A detailed discussion of these impacts can be found in Section 4.2 (Air Quality), Section 4.10 (Noise), and Section 4.14 (Transportation/Traffic) of this document.

- **Air Quality**
 - > **Project Specific and Cumulative**—Operation and construction of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation in that AQMD thresholds would be exceeded for carbon monoxide (CO), mono-nitrogen oxides (NO_x), reactive organic gases (ROGs), and both respirable and fine particulate matter (PM₁₀ and PM_{2.5}, respectively)
 - > **Project Specific and Cumulative**—Operation and construction of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is designated as nonattainment under applicable federal or state ambient air quality standard for both PM₁₀ and PM_{2.5}.
 - > **Project Specific and Cumulative**—Operation of the proposed project could expose sensitive receptors, such as residential uses and daycare facilities, to substantial pollutant concentrations emitted from: vehicles traveling on the Interstate 5 freeway and the SR-73 toll road; trains traveling on the BNSF railroad, and, potential adjacent uses such as dry cleaners or gas stations.
- **Noise**
 - > **Project Specific**—Operation of the Amtrak, Metrolink, and freight rail line would potentially expose noise-sensitive land uses, primarily residential projects, located within the Specific Plan

area to noise levels that exceed the standards established by the City of Laguna Niguel General Plan and Noise Ordinance.

■ **Transportation/Traffic**

Implementation of the proposed project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

> **Project Specific**—One intersection would operate at less than acceptable levels of service (LOS):

- The intersection of Avery Parkway and Marguerite Parkway currently operates at LOS E and would continue to operate at LOS E (ICU methodology)

> **Cumulative**—Several intersections and roadway segments would operate at less than acceptable levels of service (LOS), including:

Four intersections using Intersection Capacity Utilization (ICU) methodology and threshold LOS D criteria, adopted by the Cities of both Laguna Niguel and Mission Viejo:

- Crown Valley Parkway and Marguerite Parkway (LOS F, with the project contributing approximately 8.0 percent of the total traffic at that intersection)
- Crown Valley Parkway and Los Altos (LOS E, with the project contributing approximately 12.8 percent of the total traffic at that intersection)
- Crown Valley Parkway and Medical Center Road (LOS E, with the project contributing approximately 13.0 percent of the total traffic at that intersection)
- Avery Parkway and Marguerite Parkway (LOS F, with the project contributing approximately 7.5 percent of the total traffic at that intersection)

Three intersections using the Highway Capacity Manual (HCM) delay-based methodology and Caltrans target LOS D criteria as requested by Caltrans for Caltrans facilities (all three intersections operate at acceptable LOS using ICU methodology):

- Avery Parkway and I-5 Southbound Ramps (LOS F)
- Crown Valley Parkway and I-5 Northbound Ramps (LOS E)
- Crown Valley Parkway and I-5 Southbound Ramps (LOS F)

Three roadway segments, using volume to capacity (v/c) ratio methodology and Congestion Management Program (CMP) threshold LOS E criteria:

- Crown Valley Parkway between the I-5 Northbound Ramps and Puerta Real (LOS F)
- Avery Parkway between Camino Capistrano and Marguerite Parkway (2 segments, LOS F)

And two Highway Segments, using density in passenger cars per mile per lane (pc/mi/ln) methodology and Caltrans target LOS D criteria as requested by Caltrans for Caltrans facilities:

- Northbound SR-73 on-ramp from Greenfield Drive (LOS E)
- Northbound SR-73, north of Greenfield Drive (LOS E)

> **Cumulative**—Implementation of the proposed project would conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion

management agency for designated roads or highways, including Crown Valley Parkway, in that the segment of Crown Valley Parkway between the I-5 northbound ramps and Puerta Real would operate at an LOS of F, where a minimum of LOS E is acceptable in the CMP .

2.6 ALTERNATIVES

As required by Section 15126.6(a) of the CEQA Guidelines and recent court cases, an EIR must:

Describe a range of reasonable 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.

Further, Section 15126.6(b) Guidelines state:

The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

Alternatives evaluated in this PEIR (Chapter 6) include the following:

- **No Project/No Build**—No further development would occur within the Specific Plan area. The current Specific Plan would not be built out.
- **No Project/Reasonably Foreseeable Development (Continuation of Existing Specific Plan)**—The adopted 1999 Specific Plan and General Plan Land Use Element allow up to 3,777,000 sf of nonresidential development. Under this Alternative, development on the project site would occur under the existing Specific Plan and zoning designations. This Alternative allows the decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.
- **Reduced Project Alternative**—The maximum allowable future development would be reduced by approximately 50 percent (excluding the Costco and the Metrolink Station parking) to a maximum of 1,216 residential units and 489,295 sf of nonresidential uses. This Alternative was chosen for further analysis because it reduces the project size, and thus its impacts, while still potentially achieving most of the project objectives.

2.7 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Pursuant to CEQA Guidelines Section 15123(b)(1), Table 2-1 contains the following: a summary of less-than-significant, potentially significant, or significant and unavoidable environmental impacts associated with the proposed project; mitigation measures that would reduce or avoid those effects; and the level of significance of the impacts following the implementation of mitigation measures.

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
AESTHETICS			
Impact 4.1-1 Implementation of the proposed project would not have an adverse effect on a scenic vista. This impact is considered <i>less than significant</i> .	LTS	No mitigation required.	LTS
Impact 4.1-2 Implementation of the proposed project would not degrade the visual character or quality of the site but could result in shade/shadow impacts on nearby light-sensitive uses. However, with implementation of mitigation measures, this impact is considered <i>less than significant</i> .	LTS	MM4.1-1 For projects that may result in a potential shade/shadow impact on nearby light-sensitive uses, as determined by the Director of Community Development, the following mitigation measure shall be implemented: Prior to project approval by the decision-making authority, the Applicant shall be required to perform a shade and shadow analysis that demonstrates that the project will not result in significant impacts according to the following criteria. Shadowing impacts in the Specific Plan boundary are considered significant when shadows would be cast upon potentially sensitive uses during a substantial portion (typically greater than 50 percent) of the main daylight hours (9:00 AM to 3:00 PM during the fall, winter, and spring seasons, and 9:00 AM to 5:00 PM [daylight savings time] during the summer season). Light-sensitive uses are those that depend upon light for their operation (e.g., solar panels) or for which solar access is essential for their function (e.g., swimming pools). Light-sensitive uses also include public parks and routinely used outdoor spaces associated with residences and schools (e.g., yards and playgrounds).	LTS
Impact 4.1-3 Implementation of the proposed project would introduce new sources of light and glare into the project vicinity that could adversely affect day or nighttime views in the area. However, with implementation of mitigation measures, this impact is considered <i>less than significant</i> .	LTS	MM4.1-2 Proposed new structures shall be designed to maximize the use of nonreflective façade treatments, such as matte paint or glass coatings. Prior to project approval by the decision-making authority, the Applicant shall indicate provision of these materials on the project plans.	LTS
AIR QUALITY			
Impact 4.2-1 Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.2-2 Implementation of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant	PS	MM4.2-1 Name and phone number of the contractor's superintendent hired by the Applicant shall be submitted to the Community Development and Public Works Departments. In addition, clearly visible signs shall be posted on the perimeter of the site indicating who shall be contacted for information regarding this development and any construction/grading-related concerns. This contact person shall be available immediately to address any	SU

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
<p>level. Therefore, this would be a <i>significant and unavoidable</i> impact.</p>		<p>concerns or issues raised by adjacent property owners during the construction activity. S/he will be responsible for ensuring compliance with the conditions herein, specifically, grading activities, truck routes, construction hours, noise, etc. Signs shall include the Applicant's contact number regarding grading and construction activities, and "1-800-CUTSMOG" in the event there are concerns regarding fugitive dust and compliance with SCAQMD Rule No. 403.</p> <p>MM4.2-2 Wind barriers shall be installed along the perimeter of the site and/or around areas being graded.</p> <p>MM4.2-3 Project Applicant shall establish an on-site construction equipment staging area and construction worker parking, located on either paved surfaces or unpaved surfaces subjected to soil stabilization treatments, as close as possible to a public roadway.</p> <p>MM4.2-4 Project Applicant shall control access to the public by limiting curb cuts/driveways to minimize project construction impacts upon roadway traffic operations;</p> <p>MM4.2-5 Project Applicant shall properly maintain nonvehicular equipment engines to minimize the volume of exhaust emissions;</p> <p>MM4.2-6 Project Applicant shall use electricity from power poles, rather than temporary diesel or gasoline powered generators, as feasible;</p> <p>MM4.2-7 Project Applicant shall use on-site mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible;</p> <p>MM4.2-8 Project Applicant shall pave all construction roads as feasible; and</p> <p>MM4.2-9 Project Applicant shall provide ridesharing or shuttle service for construction workers, as feasible.</p> <p>MM4.2-10 Project Applicant shall ensure that all architectural coating (paint and primer) products applied during construction have a low to no VOC rating.</p> <p>MM4.2-11 Electrical outlets shall be included in the building design of all loading docks to allow use by refrigerated delivery trucks. The Project Applicant shall require that no trucks idle for more than five minutes. Refrigerated delivery trucks shall use the electrical outlets to continue powering the truck refrigeration units.</p> <p>MM4.2-12 All multi-family residential and nonresidential facilities shall ensure that current transit schedules are available in common areas for the use of employees and residents.</p> <p>MM4.2-13 All retail facilities in excess of 100 employees shall provide preferential vanpool/carpool employee parking.</p> <p>MM4.2-14 Project Applicant shall promote trip reduction through commuter-choice programs,</p>	

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		<p>employer transportation management, guaranteed ride home programs, and commuter assistance and outreach type programs intended to reduce commuter vehicle miles traveled. Employers with more than 100 employees shall establish a trip reduction plan to include annual employee commute surveys, marketing of commute alternatives, ride matching assistance, and transit information at a minimum, and implement secure bicycle parking, showers and lockers for employees who bike to work. Further this measure would encourage building management companies and smaller businesses located in close proximity to each other to cooperate in establishing joint trip reduction plans.</p> <p>MM4.2-15 The Project Applicant shall ensure that all new development is equipped with outdoor electrical outlets to accommodate landscaping equipment.</p> <p>MM4.2-16 Project Applicant shall ensure that maintenance requiring the reapplication of architectural coating (paint and primer) shall use products that have a low to no VOC rating.</p>	
<p>Impact 4.2-3 Implementation of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is nonattainment under applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a <i>significant and unavoidable</i> impact.</p>	PS	<p>MM4.2-11 through MM4.2-16 would also apply.</p>	SU
<p>Impact 4.2-4 Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a <i>significant and unavoidable</i> impact.</p>	PS	<p>MM4.2-17 Development of uses that would contain sensitive receptors within 500 feet of the I-5 and/or the SR-73, and the railway shall incorporate tiered planting of vegetation, as deemed feasible and appropriate by the decision-making authority, adjacent to the TAC source in order to reduce toxic exposure. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency.</p> <p>MM4.2-18 Mixed-use or residential development within 500 feet of the I-5 and/or the SR-73 and the existing railway shall implement sealed HVAC systems for all multi-family development. The sealed air system shall be designed so that all ambient air introduced into the interior living space would be filtered to remove DPM and other particulate matter at minimum of up to 75 percent of particulates of 0.3 micron or larger in size from the ambient air that is introduced to the system, and 90 percent of particulates of 1 micron or larger (NAFA 1999).</p>	SU

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		<p>MM4.2-19</p> <p>a. All new industrial and commercial development projects that have the potential to emit TACs shall be required to be located an adequate distance from existing and proposed development used by sensitive receptors, unless a project-specific evaluation of human health risks is conducted and the results of the evaluation determine that no significant impact would occur, to the satisfaction of the City's decision-making authority. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency. The determination of development projects that have the potential for TAC emissions and adequate distances from sensitive receptors are identified in the California ARB's "Air Quality and Land Use Handbook—A Community Health Perspective (April 2005; California ARB Guidance).</p> <p>b. Development projects within the Laguna Niguel Gateway Specific Plan with the potential to emit TAC shall consult with the SCAQMD to identify TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.</p> <p>MM4.2-20 Prior to project approval by the City's decision-making authority, applicants for proposed new development with sensitive receptors shall conduct an evaluation of human health risks to identify and reduce any potential health risks from TAC sources within the California ARB buffer zones, to the extent deemed feasible and appropriate by the City's decision-making authority. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency.</p>	
<p>Impact 4.2-5 Implementation of the proposed project could create objectionable odors affecting a substantial number of people. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a <i>less-than-significant</i> level.</p>	<p>PS</p>	<p>MM4.2-21 Locate potential odor sources predominantly downwind from existing sensitive receptors and potential sensitive receptors predominantly upwind from existing odor sources;</p> <p>MM4.2-22 Maintain an adequate buffer between potential odor sources and receptors such that emitted odors are dissipated before reaching the receptors (minimum of 500 feet depending on odor source); and</p> <p>MM4.2-23 Design odor emitting source facilities such that odor emitters are located as far from potential receptors as possible and stack heights are balanced to provide the maximum dispersion of odor between the stack and the nearest sensitive receptor.</p>	<p>LTS</p>
BIOLOGICAL RESOURCES			
<p>Impact 4.3-1 Implementation of the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a</p>	<p>PS</p>	<p>MM4.3-1 <i>Project-Level Biological Resource Surveys.</i> During the design phase and prior to project approval by the decision-making authority, for projects on undeveloped land, or developed land immediately adjacent to potential habitat within the Specific Plan area,</p>	<p>LTS</p>

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

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Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
<p>candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. This would be a potentially significant impact. Implementation of mitigation measures MM4.3-1 through MM4.3-4 would reduce this impact to a <i>less-than-significant</i> level.</p>		<p>including Oso Creek or undeveloped hillside areas, the project applicant will retain a qualified biologist as determined appropriate and as approved by the City, to conduct project-level biological resources surveys and prepare biological resources technical reports.</p> <p>Where future development projects have the potential to impacts special-status species and/or reduce or eliminate sensitive habitat, including but not limited to those special-status species and sensitive natural communities listed in Table 4.3-1 through Table 4.3-3, the project applicant shall conduct biological resources surveys of the project areas to characterize the extent and quality of habitat that would be impacted by project development. Surveys shall be conducted in accordance with current USFWS, CDFG, and CNPS survey protocols for the target species by qualified biologists. If no special-status species are determined to have the potential to occur, and the regulatory agencies agree with those findings, then no further mitigation will be required for special-status species. Similarly, if no sensitive habitats are determined to be present, and the regulatory agencies agree with those findings, then no further mitigation will be required.</p> <p>If the project-level surveys and reporting determine that special-status species could occur within the future project sites and/or could be adversely affected as a result of future project implementation, the appropriate presence/absence and protocol-level surveys will be conducted. The project applicant will retain a qualified biologist to conduct rare plant surveys for future projects determined to have the potential to affect special-status plant species. Further, the project applicant will retain a qualified biologist to conduct protocol-level surveys for future projects determined to have the potential to affect special-status wildlife species. Surveys will follow protocols and guidelines approved by the USFWS, CDFG, and CNPS, and will be conducted by qualified biologists permitted by the USFWS and/or CDFG, where applicable.</p> <p>MM4.3-2 Special-Status Species and Sensitive Habitat Mitigation. If sensitive species or habitats are documented on a specific site the following process shall be followed. The applicant has two options: (1) the applicant can obtain suitable replacement habitat and dedicate that property to the conservation and protection of sensitive species in perpetuity, or (2) the applicant can satisfy the requirements of the federal ESA and CESA under the consultation and permitting provisions of these regulations. In both of these options, the applicant shall first consult with the appropriate resource agency (CDFG and/or USFWS) and establish a mitigation plan for the specific species or habitat. Appropriate mitigation shall be identified in a mitigation plan prepared by the applicant. Mitigation can include, but not be limited to avoidance of sensitive species or habitat, on-site retention of habitat or compensatory habitat replacement. In this mitigation plan the applicant shall demonstrate capacity for funding appropriate mitigation and the mitigation must be legally assured.</p>	

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Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		<p>Habitat acquisition and set-asides shall occur in areas with long-term conservation potential. Any mitigation proposed shall be approved by the City and appropriate resource agency prior to implementation.</p> <p>MM4.3-3 Avoidance of Nesting Raptors. To prevent impacts to nesting raptors protected under the MBTA and CFG Code, the project applicant will implement the following for all future projects resulting in the removal or trimming of vegetation or other habitat that is suitable for nesting birds:</p> <p>If future project construction cannot avoid the raptor nesting season (January 15 through July 31), the project applicant will retain a qualified biologist as approved by the City to conduct a pre-construction survey for nesting raptors prior to clearing, grading and/or construction activities on the project site. The survey will be conducted within 72 hours prior to the start of construction. A copy of the pre-construction survey shall be submitted to the City of Laguna Niguel.</p> <p>If any nesting raptors are present within or immediately adjacent to the proposed project construction area, the following will be required, as approved by the USFWS and/or CDFG:</p> <ol style="list-style-type: none"> a. The project applicant will retain a qualified biologist to flag and demarcate the location of all nesting raptors and monitor construction activities. Temporary avoidance of active raptor nests, including the enforcement of an avoidance buffer of 500 feet will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the raptor surveys and any follow-up monitoring, as necessary, will be provided to USFWS and CDFG within 10 days of completing the final survey or monitoring event. b. In the unlikely event that a California fully protected species (e.g., white-tailed kite) is found to be nesting on the project site, all work in the area will stop and the project applicant will notify the CDFG and/or USFWS. No impacts will be permitted to occur to fully protected species. <p>MM4.3-4 Avoidance of Nesting Birds. To prevent impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code), the project applicant will implement the following for all future projects resulting in the removal or trimming of vegetation or other habitat that is suitable for nesting birds:</p> <p>If construction of future projects on or within 250 feet of tree and shrub vegetation suitable for nesting birds cannot avoid the general nesting season (February 1 through August 31), the project applicant will retain a qualified biologist to conduct a pre-construction survey for nesting birds prior to clearing, grading and/or construction activities on the project site. The</p>	

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		<p>survey will be conducted within 72 hours prior to the start of construction. A copy of the pre-construction survey shall be submitted to the City of Laguna Niguel.</p> <p>If any nesting birds are present within or immediately adjacent to the proposed project construction area, the following will be required, as approved by the USFWS and/or CDFG:</p> <ol style="list-style-type: none"> a. The project applicant will retain a qualified biologist to flag and demarcate the location of all nesting birds and monitor construction activities. Temporary avoidance of active bird nests, including the enforcement of an avoidance buffer of 25 to 250 feet, as determined by the qualified biological monitor, will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the nesting bird surveys and any follow-up monitoring, as necessary, will be provided to USFWS and CDFG within 10 days of completing the final survey or monitoring event. 	
<p>Impact 4.3-2 Implementation of the proposed project could have a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. This would be a potentially significant impact. Implementation of mitigation measures MM4.3-1 and MM4.3-2 would reduce this impact to a <i>less-than-significant</i> level.</p>	PS	<p>MM4.3-1 and MM4.3-2 would also apply.</p>	LTS
<p>Impact 4.3-3 Implementation of the proposed project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. This would be a potentially significant impact. Implementation of mitigation MM4.3-5 and MM4.3-6 would reduce this impact to a <i>less-than-significant</i> level.</p>	PS	<p>MM4.3-1 and MM4.3-2 would also apply.</p> <p>MM4.3-5 Jurisdictional Wetland Delineations. During the design phase and prior to the construction of future projects determined to affect potential jurisdictional resources associated with Oso Creek, the Galivan Basin, or their tributaries, the project applicant will retain a qualified biologist to conduct jurisdictional wetland delineations and prepare jurisdictional delineation reports. Wetland delineations will be conducted according to the methodologies and current regulatory guidance recommended by the USACE, RWQCB, and CDFG. The results of wetland delineations will be verified by the USACE during or prior to the permitting proposed below within mitigation measure MM4.3-6.</p> <p>MM4.3-6 Wetland Permits. Prior to construction of any future project that would result in potential impacts to jurisdictional waters and wetlands identified through implementation of mitigation measure MM4.3-5, the project applicant will obtain the required permits from the USACE, RWQCB, and CDFG, as specified below:</p> <ul style="list-style-type: none"> ■ An application for a Nationwide or Individual Permit, depending upon the extent of 	LTS

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Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		<p>impacts, will be submitted by the project applicant to the USACE pursuant to Section 404 of the CWA. If required and prior to the issuance of a grading permit, the project applicant will obtain a Nationwide or Individual Permit from the USACE for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as waters of the U.S. subject to USACE jurisdiction.</p> <ul style="list-style-type: none"> ■ A Request for Water Quality Certification will be submitted by the project applicant to the RWQCB pursuant to Section 401 of the CWA. If required and prior to the issuance of a grading permit, the project applicant will obtain a Water Quality Certification from the RWQCB for discharges into waters of the state subject to RWQCB jurisdiction. ■ A Notification of Lake or Streambed Alteration will be submitted by the project applicant to the CDFG pursuant to CFG Code Section 1602. If required, a Streambed Alteration Agreement will be obtained from the CDFG for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as streambed and/or riparian subject to CDFG jurisdiction. 	
<p>Impact 4.3-4 Implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy. This would be a <i>less-than-significant</i> impact.</p>	LTS	No mitigation required.	LTS
CULTURAL RESOURCES			
<p>Impact 4.4-1 Implementation of the proposed project would/could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a <i>less-than-significant</i> level.</p>	PS	<p>MM4.4-1(a) Prior to any earth-disturbing activities (e.g., excavation, trenching, grading) that could encounter previously undisturbed soils, the project applicant shall retain a City approved archaeologist to determine if the project could result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. The results of the investigation shall be documented in a technical report or memorandum that identifies and evaluates any archaeological resources within the development area and includes recommendations and methods for avoiding impacts on archaeological resources or reducing impacts to a less-than-significant level. The technical report or memorandum shall be submitted to the City of Laguna Niguel for approval. The project applicant shall be responsible for implementing methods for avoiding or reducing impacts on archaeological resources identified in the technical report or memorandum. Projects that would not encounter undisturbed soils and would therefore not be required to retain an archaeologist shall demonstrate non-disturbance to the City through the appropriate construction plans or geotechnical studies prior to any earth-disturbing activities. Projects that would include any earth disturbance (disturbed or undisturbed soils) shall</p>	LTS

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		<p>comply with MM4.4-2(b).</p> <p>MM4.4-1(b) If evidence of an archaeological site or other suspected historical resource as defined by CEQA Guidelines Section 15064.5, are discovered during any project-related earth-disturbing activities (including projects that would not encounter undisturbed soils), all earth-disturbing activity within 100 feet of the find shall be halted and the City of Laguna Niguel shall be notified. The project applicant shall retain a City approved archaeologist to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through methods determined adequate by the archaeologist as approved by the Community Development Director.</p>	
<p>Impact 4.4-2 Implementation of the proposed project would/could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a <i>less-than-significant</i> level.</p>	<p>PS</p>	<p>MM4.4-2(a) Prior to any earth-disturbing activities (e.g., excavation, trenching, grading) that could encounter undisturbed soils, the project applicant shall retain a professional paleontologist to determine if the project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The results of the investigation shall be documented in a technical report or memorandum that identifies the paleontological sensitivity of the development area and includes recommendations and methods for avoiding or reducing impacts to a less-than-significant level for paleontological resources or unique geologic features. The technical report or memorandum shall be submitted to the City for approval. The project applicant shall be responsible for implementing methods for avoiding or reducing impacts on paleontological resources or unique geologic features identified in the technical report or memorandum. Projects that would not encounter undisturbed soils and would therefore not be required to retain a paleontologist shall demonstrate non-disturbance to the City through the appropriate construction plans or geotechnical studies prior to any earth-disturbing activities. Projects that would include any earth disturbance (disturbed or undisturbed soils) shall comply with MM4.4-2(b).</p> <p>MM4.4-2(b) Should paleontological resources (i.e., fossil remains) be identified at a particular site during project construction, the construction foreman shall cease construction within 100 feet of the find and the City of Laguna Niguel shall be notified. The project applicant shall retain a City approved paleontologist to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through methods determined adequate by the paleontologist, and as approved by the Community Development Director.</p> <p>In considering any suggested mitigation proposed by the consulting paleontologist, the City of Laguna Niguel staff shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, applicable regulations, policies and land use assumptions, and other considerations. If avoidance is unnecessary or</p>	<p>LTS</p>

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		infeasible, other appropriate measures (e.g., monitoring and/or data recovery) shall be instituted.	
Impact 4.4-3 Implementation of the proposed project would/could disturb any human remains, including those interred outside of formal cemeteries. This would be a potentially significant impact. Compliance with standard regulations would render this impact <i>less-than-significant</i> .	PS	No mitigation required.	LTS
GEOLOGY/SOILS			
Impact 4.5-1 Future development under the proposed project could expose people and/or structures to potentially substantial adverse effects, including the risk of loss, injury, or death, strong seismic groundshaking and/or seismic-related ground failure, including liquefaction. Although seismic groundshaking would occur during major earthquakes, with compliance with applicable state and City regulations, this impact is considered <i>less than significant</i> .	LTS	No mitigation required.	LTS
Impact 4.5-2 Future development under the proposed project could expose people or structures to risk of loss, injury, or death involving landslides. However, with compliance with soil stability standards required by the City of Laguna Niguel Grading and Excavation Code, this impact is considered <i>less than significant</i> .	LTS	No mitigation required.	LTS
Impact 4.5-3 Construction and operation of future development under the proposed project could result in substantial soil erosion, loss of top soil, changes in topography or unstable soil conditions. However, with compliance with slope stability, soil stability, and seismic-resistant design standards required by the 2010 CBC and The City of Laguna Niguel's Grading and Excavation Code, this impact is considered <i>less than significant</i> .	LTS	No mitigation required.	LTS

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<p>Impact 4.5-4 A portion of the Specific Plan area would be located on subsidence-prone and potentially liquefiable soils. However, with compliance with slope and soil stability standards required by the City of Laguna Niguel General Plan, Building Code, and Grading and Excavation Code, and implementation of code requirements and mitigation measures, this impact is considered <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.5-5 Future development in the Specific Plan area could be located on expansive soil. However, with compliance with soil stability standards required by the 2010 CBC and the City of Laguna Niguel's Grading and Excavation Code, this impact is considered <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS
GREENHOUSE GAS EMISSIONS			
<p>Impact 4.6-1 Implementation of the Laguna Niguel Gateway Specific Plan would have the potential to contribute substantial emissions of greenhouse gases. With the incorporation of mitigation, impacts from the project would be <i>less than significant</i>.</p>	PS	<p>MM4.2-11 through MM4.2-17 would also apply.</p> <p>MM4.6-1 Each project constructed under the Specific Plan will be required to comply with specific efficiency and reduction goals as provided for in the 2010 Green Building Code (Title 24, Part 11), and as may be amended, including the following:</p> <ul style="list-style-type: none"> ■ Project Applicant shall ensure that all residential and commercial developments increase electrical energy efficiency by 15 percent beyond 2008 standards. ■ Project Applicant shall ensure that all residential and commercial developments increase natural gas efficiency by 15 percent beyond 2008 standards. ■ Project Applicant shall ensure that all residential and commercial development reduce indoor water consumption beyond business-as-usual by a minimum of 20 percent. ■ Project Applicants shall ensure that all construction projects divert 50 percent of all construction debris from landfills. In addition, for projects that require demolition the project shall re-use at least 50 percent of the salvageable materials in the existing buildings on-site. This can take the form of re-use of entire structures, re-use or repurposing of significant elements, such as beams or trusses, and recycling materials within the new project such as grinding paving and asphalt for use as base material at the project site. 	LTS

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Impact 4.6-2 Project emission of greenhouse gases would have the potential to conflict with the implementation of AB 32 and SB 375. With the incorporation of mitigation impacts from the revised project will be <i>less than significant</i> .	PS	MM4.2-11 through MM4.2-17 and MM4.6-1 would also apply.	LTS
HAZARDS AND HAZARDOUS MATERIALS			
Impact 4.7-1 Implementation of the Specific Plan could involve the routine use, transport, and disposal of hazardous materials, but no significant hazard to the public or the environment would occur. Compliance with local, state, and federal regulations would ensure that this impact would remain <i>less than significant</i> .	LTS	No mitigation required.	LTS
Impact 4.7-2 Implementation of the Specific Plan could create a potential significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. However, with compliance with existing regulations and implementation of mitigation measures MM4.7-1 and MM4.7-2, this impact is considered <i>less than significant</i> .	PS	MM4.7-1 Prior to the issuance of grading permits on any project site, the site developer(s) shall: <ul style="list-style-type: none"> ■ Investigate the project site to determine whether it or immediately adjacent areas have a record of hazardous material contamination via the preparation of a preliminary environmental site assessment (ESA), which shall be submitted to the City for review. If contamination is found the report shall characterize the site according to the nature and extent of contamination that is present before development activities precede at that site. ■ If contamination is determined to be on site, the City, in accordance with appropriate regulatory agencies, such as OCFA, County Division of Public Health Services, or County Division of Waste and Recycling, shall determine the need for further investigation and/or remediation of the soils conditions on the contaminated site. If further investigation or remediation is required, it shall be the responsibility of the site developer(s) to complete such investigation and/or remediation prior to construction of the project. ■ If remediation is required as identified by the local oversight agency, it shall be accomplished in a manner that reduces risk to below applicable standards and shall be completed prior to issuance of any occupancy permits. ■ Closure reports or other reports acceptable to the appropriate regulatory agencies, such as OCFA, County Division of Public Health Services, or County Division of Waste and Recycling, that document the successful completion of required remediation activities, if any, for contaminated soils shall be submitted and approved by the appropriate 	LTS

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		<p>regulatory agencies prior to the issuance of grading permits for site development. No construction shall occur in the affected area until reports have been accepted by the City.</p> <p>MM4.7-2 In the event that previously unknown or unidentified soil and/or groundwater contamination that could present a threat to human health or the environment is encountered during construction of the proposed project, construction activities in the immediate vicinity of the contamination shall cease immediately. If contamination is encountered, a Risk Management Plan shall be prepared and implemented that (1) identifies the contaminants of concern and the potential risk each contaminant would pose to human health and the environment during construction and post-development and (2) describes measures to be taken to protect workers, and the public from exposure to potential site hazards. Such measures could include a range of options, including, but not limited to, physical site controls during construction, remediation, long-term monitoring, post-development maintenance or access limitations, or some combination thereof. Depending on the nature of contamination, if any, appropriate agencies shall be notified (e.g., OCFA). If needed, a Site Health and Safety Plan that meets Occupational Safety and Health Administration requirements shall be prepared and in place prior to commencement of work in any contaminated area.</p>	
<p>Impact 4.7-3 Implementation of the proposed project could result in the handling of acutely hazardous materials, substances, or waste within ¼ mile of a proposed school, but would not create a risk to human health from such activities. With compliance with existing regulations, this impact is considered <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.7-4 Individual sites within the Specific Plan area are included on a list of hazardous materials sites and as a result could create a significant hazard to the public or environment. However, with implementation of mitigation measures, this impact is considered <i>less than significant</i>.</p>	PS	MM4.7-1 and MM4.7-2 would also apply.	LTS
<p>Impact 4.7-5 Implementation of the Specific Plan could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. However, with implementation of mitigation measure MM4.7-3 this impact is considered <i>less than significant</i>.</p>	PS	MM4.7-3 To ensure adequate access for emergency vehicles when construction activities would result in temporary lane or roadway closures, the developer shall consult with the City of Laguna Niguel Public Works Department, and Orange County Fire Authority and Sheriff's Department, as deemed necessary by the Public Works Director, to disclose temporary lane or roadway closures and alternative travel routes. The developer shall be required to keep a minimum of one lane in each direction free from encumbrances at all times on perimeter	LTS

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		streets accessing the project site. At any time only a single lane is available, the developer shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls, as deemed appropriate by the Public Works Director, to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the developer shall designate proper detour routes and signage indicating alternative routes, to the satisfaction of the Public Works Director.	
Impact 4.7-6 Implementation of the Specific Plan could expose people or structures to the risk of loss, injury, or death involving wildland fires; however, with compliance with applicable federal, state, and local regulations governing hazardous materials, the potential risks associated with wildland fire would be <i>less than significant</i> .	LTS	No mitigation required.	LTS
HYDROLOGY/WATER QUALITY			
Impact 4.8-1 Implementation of the Specific Plan could substantially alter the existing drainage pattern of the area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. This would be a <i>less-than-significant</i> impact with mitigation.	PS	<p>MM4.8-1 Prior to receiving a grading permit, the Project Applicant shall submit a Hydrology Study, to be reviewed and approved by the Community Development Department that documents:</p> <ul style="list-style-type: none"> ■ Drainage patterns would not be altered such that there is a reduction in the time of concentration¹ at the project site off-site outlet(s); OR, if new impervious surfaces would be created and/or time of concentration could be reduced by drainage characteristics modification, the Drainage Plan shall demonstrate through calculations, modeling, and BMPs that: <ul style="list-style-type: none"> > Stormwater runoff peak flows, flow volumes, and timing of peak flows for the 10- to 25-year storm event would not be different than existing conditions at the project site outlet, OR > The local storm drain system has adequate available capacity to convey stormwater runoff from the developed project site for up to the 25-year storm event at the project site outlet to the storm drain system discharge into Oso Creek (or Galivan Basin). ■ Existing stormwater drainage system capacity would be maintained throughout the project site and to the downstream outlet to Oso Creek (or Galivan Basin). ■ Adequate conveyance capacity during construction through the use of BMPs such as construction of storm drains during the dry season; bypass structures for sections being 	LTS

¹ Time of concentration refers to the amount of time it takes a raindrop falling on the top of the drainage area to reach the outlet.

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		<p>altered; detention devices; and, others as approved by the Community Development Department.</p> <ul style="list-style-type: none"> ■ Specific project requirements, if necessary, to ensure that stormwater peak flow rates, flow volumes, and timing of peak flow rates do not result in storm drain system conveyance capacity constraints for the 10-year to 25-year storm events. Project requirements shall be incorporated into the grading permit and grading and drainage plans. 	
<p>Impact 4.8-2 Implementation of the Specific Plan would place housing within a 100-year flood hazard area, but would not place structures in a 100-year flood hazards area that would impede or redirect flood flows, and would not result in a substantial risk to people or structures from flooding. Compliance with existing regulations, plans, and policies would ensure impacts are <i>less-than-significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.8-3 Implementation of the Specific Plan would not expose people or structures to substantial mudflow or flooding risks. Compliance with existing regulations, plans, and policies would ensure impacts are <i>less-than-significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.8-4 Implementation of the Specific Plan would not violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, substantially alter the existing drainage pattern of the area in a manner that would result in substantial erosion or siltation, or otherwise substantially degrade water quality. Compliance with existing regulations, plans, and policies would ensure impacts are <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.8-5 Implementation of the Specific Plan would not deplete or interfere with groundwater supplies or recharge. This would be a <i>less-than-significant</i> impact.</p>	LTS	No mitigation required.	LTS

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
LAND USE/PLANNING			
<p>Impact 4.9-1 Implementation of the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. This would be a <i>less-than-significant</i> impact.</p>	LTS	No mitigation required.	LTS
NOISE			
<p>Impact 4.10-1 Construction of the proposed project would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This is a potentially significant impact. Implementation of mitigation measures MM4.10-1 through MM4.10-4 and compliance with the City of Laguna Niguel Municipal Code would reduce this impact to <i>less-than-significant</i> levels.</p>	PS	<p>MM4.10-1 Prior to issuance of grading or building permits, the project applicant shall document on the grading and building plans the following construction best management practices (BMPs), to be implemented by contractors to reduce construction noise levels:</p> <ul style="list-style-type: none"> ■ Ensure that construction equipment is properly muffled according to industry standards and be in good working condition ■ Place noise-generating construction equipment and locate construction staging areas away from sensitive uses, where feasible ■ Schedule high noise-producing activities between the hours of 8:00 AM and 5:00 PM to minimize disruption on sensitive uses, Monday through Saturday ■ Implement noise attenuation measures, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources, where feasible ■ Use electric air compressors and similar power tools rather than diesel equipment, where feasible ■ Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes ■ Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party. <p>MM4.10-2 Prior to issuance of a grading permit, project applicants shall demonstrate/notate in the grading permit plans that construction staging areas along with the operation of</p>	LTS

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		<p>earthmoving equipment within the project area would be located as far away from vibration and noise sensitive sites as possible.</p> <p>MM4.10-3 Prior to issuance of a grading permit, project applicants shall demonstrate/notify in the grading permit plans that heavily loaded trucks used during construction would be routed away from residential streets.</p> <p>MM4.10-4 <i>Noise-reducing Pile Driving Techniques and Muffling Devices.</i> The Project Applicant shall require its construction contractor to use noise-reducing pile driving techniques if nearby structures are subject to pile driving noise and vibration. These techniques include pre-drilling pile holes (if feasible, based on soils) to the maximum feasible depth, installing state-of-the-art intake and exhaust mufflers on pile driving equipment, vibrating piles into place when feasible, and installing shrouds around the pile driving hammer where feasible. Pile driving activities shall be scheduled between the hours of 8:00 AM and 4:00 PM on Mondays through Fridays only.</p>	
<p>Impact 4.10-2 Operation of the proposed project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This would be a potentially significant impact. Implementation of mitigation measures MM4.10-5 and MM4.10-6 would reduce this impact to a <i>less-than-significant</i> level.</p>	PS	<p>MM4.10-5 Prior to installation, Project applicants shall demonstrate proper shielding for all new HVAC systems used by the proposed residential and mixed-use buildings to achieve a maximum noise level of approximately 50 dBA at 50 feet from the equipment.</p> <p>MM4.10-6 Prior to approval of a residential project by the City's decision-making authority, project applicants shall submit an acoustical study prepared by a certified acoustical engineer. Should the results of the acoustical study indicate that exterior (e.g., patios and balconies) and interior noise levels of residences would exceed the standards set forth in the Noise Ordinance of the City of Laguna Niguel Municipal Code Sections 6.6.5 through 6.6.6, the project applicant shall include design measures that may include acoustical paneling or walls to ensure that noise levels do not exceed City standards. Final project design shall incorporate special design measures in the construction of the residential units, if necessary.</p>	LTS
<p>Impact 4.10-3 Operation of the Amtrak, Metrolink, and freight rail line would potentially expose noise-sensitive land uses located within the Specific Plan area to noise levels that exceed the standards established by the City of Laguna Niguel General Plan and Noise Ordinance. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this is considered a <i>significant and unavoidable</i> impact.</p>	PS	<p>MM4.10-7 Each applicant for projects with residential units located within Planning Districts E or H shall provide a written statement to each residential unit and resident, notifying them of potential noise and vibration issues associated with the railroad tracks, including the following, with final form and content to be reviewed and approved by the Community Development Director and City Attorney:</p> <p><u>Notice of Disclosure</u></p> <p>Each owner's [or renter's] interest is subject to the fact that trains operate at different times of the day and night on the railway tracks immediately adjacent to a project site; and that by accepting the conveyance of an interest [or lease agreement] in that project, owner [or renter] accepts all impacts generated by the trains.</p>	SU

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		<p><u>Posting of Notice of Disclosure in Each Residential Unit</u></p> <p>Prior to offering the first residential unit for purchase, lease, or rent, the property owner or developer shall post a copy of the Notice of Disclosure in every unit in a conspicuous location. Also, a copy of the Notice of Disclosure shall be included in all materials distributed for the Project, including but not limited to: the prospectus, informational literature, and residential lease and rental agreements.</p>	
<p>Impact 4.10-4 Construction of the proposed project would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This is a potentially significant impact. Implementation of mitigation measures MM4.10-1 through MM4.10-4 and compliance with the City of Laguna Niguel Municipal Code would reduce this impact to <i>less-than-significant</i> levels.</p>	PS	<p>MM4.10-1 through MM4.10-4 would also apply.</p>	LTS
<p>Impact 4.10-5 Operation of the proposed project could result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This would be a potentially significant impact. Implementation of mitigation measure MM4.10-8 would ensure that vibration levels do not exceed 80 VdB at sensitive receptors. Therefore, this would be a <i>less-than-significant</i> impact.</p>	PS	<p>MM4.10-8 Prior to the submittal of a building permit application for residential development within 150 feet of the BNSF Railway right-of-way, project applicants shall obtain a qualified vibration consultant to complete a site-specific vibration assessment subject to approval by the Department of Community Development. The vibration assessment shall measure the vibration levels at the project site's property line within 150 feet of the BNSF right-of-way. If vibration levels exceed the FTA 80 VdB criteria for "infrequent" vibration events impacting a residential use (i.e., fewer than 30 vibration events from the same source per day, which is typical of most commuter rail vibration sources), the vibration assessment shall recommend measures to reduce vibration levels to 72 VdB or less. Examples of such measures that have been successfully used, separately or in combination, to avoid vibration impacts to other residential projects located near rail transit vibration sources include:</p> <ul style="list-style-type: none"> ■ Building Foundation Mats—the use of increased mass in the foundation of the building to increase the effective vibration reduction that occurs at the boundary between the soil and the building foundation structure. ■ Vibration Isolation—after provision of a break or gap in the structure between the first floor concrete slab and the top of the basement walls/columns, isolation would be achieved by placing rubber pads between the top of the basement walls/columns and the first floor structure. <p>Recommended vibration reduction measures provided by the site-specific assessment shall be incorporated into the design and construction of the proposed infill development project and their effectiveness shall be verified by vibration monitoring measurements after</p>	LTS

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		construction. The applicant shall provide the Department of Building and Safety documentation demonstrating compliance with this measure for review and approval once construction has been completed, but prior to occupancy of the building(s).	
Impact 4.10-6 Implementation of the proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.10-7 Construction of the proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. However, the project's construction noise impacts would be temporary, would not occur during recognized sleep hours, and would be consistent with the exemption for construction noise that exists in the Municipal Code. Implementation of mitigation measures MM4.10-1 through MM4.10-4 would also reduce this impact. Therefore, this would be a <i>less-than-significant</i> impact.	LTS	MM4.10-1 through MM4.10-4 would also apply.	LTS
Impact 4.10-8 Operation of the proposed project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
POPULATION/HOUSING			
Impact 4.11-1 Implementation of the proposed project would not induce substantial population growth, either directly or indirectly. This impact is considered <i>less than significant</i> .	LTS	No mitigation required.	LTS

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
PUBLIC SERVICES			
<p>Impact 4.12-1 Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered fire protection and emergency response facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response. This would be a potentially significant impact. Implementation of mitigation measure MM4.12-1 through MM4.12-2 would reduce this impact to a <i>less-than-significant</i> level.</p>	PS	<p>MM4.12-1 Prior to approval of any subdivision or site development permit for projects within the Specific Plan area, the applicant shall submit plans to OCFA for review. Project conditions recommended by OCFA should be incorporated in the project conditions of approval, where deemed appropriate by the Community Development Department to ensure compliance with applicable fire codes and OCFA guidelines.</p> <p>MM4.12-2 All traffic signals on public accessways should include the installation of optical preemption devices.</p>	LTS
<p>Impact 4.12-2 Implementation of the proposed project could result in the need for additional officers; however, the project is not anticipated to require new or physically altered police facilities in order to maintain acceptable service ratios. This impact is considered <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.12-3 The proposed project would result in additional students; however it is not anticipated to require new or physically altered facilities, the construction of which could cause significant environmental impacts. The payment of applicable Interim School Facilities Fees, as required by the City's Municipal Code, as residential development occurs would reduce this impact. As such, this impact is considered <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS
<p>Impact 4.12-4 Implementation of the proposed project would not result in the need for new or physically altered library facilities in order to maintain acceptable service ratios. This impact is considered <i>less than significant</i>.</p>	LTS	No mitigation required.	LTS

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
RECREATION			
<p>Impact 4.13-1 Implementation of the proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. This would be a potentially significant impact. Implementation of MM4.13-1 and compliance with the City's Local Park Code would reduce this impact to a <i>less-than-significant</i> level.</p>	PS	<p>MM4.13-1 Prior to issuance of grading or building permits for any project with residential rental units, the project applicant shall dedicate required parkland and/or pay a parkland in-lieu fee, in accordance with the amount-of-parkland and/or in-lieu fee provisions of LNMC Sections 9-1-500 through 9-1-512 and 9-1-521 through 9-1-530, as deemed appropriate by the decision-making authority for the project, and included as a project condition of approval.</p>	LTS
<p>Impact 4.13-2 Implementation of the proposed project would include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. This would be a potentially significant impact. Implementation of mitigation measures identified in Section 4.1 through Section 4.15 would reduce this impact to <i>less-than-significant</i> levels.</p>	PS	<p>Mitigation measures identified in Section 4.1 through Section 4.15 would also apply.</p>	LTS
TRANSPORTATION/TRAFFIC			
<p>Impact 4.14-1 Implementation of the proposed project would 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 nonmotorized 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. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a <i>significant and unavoidable</i> impact.</p>	PS	<p>MM4.14-1 Prior to project approval by the decision-making authority, the project applicant shall retain a qualified traffic engineer, as determined appropriate by the Community Development Director, to conduct a project-specific traffic impact analysis and prepare a technical traffic report, to include (but not be limited to) the following:</p> <ul style="list-style-type: none"> ■ Identification of and analysis of existing conditions within the project study area; assessment of both inbound and outbound project trip distribution; assessment of design features including access to the site as well as on-site circulation and parking features; access for emergency purposes; cumulative analysis with other approved projects in the vicinity, and; a level of analysis required to properly assess anticipated impacts. ■ Measures to mitigate any identified project impacts according to the traffic LOS standards prescribed in the City's General Plan Circulation Element, or as otherwise deemed appropriate by the City Council in accordance with the Goals and Policies of the General Plan Circulation Element. ■ Sufficient data and analysis to demonstrate compliance with the Gateway Specific Plan Development Entitlement Management System (DEMS), to the satisfaction of the 	SU

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
		Community Development and Public Works Departments. <ul style="list-style-type: none"> ■ Analysis of an appropriate fair-share contribution to Gateway area infrastructure improvements, including street widening, medians, sidewalks, trails, parkways, etc., as detailed in the Gateway Specific Plan (Chapters 3 and 6) and as determined appropriate by the decision-making authority. ■ Analysis of site dedication necessary for right-of-way purposes, consistent with the Specific Plan Circulation Plan (Chapter 3) and as determined appropriate by the decision-making authority. 	
Impact 4.14-2 Implementation of the proposed project would conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Because no feasible mitigation is available to reduce this impact to a less-than-significant level, this would be a <i>significant and unavoidable</i> impact.	PS	No feasible mitigation is available.	SU
Impact 4.14-3 Implementation of the proposed project would not result in inadequate emergency access. This would be a <i>less-than-significant</i> impact.	LTS	MM4.7-3 would also apply.	LTS
Impact 4.14-4 Implementation of the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks). Rather, the proposed project would facilitate implementation of such policies, plans, and programs. This would be a <i>beneficial</i> impact.	LTS	No mitigation required.	Beneficial Impact
UTILITIES/SERVICE SYSTEMS			
Impact 4.15-1 Implementation of the proposed project could require or result in the construction of new water treatment facilities or expansion of existing facilities, but the construction of which would not cause significant environmental effects. This would be a <i>less-than-significant</i> impact	LTS	No mitigation required.	LTS

Table 2-1 Summary of Environmental Effects and Project Requirements/Mitigation Measures

LTS = less than significant; PS = potentially significant; SU = significant and unavoidable

Impact(s)	Level of Significance Prior to Mitigation	Mitigation Measure(s) and/or Project Requirements	Level of Significance After Mitigation
Impact 4.15-2 Implementation of the proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.15-3 Implementation of the proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.15-4 Implementation of the proposed project would require additional wastewater to be treated, but would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. The proposed project would not result in inadequate capacity by wastewater treatment provider to serve the project's projected demand. This is a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.15-5 Implementation of the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.15-6 Implementation of the proposed project would comply with federal, state, and local statutes and regulations related to solid waste. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS
Impact 4.15-7 Implementation of the proposed project would not require or result in the construction of new energy production or transmission facilities, or expansion of existing facilities, the construction of which could cause a significant environmental impact. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required.	LTS

CHAPTER 3 Project Description

The proposed project includes General Plan Amendment (GPA 11-01) and a Zone Change (ZC 11-01) to accommodate the Laguna Niguel Gateway Specific Plan Update (Specific Plan or proposed project). The proposed project provides for the orderly and efficient development and revitalization of the project site (referred to as either the Specific Plan area or Gateway area in this PEIR) by allowing and guiding development of high-quality commercial, office, residential, and mixed-use projects, including transit- and pedestrian-oriented districts where people can live, work, shop, are entertained, and recreate. The Specific Plan establishes the overall policies, maps, densities, development standards, building form, and design guidelines that apply specifically to properties within the Gateway area. The Specific Plan also identifies various circulation and mobility, streetscape, open space, signage and infrastructure improvements that are envisioned to unify the project area and accommodate the anticipated development. The adopted 1999 Specific Plan and General Plan Land Use Element allowed up to 3,777,000 square feet (sf) of nonresidential development. The proposed Specific Plan would accommodate a total of up to 2,994 residential dwelling units and 2,259,931 sf of nonresidential uses. This chapter provides a detailed description of the proposed Specific Plan.

3.1 EXISTING GATEWAY AREA CHARACTERISTICS

3.1.1 Project Location

The Specific Plan area is located within the City of Laguna Niguel in south Orange County, California, and located approximately 50 miles south of downtown Los Angeles and 65 miles north of downtown San Diego. The City of Laguna Niguel is surrounded by the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Mission Viejo, and San Juan Capistrano. Laguna Niguel is a 14.72-square-mile planned community consisting of residential neighborhoods, parks, and supporting retail businesses in an attractive setting that has a distinct coastal orientation.

The 315-acre Specific Plan area is located in the northeastern corner of the City of Laguna Niguel with direct access available from the San Diego Freeway (Interstate 5 [I-5]) via Crown Valley Parkway and Avery Parkway. Indirect access to the Specific Plan area is available from the San Joaquin Hills Transportation Corridor (State Route 73 [SR-73]), a toll road via an interchange at Greenfield Drive near Crown Valley Parkway, approximately 1 mile west of the Specific Plan area. Figure 3-1 (Project Location and Regional Context) illustrates the project site's regional location and vicinity.

The linear Specific Plan area is almost 2 miles long and, excluding the steep hillside west of Cabot Road, is from 0.1 to 0.6 mile wide at its widest point at Crown Valley Parkway. The Gateway area is physically separated from the rest of the City by the SR-73, which serves as the western boundary of the Specific Plan area. The I-5 forms the eastern boundary of the Specific Plan area.

Crown Valley Parkway and Paseo de Colinas (Avery Parkway freeway exit) serve as the Specific Plan area's primary east/west thoroughfares. The Laguna Niguel/Mission Viejo Metrolink Station provides

commuter rail service to the Specific Plan area and surrounding communities. The Metrolink Station is located within the Gateway area at the south end of Forbes Road, with additional access from Camino Capistrano, north of Avery Parkway.

3.1.2 Existing Land Uses

The Gateway area is located within the planning boundaries of the Laguna Niguel Gateway Specific Plan adopted by City Council Resolution No. 99-547 on May 18, 1999, and Ordinance No. 99-111 on June 1, 1999.

The 315-acre Specific Plan area is currently developed with a variety of commercial service, light industrial, auto sales and service, retail, and office uses. There are no residential uses located within the Specific Plan area. Approximately 115 acres (37 percent) of the project site is classified as Open Space. Figure 3-2 (Existing Land Uses) depicts the existing land uses on each parcel within the Gateway area.

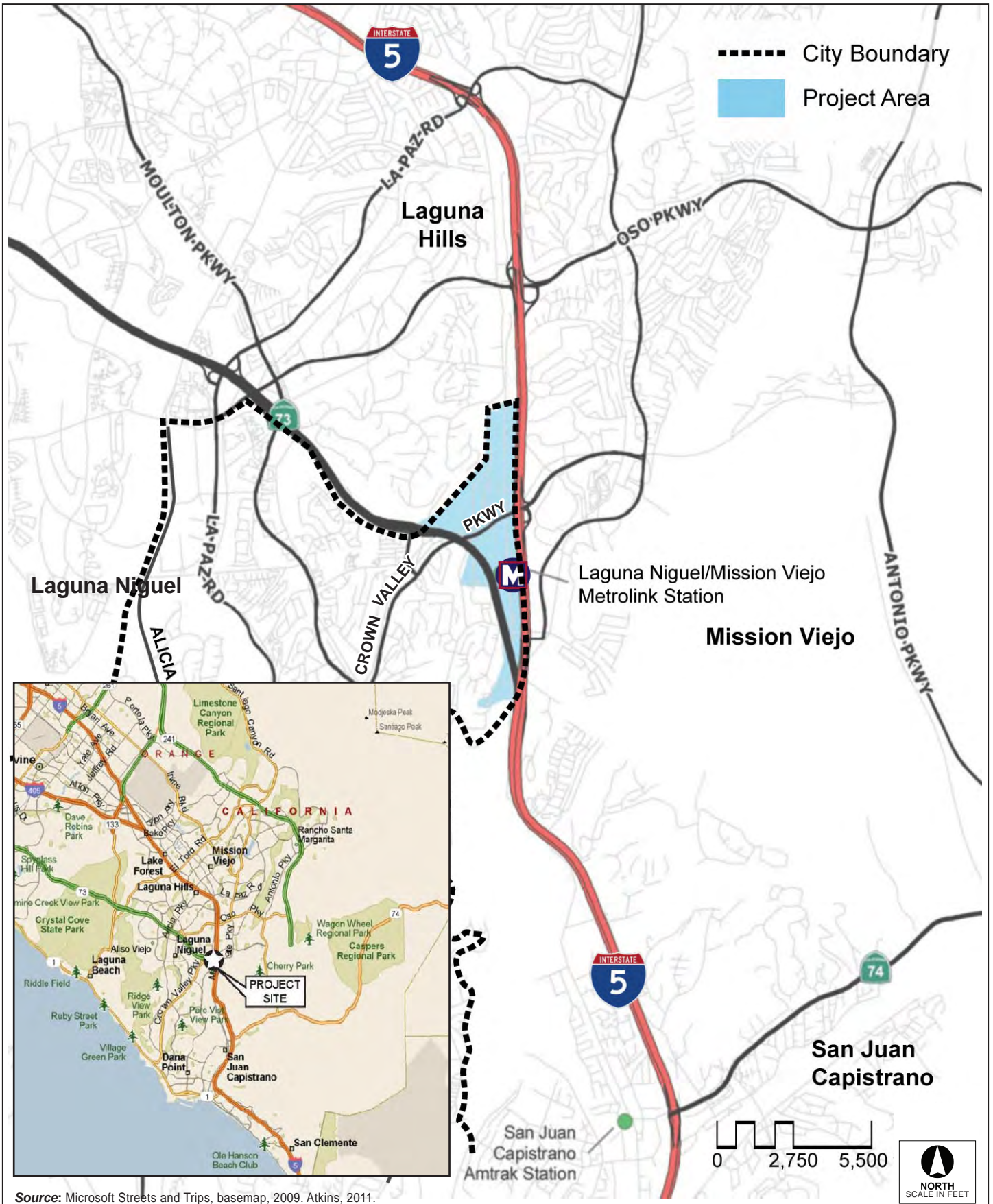
Currently, the Specific Plan area contains approximately 1,371,000 sf of nonresidential development (Laguna Niguel 2011). The primary land uses within the Specific Plan area are light manufacturing and auto sales, with approximately 174,544 sf of development dedicated auto sales on 17.78 acres of land, and 878,740 sf of light manufacturing located within the Specific Plan area. Office uses comprise approximately 173,900 sf, and retail uses total approximately 143,895 sf within the Specific Plan area. Additionally, there are currently 33 hotel rooms within the Specific Plan area.

In general, the Specific Plan area is characterized by office, commercial, and light industrial development, with large areas of open space dedicated to Oso Creek, the Galivan basin, and hillside areas. Existing building heights within the Specific Plan area range from one to six stories, but the majority of buildings are one or two stories. Within the Gateway area, parcels range in size from 0.22 acre (A's Burgers) at the southern end of Camino Capistrano, up to 21.7 gross acres (Mercedes Benz dealership), also at the southern end of the Specific Plan area. Parcel shapes and dimensions are varied throughout the Specific Plan area. The existing fragmented ownership patterns throughout the Gateway area, as well as the preponderance of small businesses in multi-tenant buildings, make major transitions of land use challenging.

There are no existing public parks or active recreation areas in the Specific Plan area. However, approximately 115 acres or 37 percent of the Gateway area contains open space in the form of natural and protected open space areas, consisting of the Oso Creek drainage channel, Galivan Basin, and steep undeveloped hillsides east and west of Cabot Road and along the SR-73. Most of the designated open space is not suitable for either passive or active recreation.

3.1.3 Surrounding Land Uses

There are several large-scale retail developments in the vicinity of the Gateway area. The Mission Viejo Freeway Center, a big-box retail center, lies east of Cabot Road and west of I-5, approximately 2 miles north of the Specific Plan area. The Shops at Mission Viejo, an indoor mall, is located nearly adjacent to the I-5 on the east, just south of Crown Valley Parkway, and the Kaleidoscope Courtyards shopping complex, an entertainment/retail center located at the northeast corner of I-5 and Crown Valley



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Source: Microsoft Streets and Trips, basemap, 2009. Atkins, 2011.

Figure 3-1
 Project Location and Regional Context

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Source: Atkins, 2011.

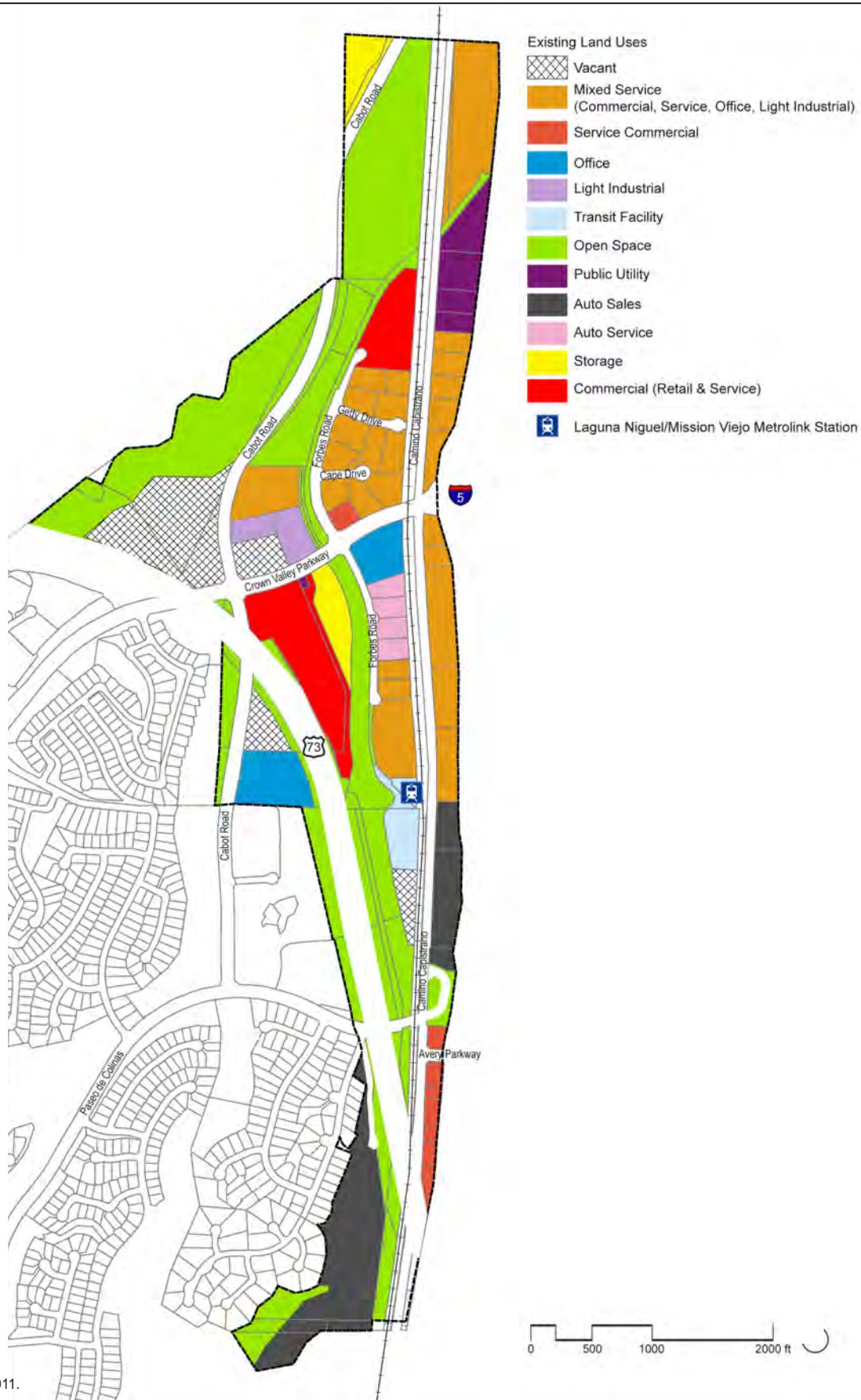


Figure 3-2
Existing Land Uses

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Parkway. A fourth shopping center, The Center at Rancho Niguel, is located at Greenfield Drive and Crown Valley Parkway, 0.25 mile west of the Specific Plan area.

The area located north of SR-73 and west of the Gateway area contains steep hillsides sloping up to single-family detached residential homes on large lots (i.e., the Nellie Gale Ranch community in the City of Laguna Hills). South of SR-73 and west of the project area, the land is devoted to both detached and attached residential uses. None of the existing residential areas are located at the same elevation as the developed Specific Plan area. The City of San Juan Capistrano is located along the southern border of the Gateway area. This land is primarily undeveloped, aside from an extensive church/school/camp complex with several buildings, gardens, playing fields, and parking areas (formerly the Schuller church retreat).

To the east of the Specific Plan area, in addition to the previously noted Shops at Mission Viejo and the Kaleidoscope shopping complex, are the I-5, various corporate office uses, Saddleback College, Mission Hospital Regional Medical Center, and other medical and general office buildings.

3.1.4 1999 Laguna Niguel Gateway Specific Plan

In May 1999, the Laguna Niguel City Council adopted the Laguna Niguel Gateway Specific Plan to regulate development of land within the Specific Plan area. The 1999 Specific Plan included a land use plan, urban design plan, circulation plan and public services and facilities plan, in addition to development standards and an implementing program.

The Zoning Code designation for the entire Specific Plan area is “S-Laguna Niguel Gateway Specific Plan.” The 1999 Specific Plan created six land use designations and one overlay designation applicable to properties within the Specific Plan area, which included:

- **Automotive Commercial (CA)**—This Zone accommodates new and used automobile sales and other uses generally related to the rental, repair, storage and operation of automobiles and other vehicles.
- **Hospitality Commercial (CH)**—This Zone provides for restaurants, hotels, motels, service stations and other uses intended to serve the motoring public.
- **Commercial/Light Industrial (C/LI)**—This Zone provides for a wide variety of retail, general/highway commercial services, light industrial, manufacturing, and warehousing uses.
- **Mixed Use (MU)**: This Zone provides for a cohesive mix of various retail, entertainment, commercial services, hotels, and office uses and would accommodate the most intense land uses within the Specific Plan area.
- **Public/Institutional (PI)**—This Zone provides for public and quasi-public utility uses, such as the existing San Diego Gas & Electric substation facility on Camino Capistrano.
- **Open Space (OS)**—This Zone provides for areas and slopes that were to remain undeveloped, trails, the Oso Creek drainage channel, the Galivan detention basin, freeway overpasses, and utility lines.
- **Transit Overlay (T)**—This Zone provides an additional overlay zone to properties designated Mixed Use to accommodate transit-oriented uses related to the Metrolink station, including other public transit and parking facilities.

3.1.5 General Plan Land Use Element

The City of Laguna Niguel General Plan Land Use Element divides the entire City into fourteen separate areas called Community Profile Areas. The Gateway Specific Plan area is included in a portion of Community Profile Area 3 and all of Community Profile Area 4. The Laguna Niguel Gateway Specific Plan defines the overall vision, goals, policies, land use regulations, development standards, and design guidelines for the Gateway area, which by statute must be consistent with the goals, policies, and implementation programs of the City of Laguna Niguel General Plan.

The Laguna Niguel General Plan was amended as part of the 1999 Specific Plan project, including permitted development intensities within each Sub Profile Area. As part of that process, the General Plan Land Use Map was also amended to reflect the following General Plan Land Use designations within the Gateway area:

- Community Commercial
- Industrial/Business Park; Professional Office; Community Commercial
- Community Commercial; Professional Office
- Public/Institutional; Professional Office
- Open Space

3.2 PROJECT CHARACTERISTICS

■ Project Impetus

Physical constraints, access deficiencies, and visual challenges have limited the area's ability to grow and thrive. Even with the provisions and incentives set forth in the 1999 Specific Plan, the Gateway area has not developed into what was originally envisioned by the City. Thus, in 2006, the City enlisted the assistance of the Urban Land Institute Orange County District Council (ULI)

In May 2006, ULI assembled a Technical Advisory Panel (TAP) for the City of Laguna Niguel. ULI recommended incorporating residential uses into the Gateway area, particularly along the north and south portions of Forbes Road, with larger parcels and the opportunity to consolidate parcels into larger development areas. Forbes Road also lies adjacent to Oso Creek, offering a potentially usable open space amenity. And south Forbes is adjacent to the Metrolink station offering opportunities for transit oriented development.

ULI recommended that residential densities be in the 40- to 80-units-per-acre range to accommodate mid-rise structures similar to Jamboree Road in Irvine and the Platinum Triangle in Anaheim. Higher densities may be allowed as an incentive to provide street level retail and/or transit station connections.

In its follow up to implement the recommendations presented by the TAP, the City Council retained the consulting firm Atkins (formerly PBS&J) and a multidisciplinary team of urban designers, economists, transportation planners, and engineers to prepare an updated Specific Plan. The consultant team was charged with building upon the City's previous studies for the Gateway area including the goals and objectives identified by the TAP.

■ General Plan Amendment

The proposed General Plan Amendment (GPA 11-01) contemplates the addition of residential and mixed-use development in the Gateway area. The proposed General Plan Amendment provides consistency between the Gateway Specific Plan Update and the goals, policies, and implementation programs of the General Plan, as required by statute.

The Laguna Niguel General Plan Land Use Map will be amended as part of the proposed Specific Plan project, with properties being designated with the following General Plan Land Use designations:

- Community Commercial
- Industrial/Business Park; Professional Office; Community Commercial
- Residential; Community Commercial; Professional Office; Public/Institutional
- Open Space

Currently the Specific Plan area comprises all of Land Use Element Community Profile Area 4 and a portion of Community Profile Area 3. The General Plan Land Use Element will be amended to include the entirety of the Gateway Specific Plan area within Community Profile Area 4 only.

■ 2011 Laguna Niguel Gateway Specific Plan Update

The Specific Plan Update is contemplated through a Zone Change (ZA 11-01) discretionary action. The proposed Specific Plan provides a road map of land use and development, building and site design, transportation, infrastructure, and streetscape strategies to facilitate investment and revitalization in the area, including pedestrian and transit oriented development to capitalize on the Laguna Niguel/Mission Viejo Metrolink station and the enhanced service levels planned for this station. The proposed Specific Plan would accommodate up to 2,994 residential dwelling units, 2,259,931 sf of nonresidential uses, and 350 hotel rooms. It should be recognized that these are maximums that assume each property develops at maximum densities. This will represent a full build-out scenario under which the environmental review will be conducted. However, given that the majority of the area is already developed, new development would likely be less than the maximum allowed and full build-out may never be reached.

Planning Districts

The Specific Plan area has been divided into eleven districts, based on the existing building patterns within each area, geographic considerations, and the intended development envisioned for each district. The District Plan establishes a series of distinct districts interconnected and unified by a network of public realm improvements. Roadways and other geographic features define the boundaries of each district. Their boundaries are consistent with General Plan Land Use Element Community Profile Areas and Traffic Analysis Zones (TAZs) to enable effective administration and monitoring of new development as it occurs. Figure 3-3 (Proposed Planning Districts) illustrates the proposed Planning Districts within the Specific Plan area.

Development Capacity

Development capacity within the Specific Plan area is correlated with planned roadway and operations improvements to assure adequate mobility on the area's circulation network. Table 3-1 (Land Use

Development Capacity) identifies the maximum amount of development, by land use, in each Planning District. To accommodate greater flexibility within the Districts zoned for Mixed-Use, residential units and nonresidential square footage may be exchanged between Districts C, D, E, and H, provided the overall development capacity of the Specific Plan area is not exceeded. Any such exchanges shall be considered as part of the discretionary application process for the specific development project.

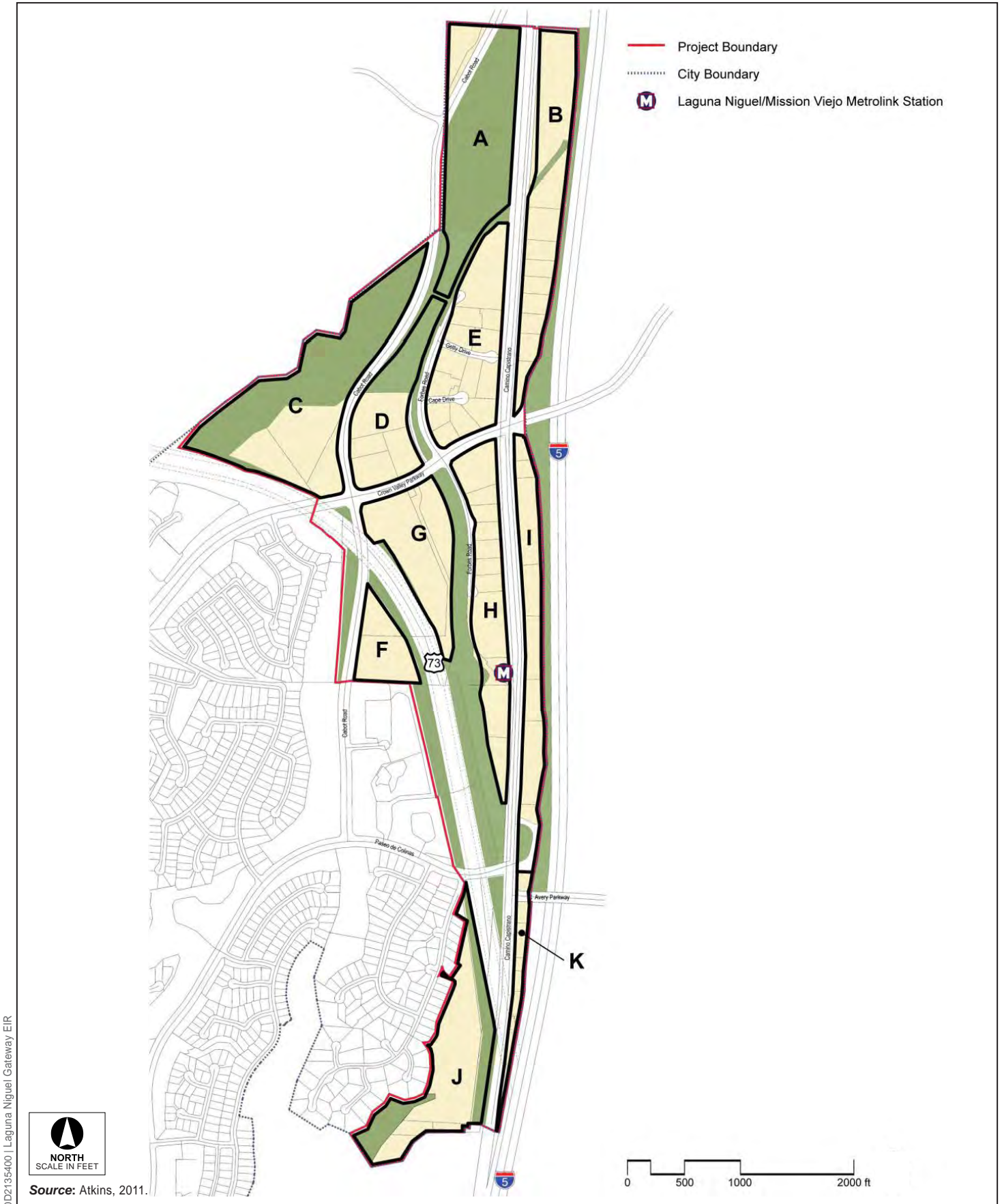
Table 3-1 Land Use Development Capacity

<i>Planning District</i>	<i>Residential (dwelling units)</i>	<i>Retail Commercial (square feet)</i>	<i>Office (square feet)</i>	<i>Business Park (square feet)</i>	<i>Hotel (rooms)</i>	<i>Automobile Sales (square feet)</i>
A	0	0	0	76,480		
B	0	0	0	323,200		
C	220	0	305,460	0	*	
D	200	0	187,639	0	200*	
E	1,427	87,338	203,425	0	*	
F	142	0	173,900	0		
G	142	247,639	0	0	*	
H	863	76,000	240,100	0	*/***	
I	0	62,509	30,492	0	***	45,739****
J	0	0	0	0		141,860*****
K	0	58,150	0	0	150**	
Totals	2,994	531,636	1,141,016	399,680	350	187,599

* A hotel with a maximum of 200 rooms may be located in planning districts C, D, E, G, or H.
 ** A total of 150 motel/hotel rooms may be located within planning district K.
 *** Up to a total of 1,200 parking spaces to serve the Metrolink station may be provided in areas H & I
 **** Includes 45,739 sf of building space and 106,721 sf of exterior sales are on 3.5 acres of land dedicated to automobile sales
 ***** Includes 141,860 sf of building space and 481,048 sf of exterior sales are on 14.3 acres land dedicated to automobile sales

With regard to the exchange of land uses permitted within Planning Districts C, D, E, and H, to provide flexibility to accommodate a wide range and combination of potential projects with retail and office and residential components, the Development Entitlement Management System (DEMS) has been created to relate the amount of development to the amount of traffic that is generated within these critical areas of the Specific Plan. As part of the DEMS, traffic generation thresholds, expressed in terms of the cumulative number of inbound and outbound trips in the AM and PM peak hours by applicable Planning District, were established in the Specific Plan.

Table 3-2 (Automobile Trip Generation Capacity) represents the cumulative trips that shall be allowed, including existing and new development. The limits shall be administered by the Laguna Niguel Department of Community Development as part of the development review process for individual projects, in concert with existing and remaining development capacity and existing and remaining trip generation capacity for each Planning District.



0D2135400 | Laguna Niguel Gateway EIR



Source: Atkins, 2011.

Figure 3-3
Proposed Planning Districts

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<i>District</i>		<i>AM Peak</i>		<i>PM Peak</i>	
		<i>Inbound</i>	<i>Outbound</i>	<i>Inbound</i>	<i>Outbound</i>
C & D	Existing 2010	95	50	60	75
	Net Additional	900	400	600	1,200
	Total Future	995	450	660	1,275
E	Existing 2010	175	105	200	250
	Net Additional	345	680	760	570
	Total Future	520	785	960	820
H	Existing 2010	175	100	75	180
	Net Additional	550	520	740	755
	Total Future	725	620	815	935

* Trip capacities shall not apply to other planning districts.

No development project shall be considered that exceeds these trip capacity limits. Where a proposed land use exceeds the capacity for a category of use in a planning district and there is remaining automobile trip capacity, the use may be considered by the decision-making authority as part of the discretionary application process, provided that it does not exceed the automobile trip capacity for that planning district.

When the total automobile trip generation capacity is reached, no new development shall be permitted in the planning district unless one or more of the following conditions is met:

- a. Additional mitigation is implemented that reduces traffic impacts on Crown Valley Parkway, Forbes Road, Cabot Road, and the Crown Valley Parkway/I-5 interchange to levels below those projected by the City's traffic model for the Gateway Specific Plan, where the land use and trip generation capacities specified in Table 3-1 and Table 3-2 may be adjusted to achieve equivalent levels of impacts.
- b. Traffic analyses are conducted that indicate actual land use trip generation in a planning district is less than calculated for development projects, where the net difference in trips can be allocated toward increased development capacity.
- c. Traffic analyses are conducted that indicate traffic volumes on Crown Valley Parkway, Forbes Road, Cabot Road, and the Crown Valley Parkway/I-5 interchange, attributable to regional trips, are below those assumed in the Gateway Specific Plan traffic model, whereas the difference may be considered as the basis for increases in development and trip generation capacity in the planning district.

Changes in total land use and trip generation limits shall be reviewed with the Planning Commission and approved by the City Council as an amendment to the Specific Plan.

The Department of Community Development in collaboration with the Department of Public Works shall maintain tables of current data regarding existing land uses, AM and PM peak hour trip generation, and remaining land use and trip generation capacities for each planning district. These shall be used as

the basis for evaluation of proposed development applications. As proposed in conjunction with development applications, and at least once each five years, the City shall review traffic conditions on Crown Valley Parkway, Forbes Road, Cabot Road, the Crown Valley Parkway/I-5 interchange, and any other location deemed of relevance by the City to the conditions in the Specific Plan area, and determine the appropriateness of adjusting the land use and trip generation capacities. Modifications to the land use and trip generation limits based on these studies shall be reviewed with the Planning Commission and approved by the City Council as an amendment to the Specific Plan by the City Council.

Regulating Plan and Zones

The Specific Plan establishes five unique land use zones applicable to all properties within the Specific Plan area. The Specific Plan's Regulating Plan, included as Figure 3-4 (Proposed Regulating Plan), defines the boundaries of these zones. The location of the zones is based on the desired distribution and mix of uses, development densities, and urban form characteristics identified in Chapter 3 (Policies and Development Plans) of the Specific Plan. The zones are intended to accommodate the development of multiple new mixed-use districts where the placement of buildings, form and scale, orientation to sidewalks and the public realm, location of parking, and architectural character promote the interaction among living, working, shopping, and entertainment functions and walkability. The five land use zones identified in the Specific Plan's Regulating Plan are as follows:

Retail Commercial (RC) Zone

The Retail Commercial (RC) Zone accommodates a diversity of commercial and personal service uses serving residents within and adjoining the Gateway area, those traveling on the freeways and major arterials, and workers in its offices and other businesses. Retail stores (supermarkets, furniture, appliances, etc.), general services (beauty stores and barbershops, copy shops, etc.), dining, financial institutions, and movie theaters are illustrative of the range of possible uses in this zone. Hotel and supporting uses such as restaurants, conference meeting room and banquet facilities may also be developed in this zone. Development densities range from Floor Area Ratios (FAR) of 0.35 to 0.5, depending on location.

Business Park (BP) Zone

The Business Park (BP) Zone accommodates light manufacturing, warehousing, auto services, general services, restaurant, public utilities, and other similar uses. This includes uses whose characteristics and operations require them to be separated from the other residential and mixed-use zones of the Specific Plan. Densities are limited to a FAR of 0.5.

Community Service (CS) Zone

The Community Service (CS) Zone accommodates a mix of light industrial, business park, office, commercial and auto service uses. This zone also provides for auto sales and services. Properties may also be used for surface or structured parking for the Metrolink Station. Densities are limited to a FAR of 0.5. Hotel and supporting uses such as restaurants, conference meeting room and banquet facilities may also be developed in this zone.

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Mixed-Use (MU) Zone

The Mixed-Use (MU) Zone is intended to encourage development of an active urban environment that exhibits the character of distinct and a vibrant pedestrian friendly “village” and transit corridor where residents live, work, dine, are entertained, and recreate, with easy access to Metrolink transit. It allows for the intermixing of a diversity of land uses that will reduce vehicle trips and facilitate walking. Any property may be developed exclusively for office, multi-family, or hotel uses, or mix of these with retail commercial integrated into one or more building vertically or distributed horizontally on a single site.

The mix of uses will be unified by their urban form and relationship to street frontages and adjoining parcels. While more than one use may be located on any block within the zone, all buildings shall be placed on their lot, oriented to the street frontage, and designed to convey an urban character.

The development of office uses in the MU Zone is intended to provide employment opportunities for residents of Laguna Niguel and adjoining communities. Illustrative uses include medical offices, banking facilities, insurance sales, property management and leasing agencies, real estate sales, and professional offices for tenants such as architects, landscape architects, and software developers. Office uses must be developed in multi-story structures with FARs ranging between 0.5 and 1.0 with parking primarily located in structures, contributing to the intended urban character of the Specific Plan area. Densities for office development may be increased to a maximum FAR of 2.0 in exchange for the provision of extraordinary benefits for the greater Gateway community. Illustrative of these are the inclusion of community-serving meeting rooms and facilities, public parking exceeding project-related code requirements, and/or funding of nonproject infrastructure and open space improvements.

The development of multi-family housing units in the MU Zone is intended to enable residents to live in proximity to their jobs, commercial services, and transit, thereby reducing automobile trips, commuting distances, and greenhouse gas emissions while improving their quality of life. These shall be located and designed to convey an “urban” scale and character, typical of those found in city centers and at transit nodes. They shall be constructed at a minimum density of 40 dwelling units per acre, and up to 120 dwelling units per acre in exchange for the provision of important community benefits, including, for example, provision of infrastructure and other public amenities beyond those otherwise required for the project, or provision of affordable housing. Buildings may be constructed as mid-rise Class V structures. The units may be located on podiums above parking decks or wrap around parking structures.

Mixed-use buildings may be developed in the MU Zone integrating office and/or retail uses with multi-family residential units. The housing units must be constructed above or to the rear of street-facing nonresidential uses. Mixed-use projects may be built to a minimum FAR of 1.5 and maximum of 2.0, where there is no more that 0.7 FAR may be occupied by retail uses and 1.0 FAR for office use with the balance developed for housing. Their densities may be increased to a maximum FAR of 3.0 as an incentive for the provision of community benefits described for office and multi-family housing uses above.

Hotel and supporting uses such as restaurants, conference meeting room and banquet facilities may also be developed in this zone.

Where feasible, shared parking structures should be developed to reduce the need for multiple and inefficient driveways and parking lots and promote the continuity of the building wall along the street frontage. Such structures should be located below or behind buildings.

Open Space (OS) Zone

The Open Space (OS) Zone is intended to retain lands in a natural and undeveloped state due to their physical constraints of topography and natural habitat. They may be used for active and passive outdoor recreation and interpretative facilities, provided that any physical improvements maintain the integrity of the natural resources. These areas include hillsides and slopes, highway underpasses, Oso Creek drainage channel, and Galivan Basin.

3.3 MOBILITY AND PARKING

3.3.1 Project Area Access

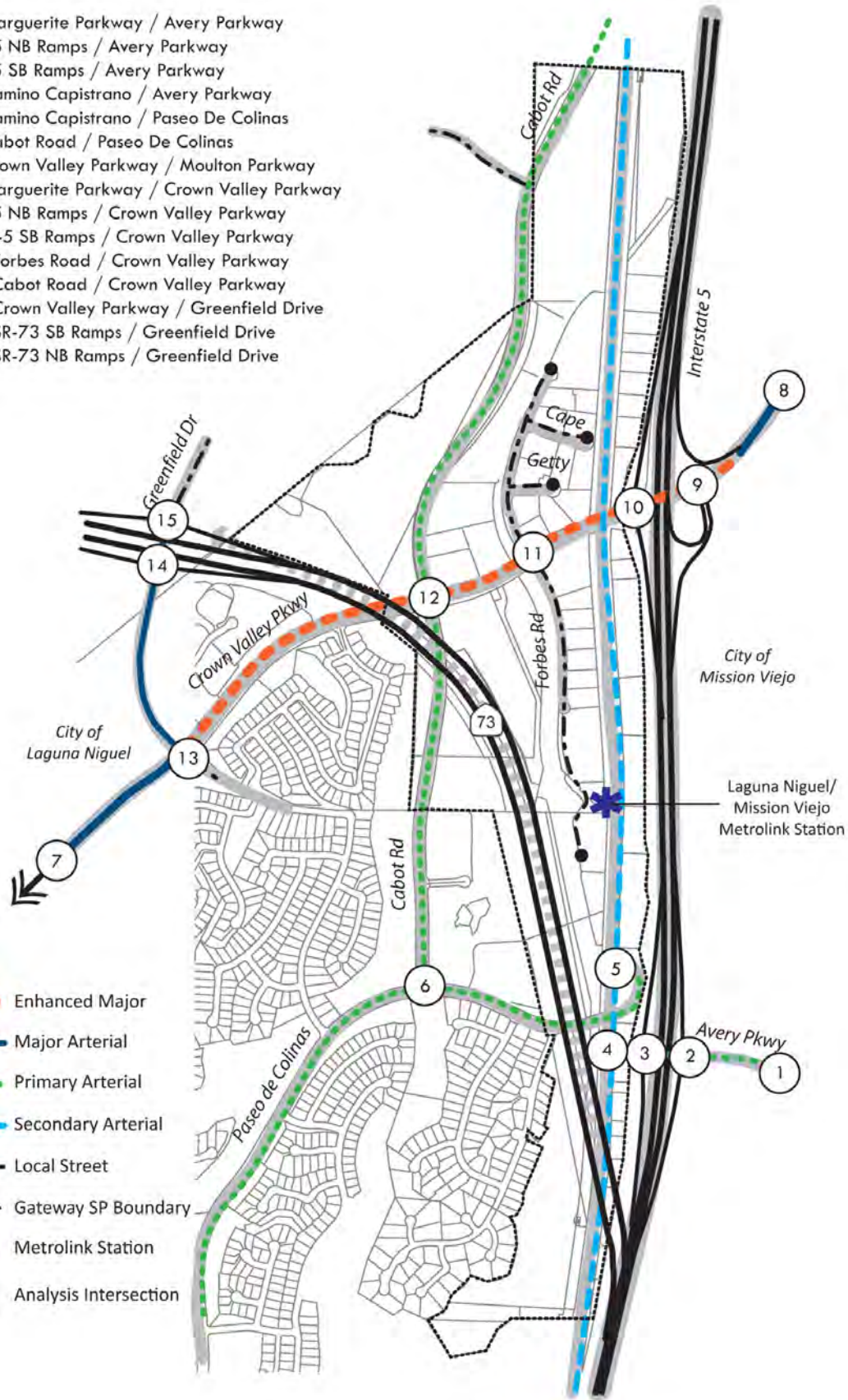
The Specific Plan area is bounded on its eastern edge by I-5, while the San Joaquin Hills Transportation Corridor (SR-73) crosses the site diagonally in a northwest/southeast swath. Regional access to the area is available directly from I-5 at Crown Valley Parkway and Avery Parkway. The Crown Valley Parkway freeway exit provides direct access to Crown Valley Parkway, Forbes Road, and Cabot Road, while the Avery Parkway freeway exit serves Camino Capistrano and Paseo De Colinas. Currently, there is no direct access to Camino Capistrano from Crown Valley Parkway or Forbes Road. In addition, only circuitous access is available from Cabot Road to Camino Capistrano, via Paseo De Colinas. Also, no direct access is available from SR-73 to the Specific Plan area. Indirect access from SR-73 is provided via Greenfield Drive to Crown Valley Parkway. The roadways in the Specific Plan area, along with key intersections, are shown in Figure 3-5 (Specific Plan Area Streets and Intersections).

3.3.2 Roadway Improvements

The Circulation and Mobility Plan of the Specific Plan identifies improvements in the circulation system to accommodate future traffic. These include physical and operational improvements to address project-specific and regional issues. The program includes arterial and freeway access improvements along with an emphasis on expansion of nonautomobile travel including transit, bicycle, and walking trips. The plan contains circulation improvements within the project area, including widening of several project area roadways. The following roadways will be widened and/or be otherwise enhanced as part of the project:

- Crown Valley Parkway (street widening and streetscape improvements)
- Cabot Road (streetscape and intersection improvements)
- Forbes Road (streetscape and intersection improvements)
- Camino Capistrano (streetscape improvements and on-street parking reconfiguration)
- Getty Drive (streetscape improvements)
- Cape Drive (streetscape improvements)

1. Marguerite Parkway / Avery Parkway
2. I-5 NB Ramps / Avery Parkway
3. I-5 SB Ramps / Avery Parkway
4. Camino Capistrano / Avery Parkway
5. Camino Capistrano / Paseo De Colinas
6. Cabot Road / Paseo De Colinas
7. Crown Valley Parkway / Moulton Parkway
8. Marguerite Parkway / Crown Valley Parkway
9. I-5 NB Ramps / Crown Valley Parkway
10. I-5 SB Ramps / Crown Valley Parkway
11. Forbes Road / Crown Valley Parkway
12. Cabot Road / Crown Valley Parkway
13. Crown Valley Parkway / Greenfield Drive
14. SR-73 SB Ramps / Greenfield Drive
15. SR-73 NB Ramps / Greenfield Drive



- Enhanced Major
- Major Arterial
- Primary Arterial
- Secondary Arterial
- Local Street
- Gateway SP Boundary
- Metrolink Station
- Analysis Intersection



Source: Atkins, 2011.

Figure 3-5
Specific Plan Area Streets and Intersections

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Other elements of the circulation and mobility plan provide a comprehensive set of policies that recognize the need for a multi-modal approach to mobility in the community. Two key elements of this approach are the use of Transportation Demand Management (TDM) and the promotion and enhancement of alternative travel mode facilities.

3.3.3 Parking

Parking requirements are set forth in the Development Standards Section (4.4.3) of the Specific Plan and Laguna Niguel Municipal Code Sections 9-1-60 through 9-1-66. Parking within the Specific Plan area will be accomplished by a mixture of on-street and off-street parking areas. Each development site generally will have its parking areas configured to suit the nature of the land use. Some existing businesses utilize on-street parking due to the lack of on-site parking facilities. As uses transition over time within the Specific Plan area, future developments will be required to meet their parking requirements with on-site parking facilities or shared off-site facilities. Limited on-street parking will be allowed to continue on Forbes Road, Cabot Road, Camino Capistrano, Cape Drive, and Getty Drive, until streetscape or other improvements are developed along portions of these roads requiring the removal of on-street parking.

3.4 INFRASTRUCTURE

Improvements to the utility infrastructure are a critical component to the success of implementing the proposed project and their completion will enhance development of the Gateway area. System improvements, including upgrades to drainage in Oso Creek, sanitary sewer, and domestic water, will facilitate development and enhance system efficiency and service levels.

3.5 STREETSCAPE AND OPEN SPACE

A primary function of streets and linear open space in the Specific Plan area is to provide access to the Metrolink Station and throughout the area for all transportation modes: pedestrians, bicyclists, equestrians, buses and other motor vehicles. In particular, Forbes Road in combination with the development of an adjacent multi-use trail along Oso Creek will provide access for pedestrians, cyclists, and equestrians. The goal of the Specific Plan is to provide a network of usable public open spaces in the Gateway area that provide a focus for development and for community activity.

Each development project in the Specific Plan area will improve and maintain a portion of its required on-site open space equal to 7 percent of site area at street level, typically open to the public during daylight hours, and with a minimum street frontage of 20 feet. Where possible this open space should be located adjacent to existing open space and designed to complement that existing open space so that, over time, the individual open spaces will cumulatively create a larger open space. Along Forbes Road, they should be located within visual proximity to the Oso Creek Trail. Because open spaces will typically be along walkable public streets, they will collectively form a network of open spaces throughout the Gateway area. Property owners in a district may choose to combine their open spaces to create a larger, more usable centrally located open space.

3.6 RESIDENTIAL DEVELOPMENT AND CITY POPULATION

The proposed Specific Plan implements the broad policies established in the City of Laguna Niguel General Plan to guide growth and change within the Specific Plan area. The Development Standards contained within the Specific Plan would update the land use and development regulations contained within the Laguna Niguel Gateway Specific Plan, the General Plan, and Zoning Code for the Specific Plan area.

An important distinction that is reflected throughout specific resource sections of this PEIR is that the proposed Specific Plan would ultimately allow mixed-use and stand-alone residential development in an area of the City that was not previously designated to permit such uses. Laguna Niguel is almost fully developed. In total, up to 2,994 residential units could be constructed in the Specific Plan area. In order to quantify the direct population increase that would result from new housing in the Specific Plan area, it is necessary to determine an appropriate persons-per-household (pph) estimate. The City's current average household size is estimated to be 2.65 pph by the California Department of Finance, with single-family residences making up approximately 76 percent of the existing residential uses in the City. Based on the population and workforce assumption analysis prepared in 2010 for the Specific Plan by Keyser Marston Associates, Inc. (KMA), the average household size is anticipated to be 1.75 pph, a generally accepted industry standard for urban, residential developments such as that proposed for the Specific Plan area. The buyers and/or renters of these units would likely be "empty-nesters" and young professionals without children. As such, and as explained further in Section 4.11 (Population and Housing), the maximum number of residents that could be generated by the Specific Plan would be 5,240 persons.

3.7 PROJECT OBJECTIVES

As discussed in the Specific Plan, the proposed project is intended to enhance the economic performance, physical beauty, and functionality of the Gateway area. The ultimate goal is to create a 24-hour high-density urban district that provides employment opportunities, a variety of housing types, as well as commercial services, all within easy access of regional transportation and transit, and all interconnected by a system of pedestrian and bicycle trails. More specifically, the objectives, as stated in the Specific Plan, include the following:

■ Land Use

- > Provide for the Gateway's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. The mix and choices of use should enable residents and workers to meet their basic needs in the Gateway area without traveling to outside communities.
- > Develop land uses and densities that maximize ridership and support public investment in transit facilities, while reducing regional traffic congestion, pollution, and greenhouse gas emissions.
- > Develop housing in the Gateway area for a variety of persons and households who choose to live in an active, urban environment.

- > Match new housing opportunities with jobs in the Gateway area, enabling residents to live close to where they work.
- > Allow for flexibility in the mix of land uses that responds to market conditions as they evolve over the next 20 years and beyond.
- > Provide opportunities for the development of uses that complement one another, such as locating retail, restaurants, hotels, and financial services near offices and residences.
- > Maintain opportunities within portions of the Gateway area for businesses that support community needs, such as light industrial, commercial services, and automobile sale and service facilities in an attractive environment.
- > Develop uses that contribute significant revenues for needed capital improvements and on-going public services for residents and workers in the Laguna Niguel Gateway area.

■ Community Design

- > Build quality residential neighborhoods, office and retail districts that are desirable in the marketplace and hold their value over time.
- > Locate buildings to create an intimate “village” environment that encourages walking. Establish zoning and design guidelines for ground floor uses and facades, streets, sidewalks, landscaping, lighting, and signage that facilitate pedestrian use.
- > Establish design standards for buildings and streets that create a unified and desirable street character, with parking located behind or below structures.
- > Allow for diversity of architectural design within the framework of unified building setbacks from the street, building scale and mass, and building heights.
- > Create an enhanced identity for the area through a comprehensive signage and way-finding program.
- > Capitalize on and improve the Oso Creek corridor as an aesthetic and recreational amenity for the Gateway area.
- > Establish an urban design framework that distinguishes the Gateway area as a symbolic and functional entry to Laguna Niguel.

■ Mobility

- > Promote and support the completion of necessary and identified roadway infrastructure improvements to accommodate existing and anticipated development in the Gateway area.
- > Improve access to the City and Gateway area from Interstate 5 (I-5) and the San Joaquin Hills Transportation Corridor (SR-73) through improvements to Crown Valley Parkway.
- > Promote and support the completion of multi-use trails, sidewalks, and pathways to provide connectivity within the Gateway area and to the City’s trail system to maximize nonmotorized mobility.
- > Maximize the use of transit by residents and workers through the placement and density of land uses, and the creation of safe and attractive pedestrian and bike routes to the Metrolink station.
- > Consider breaking-up internal “superblocks” into a smaller grid of streets that promotes pedestrian activity.

- > Limit and phase development based on the ability to maintain an acceptable level of service on Crown Valley Parkway, Forbes Road, Cabot Road, and other roadways within the Gateway area.
- > Support opportunities for the improvement to the I-5/Crown Valley Parkway and I-5/Avery Parkway interchanges.
- > Support regional efforts to provide alternative access to I-5.

■ Streetscapes and Parklands

- > Provide for an attractive street scene with enhanced landscaping and pedestrian amenities.
- > Develop an areawide greenways network and parklands to unify and provide recreational amenities for residents and workers in the Gateway area.
- > Develop the Oso Creek corridor as a linear greenway for pedestrians, bicyclists, and equestrians, with amenities such as a bridge to provide access across Crown Valley Parkway and across the creek, benches and tables, interpretive signage, and native landscape.
- > Consider “softening” the Oso Creek flood control channel with native landscapes that enhance its visual character while maintaining its integrity as a flood control facility.
- > Promote the development of small, urban-scaled parklands, plazas, and public spaces providing recreational opportunities for residents and workers.
- > Promote the joint use of Galivan Basin for active and passive recreational uses during dry seasons, while maintaining its integrity and safety as a major flood control facility and natural habitats.

3.8 INTENDED USES OF THIS PEIR

This PEIR has been prepared to analyze environmental impacts associated with the construction and operation of the proposed project and also to address appropriate and feasible mitigation measures or project alternatives that would minimize or eliminate these impacts. This document is intended to serve as an informational document. Additionally, this PEIR will provide the primary source of environmental information for the lead agency to consider when exercising any permitting authority or approval power directly related to implementation of the proposed project.

This PEIR is intended to provide decision-makers and the public with information that enables them to intelligently consider the environmental consequences of the proposed action. This PEIR identifies significant or potentially significant environmental effects, as well as ways in which those impacts may be reduced to less-than-significant levels, whether through the imposition of mitigation measures or through the implementation of specific alternatives to the proposed project. In a practical sense, EIRs function as a technique for fact-finding, allowing an applicant, concerned citizens, and agency staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure.

This PEIR has been prepared in accordance with CEQA (PRC Sections 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.). As provided in the CEQA Guidelines, for projects subject to CEQA, public agencies are charged with the duty to substantially lessen or avoid significant environmental effects where feasible (refer to PRC Section 21004, CEQA

Guidelines Sections 15002(a)(3) and 15021(a)(2)). In discharging this duty, the public agency has an obligation to balance a variety of public objectives, taking into account economic, environmental, and social issues. The EIR is an informational document that informs public agency decision-makers and the public of the significant environmental effects and the ways in which those impacts could be reduced to less-than-significant levels, either through the imposition of mitigation measures or through the implementation of specific alternatives to the project as proposed. In a practical sense, this PEIR functions as a tool for fact-finding, allowing the public, and City staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure. Additionally, this PEIR provides the primary source of environmental information for the City to consider when exercising any permitting authority or approval power directly related to future development projects within the proposed project.

The analysis is done at the program level and can be characterized as a PEIR prepared pursuant to CEQA Guidelines Section 15168. The document is intended to act as an analytical superstructure for subsequent, more detailed analyses associated with individual project applications consistent with the proposed project. One of the City's goals in preparing the current document is to focus new information that would be required in the future at the "project level" of planning and environmental review by dealing as comprehensively as possible in this document with cumulative impacts, regional considerations, and similar big-picture issues.

According to CEQA Guidelines Section 15168(c)(5), "[a] program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible." Later environmental documents (EIRs, mitigated negative declarations, or negative declarations) can incorporate by reference materials from the PEIR regarding regional influences, secondary impacts, cumulative impacts, broad alternatives, and other factors (CEQA Guidelines Section 15168(d)(2)). These later documents need only focus on new impacts that have not been considered before (CEQA Guidelines Section 15168(d)(3)).

CEQA Guidelines Section 15168(c), entitled "Use with Later Activities," provides, in pertinent part, as follows:

Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared:

- (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
- (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
- (4) Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

Future site-specific approvals may also be evaluated pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. "[T]iering is a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on 'the big picture,' and can then use streamlined CEQA review for individual projects that are consistent with such ... [first tier decisions] and are ... consistent with local agencies' governing general plans and zoning" (*Koster v. County of San Joaquin* [1996] 47 Cal. App. 4th 29,

36). Before deciding to rely in part on a first-tier EIR in connection with a site-specific project, a lead agency must prepare an “initial study or other analysis” to assist it in determining whether the project may cause any significant impacts that were not “adequately addressed” in a prior EIR (CEQA Guidelines Section 15152(f), PRC Section 21094(c)). Where this analysis finds such significant impacts, an EIR is required for the later project. In contrast, “[a] negative declaration or mitigated negative declaration shall be required” where there is no substantial evidence that the project may have significant impacts not adequately addressed in the prior EIR or where project revisions accepted by the proponent avoid any such new significant impacts or mitigate them “to a point where clearly” they are not significant.

Here, as noted above, whenever project proponents within the City submit applications for site-specific approvals, the City will prepare initial studies in order to determine how much new information will be required for the environmental review for such proposals. In preparing these analyses, the City will assess, among other things, whether any of the significant environmental impacts identified in this PEIR have been “adequately addressed.” Thus, the new analyses for these site-specific actions will focus on impacts that cannot be “avoided or mitigated” by mitigation measures that either (i) were adopted in connection with the proposed project or (ii) were formulated based on information in this PEIR.

Future environmental review can also be prepared pursuant to PRC Section 21083.3 and CEQA Guidelines Section 15183. These provisions, which are similar but not identical to the tiering provisions, generally focus the scope of necessary environmental review for site-specific approvals following the preparation of an EIR for a specific plan. For such site-specific approvals, CEQA generally applies only to impacts that are “peculiar to the parcel or to the project” and have not been previously disclosed, except where “substantial new information” shows that previously identified impacts would be more significant than previously assumed. Notably, impacts are considered not to be “peculiar to the parcel or to the project” if they can be substantially mitigated pursuant to previously adopted, uniformly applied development policies or standards.

This PEIR is also intended to facilitate CEQA streamlining for transit priority projects, as provided for in CEQA Guidelines Section 21155. Specifically, this PEIR shall provide feasible mitigation measures, performance standards, or criteria to accommodate transit propriety projects eligibility to be reviewed through either a sustainable communities environmental assessment, pursuant to CEQA Guidelines Section 21155.2(b), or through a limited-scope EIR, pursuant to CEQA Guidelines Section 21155.2(c).

3.9 PROPOSED PROJECT ALTERNATIVES

In accordance with CEQA Guidelines Section 15126.6, alternatives to the proposed land use changes in the Specific Plan are analyzed. Detailed information regarding the three project alternatives is provided in Chapter 6 (Alternatives to the Proposed Project) of this PEIR. These alternatives include the following:

- **No Project/No Build**—No further development would occur within the Specific Plan area. The current Specific Plan would not be built out.
- **No Project/Reasonably Foreseeable Development (Continuation of Existing Specific Plan)**—The adopted 1999 Specific Plan and General Plan Land Use Element allow up to 3,777,000 sf of nonresidential development. Under this Alternative, development on the project site would occur under the existing Specific Plan and zoning designations. This Alternative allows

the decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

- **Reduced Project Alternative**—The maximum allowable future development would be reduced by approximately 50 percent (excluding the Costco and the Metrolink Station parking) to a maximum of 1,216 residential units and 489,295 sf of nonresidential uses. This Alternative was chosen for further analysis because it reduces the project size, and thus its impacts, while still potentially achieving most of the project objectives.

3.10 PUBLIC ACTIONS AND APPROVALS REQUIRED

The City of Laguna Niguel is the Lead Agency for the project and has discretionary authority over the project and specific development approvals. The following discretionary approvals are required for the proposed project:

- **Approval and Certification of the PEIR**
- **General Plan Amendment (GPA)**—To update the General Plan consistent with the Specific Plan uses; the GPA is subject to approval by the Planning Commission and City Council
- **Zoning Change (ZC)**—To update the Zoning Map and adopt the Specific Plan; the ZC is subject to approval by the Planning Commission and City Council

Additional actions will be required to implement the Specific Plan, including but not limited to, the development of incentive bonus densities, the DEMS and associated database. Chapter 6 of the Specific Plan shows each of these actions, the responsible agency, as well as the required timeframe for each subsequent action/approval. This PEIR evaluates the proposed Specific Plan in as much detail as is currently available at the time of preparation. To the extent possible and based upon the information available, all environmental effects have been evaluated as thoroughly as possible. However, additional future development proposals for areas within the Specific Plan boundaries may be subject to separate environmental clearance/review.

3.10.1 State and Local Agencies

In addition to the City of Laguna Niguel (the Lead Agency), there are also federal, regional, and state agencies that have discretionary or appellate authority over the project and/or specific aspects of the project. The responsible agencies will also rely on this PEIR when acting on such projects. Those federal, state, or local agencies that would rely upon the information contained in this PEIR when considering approval include, but are not necessarily limited to, the following:

- California Regional Water Quality Control Board (Permit for dewatering during construction and National Pollutant Discharge Elimination System [NPDES] permit)
- State Water Resources Control Board (General Construction Activity Stormwater Permit)
- California Department of Transportation (Caltrans)
- South Coast Air Quality Management District (SCAQMD)
- California Department of Fish and Game (CDFG)

3.11 CUMULATIVE DEVELOPMENT SCENARIO

CEQA Guidelines Section 15355 defines “cumulative impacts” as “two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts.” In general, these impacts occur in conjunction with other related developments whose impacts might compound or interrelate with those of the project under review.

In order to analyze the cumulative impacts of the project in combination with existing development and other expected future growth, the amount and location of growth expected to occur (in addition to the proposed project) must be considered. As stated in CEQA Guidelines Section 15130(b), this reasonably foreseeable growth may be based on either of the following, or a combination thereof:

- A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency
- A summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or area wide conditions

For the purposes of this PEIR, the potential cumulative effects of the proposed project are based upon the General Plan land use for the cities of Mission Viejo, San Juan Capistrano, Laguna Niguel, Dana Point, and San Clemente and the approved land use plan for Ladera Ranch and The Ranch Plan (Rancho Mission Viejo).

3.12 REFERENCES

- California Department of Finance (CDOF). 2010a. *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark*. Sacramento, California, May.
- . 2010b. *E-8 Population and Housing Estimates for Cities, Counties and the State, 1990-2000, with 2000 Benchmark*. Sacramento, California.
- Laguna Niguel, City of. 2007a. *Laguna Niguel Gateway Specific Plan Baseline Conditions Report*, October.
- . 2007b. *Laguna Niguel Gateway Specific Plan Transit-Oriented Development Case Studies*, November.
- . 2008. *Laguna Niguel Gateway Specific Plan Baseline Conditions Report*, October.
- . 2010. *Draft Residential and Workforce Population Assumptions for the Gateway Specific Plan*, July.
- . 2011. *Draft Laguna Niguel Gateway Specific Plan*, January.
- Southern California Association of Governments (SCAG). 2008. *Regional Transportation Plan*, Technical Appendix A (Growth Forecast).

CHAPTER 4 Environmental Analysis

4.0 INTRODUCTION TO THE ANALYSIS

This Chapter contains a discussion of the possible environmental effects of the Laguna Niguel Gateway Specific Plan Update (Specific Plan or proposed project) for the specific issue areas that were identified through the Notice of Preparation (NOP) process as having the potential to experience significant impacts. This Chapter is the primary component of the PEIR, as it provides information on the project site's existing conditions, the type and magnitude of the project's potential individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid such impacts. The existing conditions component of the analysis defines the environmental conditions as they exist on and near the project site at the time the NOP was published, while project impacts are defined as the project's effect on the existing environment. Mitigation measures are designed to reduce a project's potential impact to less-than-significant levels. The purpose of this section is to inform readers of the type and magnitude of the project's environmental impacts and how such impacts would affect the existing environment.

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

The assessment of each issue area begins with a discussion of the existing conditions (or setting), as well as a discussion of the regulatory framework relevant to that issue area. As required by the CEQA Guidelines, this document discusses any inconsistencies between the proposed project and applicable City of Laguna Niguel General Plan policies and regional plans. However, consistent with the scope and purpose of this document, the discussion primarily focuses on those requirements adopted for the purpose of avoiding or mitigating an environmental effect and an assessment of whether any inconsistency with these standards creates a significant physical impact on the environment. The ultimate determination of whether this project is consistent with the City's General Plan is a decision that resides exclusively with the Laguna Niguel City Council, not with this environmental document.

Following the setting is a discussion of the project's impacts relative to the issue area. Within the impact analysis, the first subsection identifies the methodologies used and the "Thresholds of Significance," which are those criteria used to determine whether potential effects are significant. The next subsection programmatically describes each impact of the proposed project, project requirements and mitigation measures for significant impacts, and the level of significance after mitigation.

The City of Laguna Niguel imposes standard project conditions of approval for the purpose of controlling or reducing potential environmental and/or safety issues associated with a proposed project. These conditions may include, but are not necessarily limited to, development standards, infrastructure

improvements, and/or operational requirements. In this PEIR, standard conditions that are relevant to the environmental analysis are identified along with the discussion of mitigation measures in each resource-specific discussion provided in Chapter 3 (Project Description) of this document. Conditions of approval usually have the effect of reducing an environmental impact, and as such, take the place of mitigation measures that would otherwise be required to address impacts. Conditions identified in this document are not inclusive of all code requirements that would be imposed on the proposed project; only those conditions relevant to the environmental analysis are included.

The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other past, present, and probable future development in areas causing related impacts. A cumulative impact analysis is only provided for those thresholds that result in a less-than-significant or significant and unavoidable impact. A cumulative impact analysis is not provided for effects found to have no project-related impact.

4.1 AESTHETICS

This section of the PEIR analyzes the potential environmental effects on aesthetics from implementation of the proposed project. No comment letters addressing aesthetics were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from an evaluation of photographs, site reconnaissance, the original 1999 Laguna Niguel Gateway Specific Plan (1999 Specific Plan), the updated Public Draft Laguna Niguel Specific Plan, and the City's General Plan. Full reference-list entries for all cited materials are provided in Section 4.1.5 (References).

4.1.1 Environmental Setting

■ Visual Characteristics of Specific Plan Area

With the exception of the hillside area on either side of Cabot Road north of Crown Valley Parkway, and the Oso Creek drainage channel (illustrated in Figure 4.1-1 [Viewpoint Locations], below), the Specific Plan area is generally flat and does not contain any topographic features that could be considered visual resources. A mix of generally low-scale land uses including commercial, office, light industrial, public/quasi-public, and open space presently exist in the project area. There are no residential uses located within the confines of the Specific Plan area. Approximately 115 acres (37 percent) out of the 315 acres of the project's total area is designated as Open Space. Figure 3-2 (Existing Land Uses) depicts the existing land uses on each parcel within the Specific Plan area. The existing buildings represent a mix of architectural styles, with no consistent architectural style exhibited. Substantial building setbacks are common, as structures are typically set behind expansive surface parking areas that front the thoroughfares, which tends to distance the buildings from the public realm. This type of development has been driven by the desire for vehicular access and business visibility where primacy is placed on signage visibility and availability of parking. The result is building coverage that is inconsistent and significantly lacks definition.

Existing heights within the Specific Plan area range in height from one to six stories, but only two parcels have buildings with heights of three to six stories, leaving the vast majority of building structures within the Specific Plan area between one and two stories in height. Parcels range in size from 0.22 acre to 21.7 acres. Parcel shapes and dimensions are also varied throughout the Specific Plan area, as illustrated in Figure 3-2 (Existing Land Uses), located in Chapter 3 (Project Description).

Smaller parcels such as those located within the south end of Camino Capistrano on the east side of the corridor, produce visual variety and human scale, while larger parcels, such as the Costco property on the southeast corner of Crown Valley Parkway and Cabot Road, generally cater to vehicles.

Building design and architectural character varies throughout the Specific Plan area. Most of the buildings that existed when the 1999 Specific Plan was adopted still exist today, and are generally characterized by neutral-color stucco-clad buildings with few decorative façade treatments. Some of the newer buildings, such as the Mercedes Benz dealership on Star Drive, and the six-story Crown Cabot

Financial Center building on south Cabot Road, contain more modern, avant-garde architectural qualities consistent with the existing 1999 Specific Plan guidelines.

The architectural quality of buildings on Camino Capistrano diminishes as the distance from Avery Parkway increases. In contrast, existing development situated closer and more accessible to Crown Valley Parkway consists of stronger tenants and building design quality.

Vegetation generally exists along sidewalk planter strips, landscaped building setbacks and open space areas dedicated to Oso Creek, the Gavilan Basin, and hillside areas. There are no existing public parks or recreational areas in the Specific Plan area. However, approximately 37 percent of the Specific Plan area (115 of 315 acres) is designated open space, consisting of the Oso Creek drainage channel, the Gavilan Basin, and steep undevelopable hillsides east and west of Cabot Road. None of the designated open space is currently usable for either passive or active recreation.

Existing landscaping within the Specific Plan area is intermittent in some areas and in other areas enhances the streetscape and individual lots. The 1999 Specific Plan requires a minimum interior project landscaping of 10 percent of the net usable area (15 percent in the Mixed Use zone), half of which is required to be located in areas devoted to parking. Many lots in the Specific Plan area appear to meet this requirement, particularly along Forbes Road where there are trees both within individual lots and along the street edge. Other landscaping amenities that contribute to the visual character of the Specific Plan area include: palms and other trees; high-quality vegetation along the west side of Camino Capistrano, north of Avery Parkway, recently installed consistent with the 1999 Specific Plan (as illustrated in Viewpoint 19, below); the naturally vegetated hillsides adjacent to both Cabot and Forbes Roads (as illustrated in Viewpoints 2, 6, and 11, below); and, the landscaped center median along a portion of Cabot Road, north of Crown Valley Parkway.

One area in the Gateway district that currently lacks landscaping is the west side of Camino Capistrano, from Paseo De Colinas, south to the SR-73 overpass. However, a City-funded landscape installation project along this section of Camino Capistrano is anticipated to commence in fall 2011. There are also some intermittent lots within the Specific Plan area that provide minimal landscape improvements.

Major roadways throughout the Specific Plan area are generally wide, accommodating multiple lanes and lack continuity of improvements. There are walkways along some roadway segments, but not all; and there are segments with no street trees, or landscaped parkways. Existing conditions along major roadways throughout the Specific Plan area are described below:

- **Crown Valley Parkway** is used as the primary gateway to the Specific Plan area providing direct access to I-5. It bisects the Specific Plan area from east to west and consists of six to eight lanes (depending on the segment). Currently, Crown Valley Parkway has a right-of-way that varies from 112 to 122 feet in width. Improvements along Crown Valley Parkway include landscaped sidewalks; which are provided along some portions, including the south side of the street between Cabot Road and the northbound I-5 ramps. Most active land uses within the Specific Plan area are located along, or in proximity to, Crown Valley Parkway. Existing land uses along Crown Valley Parkway within the Specific Plan area consist of a vacant lot, retail/commercial, mixed service, storage, office, and light industrial.
- **Avery Parkway** extends east from Camino Capistrano. In the Specific Plan area it consists of a 100-foot right-of-way with four through lanes plus turn lanes and a full interchange with I-5. In

addition to providing local access to the Specific Plan, Avery Parkway is also a key access for Saddleback College and Capistrano Valley High School to the east. Improvements along Avery Parkway within the Specific Plan area include a sidewalk with no landscaping. Land uses along Avery Parkway within the Specific Plan area consist of two gas stations.

- **Cabot Road** gains access directly from Crown Valley Parkway. It connects Crown Valley Parkway with Paseo de Colinas to the south and with Oso Parkway located outside of the Specific Plan area within the city limits of Mission Viejo and Laguna Hills. Currently, Cabot Road has four lanes and a right-of-way of 90 to 100 feet. Improvements along Cabot Road within the Specific Plan area include sidewalks on both sides of the street to the south of Crown Valley Parkway and only along the west side to the north of Crown Valley Parkway. A landscaped median also exists along a portion of Cabot Road north of Crown Valley Parkway. Land uses within the Specific Plan area and along Cabot Road consist mostly of hillside open space with some mixed service, light industrial, storage, and two vacant lots north of Crown Valley Parkway; and commercial, office, open space, and one vacant lot south of Crown Valley Parkway.
- **Paseo de Colinas** extends westerly from its intersection with Camino Capistrano. To traverse the railroad tracks, a loop ramp is provided over the tracks between the connection with the Camino Capistrano and Cabot Road. Paseo de Colinas has four lanes within the Specific Plan area and a 100-foot right-of-way. Bike lanes are provided along Paseo de Colinas west of Cabot Road, but narrow pavement width over the bridge limits the lanes between Cabot and Camino Capistrano. Sidewalks with no landscape elements are located along the north side of the street through the Specific Plan area and along the south side west of the Specific Plan area boundary. Land uses alongside Paseo de Colinas within the Specific Plan area consist of open space.
- **Forbes Road** gains access directly from Crown Valley Parkway, lies east of and runs parallel to Oso Creek and Cabot Road. A Metrolink train station is located at the southern terminus of Forbes Road between the SR-73 right-of-way, Oso Creek Drainage Channel, and Camino Capistrano. Currently, Forbes Road has a right-of-way that varies from two to four lanes and 51 to 80 feet width. Existing improvements consist of sidewalk portions along the east side of the street with some landscaping elements mostly north of Crown Valley Parkway. Land uses alongside Forbes Road within the Specific Plan area consist of commercial, mixed service, light industrial, office, transit facility, hillside open space, and the Oso Creek.
- **Camino Capistrano** is only accessible within the Specific Plan area from Avery Parkway and Paseo de Colinas. Currently, Camino Capistrano has a right-of-way width of 60 to 70 feet, two lanes and angled parking along some portions south of Crown Valley Parkway. Camino Capistrano runs parallel to the Metrolink train tracks as well as power transmission lines on the west side; and a mix of low-scale uses, which include mixed service, public utility, auto sales, and commercial along the east side. Improvements consist of access to the Metrolink station and sidewalk portions with little to no landscaping mostly along the east side of the street.
- **Getty Drive** and **Cape Drive** are both cul-de-sacs that gain access from Forbes Road and have a 40-foot right-of-way with two lanes. Parallel parking is allowed and improvements include a sidewalk and some landscaping along some portions. Land uses along Getty Drive and Cape Drive consist of mixed service (commercial, service, office, and light industrial).

■ Existing Views

A viewshed is a geographic area composed of land, water, biotic, and/or cultural elements that may be seen from one or more viewpoints and that has inherent scenic qualities and/or aesthetic values as

determined by those who view it. Views within and surrounding the Specific Plan area consist mostly of urban nonresidential development and associated surface parking areas as well as views of the SR-73 overpass, the I-5 Freeway, Oso Creek, Gavilan Basin and open space hillside areas.

Viewpoints were selected within the Specific Plan area in order to provide a representative sample of the views available from the project site, as well as short- and long-range views of and through the project site from adjacent uses and the project vicinity. Figure 4.1-1 (Viewpoint Locations) shows the location of the 22 viewpoints, while Figure 4.1-2 (Viewpoints 1 and 2) through Figure 4.1-12 (Viewpoints 21 and 22) provides photographs and descriptions of the selected viewpoints.

■ Visual Character of Surrounding Areas

There are several important retail developments in close proximity to the Specific Plan area. The Mission Viejo Freeway Center lies east of Cabot Road and west of I-5, approximately 2 miles north of the northernmost boundary of the Specific Plan. In addition, the Mission Viejo Mall is situated approximately 0.5 mile east of I-5, just south of Crown Valley Parkway, and the Kaleidoscope Courtyards shopping complex, an entertainment/retail center, is located at the northwest corner of I-5 and Crown Valley Parkway. A fourth shopping center (The Center at Rancho Niguel) is located at Greenfield Drive and Crown Valley Parkway, just 1 mile west of the Specific Plan area.

The area located north of SR-73 and west of the Specific Plan Area contains steep hillsides sloping up to single-family detached residential homes on large lots (i.e., the Nellie Gale Ranch community in the City of Laguna Hills). South of SR-73 and west of the Specific Plan area, the land is devoted to both detached and attached residential uses. None of the existing residential areas are located at the same elevation as the developed Specific Plan area. The land to the south of the Specific Plan area is situated within the city limits of San Juan Capistrano, and is primarily undeveloped, aside from an extensive church/school/camp complex with several buildings, gardens, playing fields, and parking areas located immediately along the southern boundary of the Specific Plan area (formerly the Schuller church retreat).

To the east of the Specific Plan area are the I-5, some low-rise, nondescript corporate office uses, Saddleback College, Mission Viejo Mall, the Kaleidoscope Courtyards shopping complex, Mission Hospital Regional Medical Center, and several medical and other office buildings.

■ Light and Glare

The Specific Plan area and surrounding area currently have typical ambient nighttime light levels for an urbanized area. A variety of sources produce artificial light in the nearby vicinity, including street lights, illuminated signs, automobile headlights, security lights associated with buildings and parking lots, and interior and exterior lighting from commercial and office buildings.

Glare results from sharply reflected light caused by sunlight or artificial light reflecting from highly finished surfaces such as window glass or brightly colored surfaces. The Crown Cabot Financial Center project has the potential to generate glare due to the large facades of glass surfaces. The remaining surrounding commercial/retail development and associated surface parking lots presents only limited potential for glare, such as from light reflected off vehicle windows, and is typical of urban environments.

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This view is from Cabot Road, looking south and east over Oso Creek and Forbes Road, illustrating the linear nature of the project site, and the one and two-story nature of the commercial and industrial services along Forbes Road. Oso Creek runs north to south along the east side of Forbes Road.

Viewpoint 1: Cabot Road Looking Southeast



This view is from Cabot Road, looking northeast over Oso Creek and north Forbes Road. Midrange views show one and two story commercial service and industrial uses along north Forbes Road and both Cape Drive and Getty Drive. A portion of the Galivan Basin is visible in the background, on the left side of the photo

Viewpoint 2: Cabot Road Looking Northeast

Source: Atkins, 2011.

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Figure 4.1-2
Viewpoints 1 and 2

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This view is from the north end of Forbes Road, looking north, at the entrance to the 5.4-acre Three Flags Center. The tilt-up, non-descript style buildings shown in this view are typical along Forbes Road.

Viewpoint 3: North Forbes Road



This view is from the south end of Galivan Basin, north of the Forbes Road properties. The 20-acre Galivan Basin occupies the foreground and mid-range views in this photo. The background view consists of Cabot Road, to the north, and Shurguard Storage, located in the northwestern corner of the Specific Plan area.

Viewpoint 4: Gavilan Basin

Source: Atkins, 2011.

0D2135400 | Laguna Niguel Gateway EIR

Figure 4.1-3
Viewpoints 3 and 4

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This view is from Cabot Road, north of Crown Valley Parkway, looking south. The commercial and industrial businesses shown in this view, located on the east side of Cabot Road, are housed in single-story tilt up buildings constructed in the 1970's and 1980's, as is typical for the Specific Plan area.

Viewpoint 5: North Cabot Road



This view is from Crown Valley Parkway, looking northwest, at properties located on Forbes Road and Cape Drive. The foreground and mid-range views comprise the single-story, non-descript, multi-tenant buildings and surface parking layout that is typical throughout the Specific Plan area. Background views include similar development and the Cape drive cul-de-sac.

Viewpoint 6: Forbes Road and Cape Drive

Source: Atkins, 2011.

0D2135400 | Laguna Niguel Gateway EIR

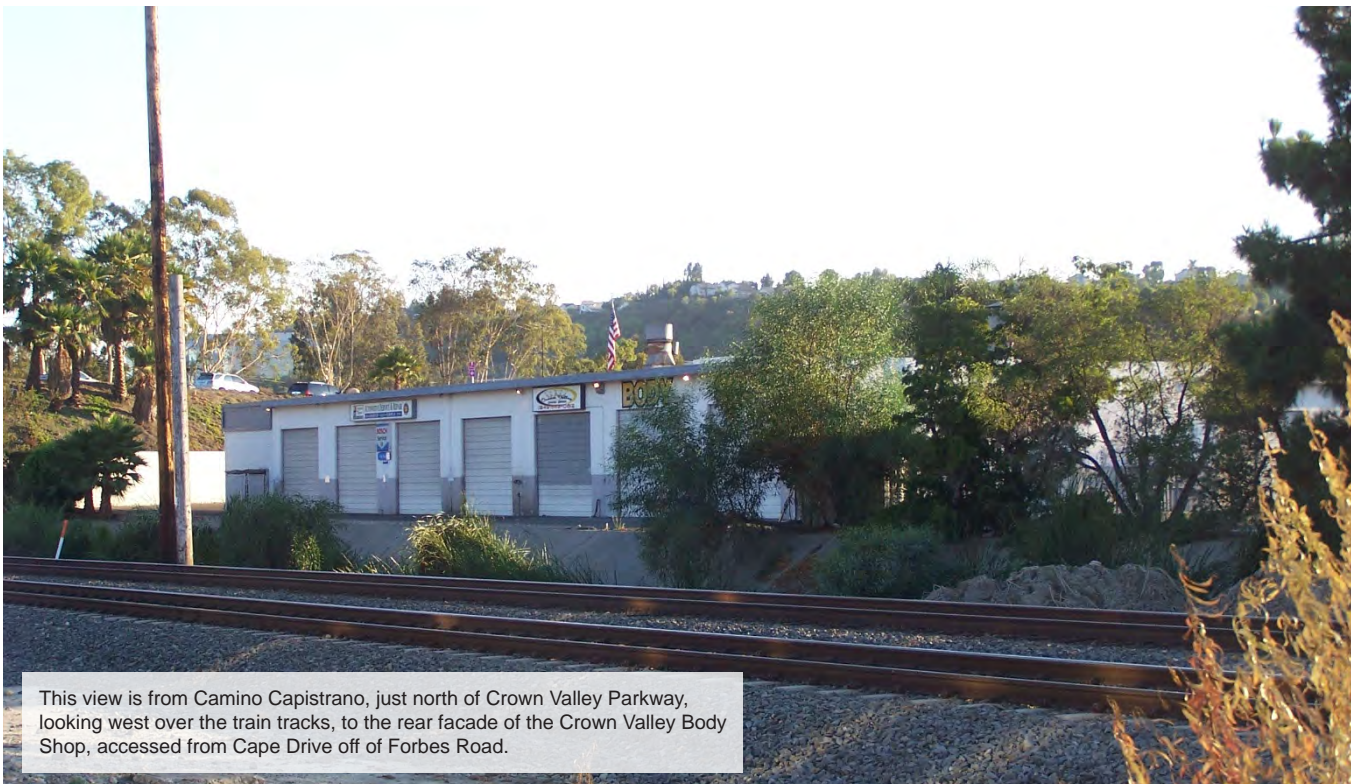
Figure 4.1-4
Viewpoints 5 and 6

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This view is from Camino Capistrano, north of Crown Valley Parkway, looking southeast at low scale, non-descript mixed-services uses, typical along this section of Camino Capistrano.

Viewpoint 7: Camino Capistrano North of Crown Valley Parkway



This view is from Camino Capistrano, just north of Crown Valley Parkway, looking west over the train tracks, to the rear facade of the Crown Valley Body Shop, accessed from Cape Drive off of Forbes Road.

Viewpoint 8: Camino Capistrano North of Crown Valley Parkway

Source: Atkins, 2011.

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This view is from above Cabot Road, south of Crown Valley Parkway, looking southeast, toward a vacant 2.1-acre site and the six-story Crown Cabot Financial Center, constructed in 1989 in a modern, avant-garde architecture style.

Viewpoint 9: South Cabot Road



This view is from above Cabot Road, south of Crown Valley Parkway and under the SR-73 overpass, looking east at the 10-acre Costco property located at the southeast corner of Crown Valley Parkway and Cabot Road.

Viewpoint 10: Costco

Source: Atkins, 2011.

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Figure 4.1-6
Viewpoints 9 and 10

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Source: Atkins, 2011.

Figure 4.1-7
Viewpoints 11 and 12

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This view is from the southern end of Forbes Road, looking north. On-street parking is seen on both sides of Forbes Road, and on an access road located between Oso Creek and Forbes Road. Allsize Self Storage abuts the west side of Oso Creek in the mid-range of this view.

Viewpoint 13: Forbes Road looking north

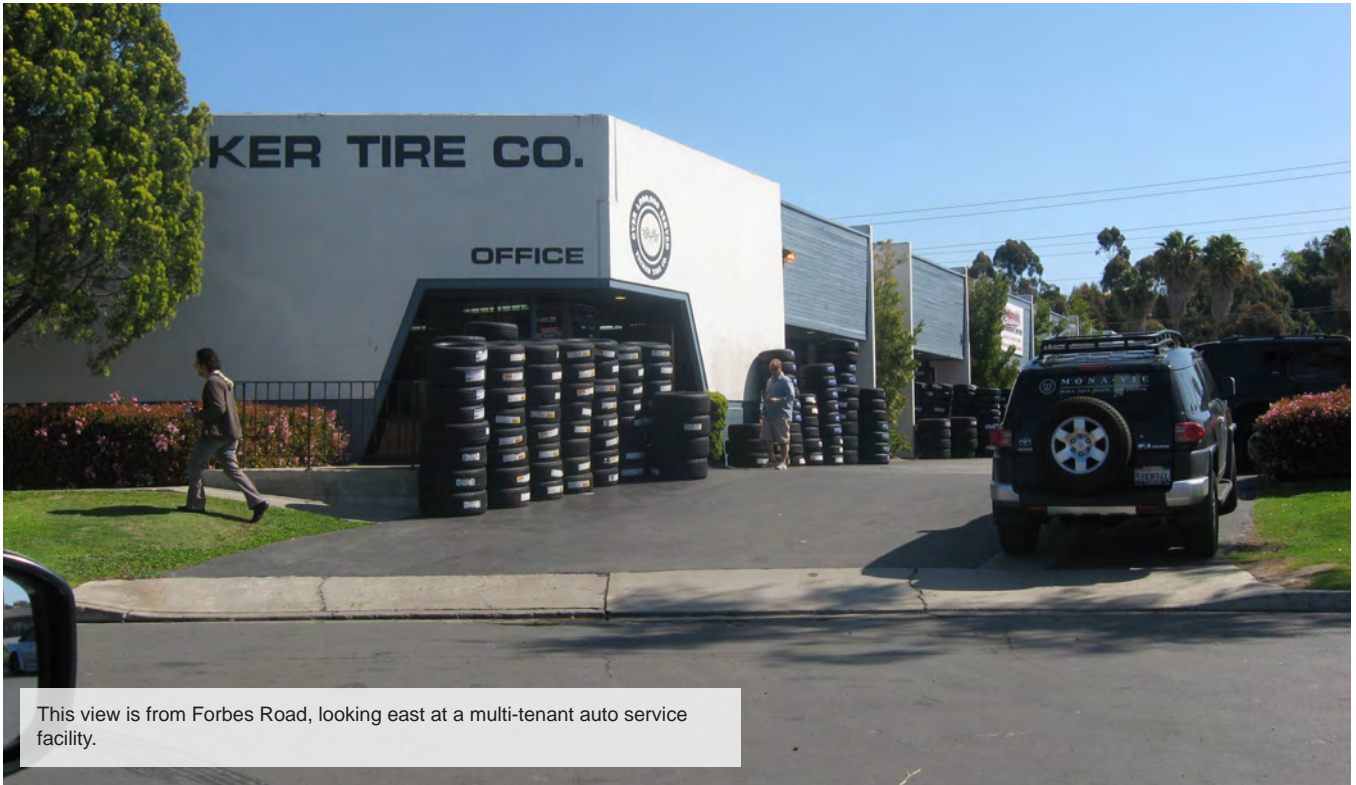


This view is from Crown Valley Parkway, looking southeast over Oso Creek toward two sites located on Forbes Road: the Laguna Niguel Medical Plaza, renovated in 2004 to incorporate more business park architectural upgrades, and a multi-tenant auto service facility built in the early 1980's, located south of the medical plaza.

Viewpoint 14: Forbes Road from Crown Valley Parkway

Source: Atkins, 2011.

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This view is from Forbes Road, looking east at a multi-tenant auto service facility.

Viewpoint 15: Forbes Road looking east



This view is from the Metrolink station entrance driveway, south of Forbes Road, looking south toward the transit station on the left side of the view and a utility access road adjacent to Oso Creek on the right side of the view.

Viewpoint 16: Metrolink entrance and parking

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Source: Atkins, 2011.

Figure 4.1-9
Viewpoints 15 and 16

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This view is from the Metrolink Station parking lot, looking northeast at the station ticketing facilities. In the background, on the left side of the photo, is the Sepulveda Building Materials storage yard, located directly north of the Metrolink Station.

Viewpoint 17: Metrolink Station



This view is from Crown Valley Parkway, looking southeast over Camino Capistrano, at industrial and commercial services operating in one and two-story, non-descript buildings constructed in the 1970's and early 1980's.

Viewpoint 18: South Camino Capistrano from Crown Valley Parkway

Source: Atkins, 2011.

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Figure 4.1-10
Viewpoints 17 and 18

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This view is from Camino Capistrano, looking south, with the east side developed primarily with auto dealerships, including Allen Cadillac. The Metrolink Station is located west of Camino Capistrano, with station parking and landscape improvements visible on the right side of this view.

Viewpoint 19: Camino Capistrano at Metrolink Station



This view is from the Paseo De Colinas overpass, looking north at the Camino Capistrano and Paseo De Colinas intersection. The BNSF ROW runs north/south along the west side of Camino Capistrano. Oso Creek can be seen to the west of the tracks. Major power lines run to and from an SDG&E substation located at the north end of Camino Capistrano.

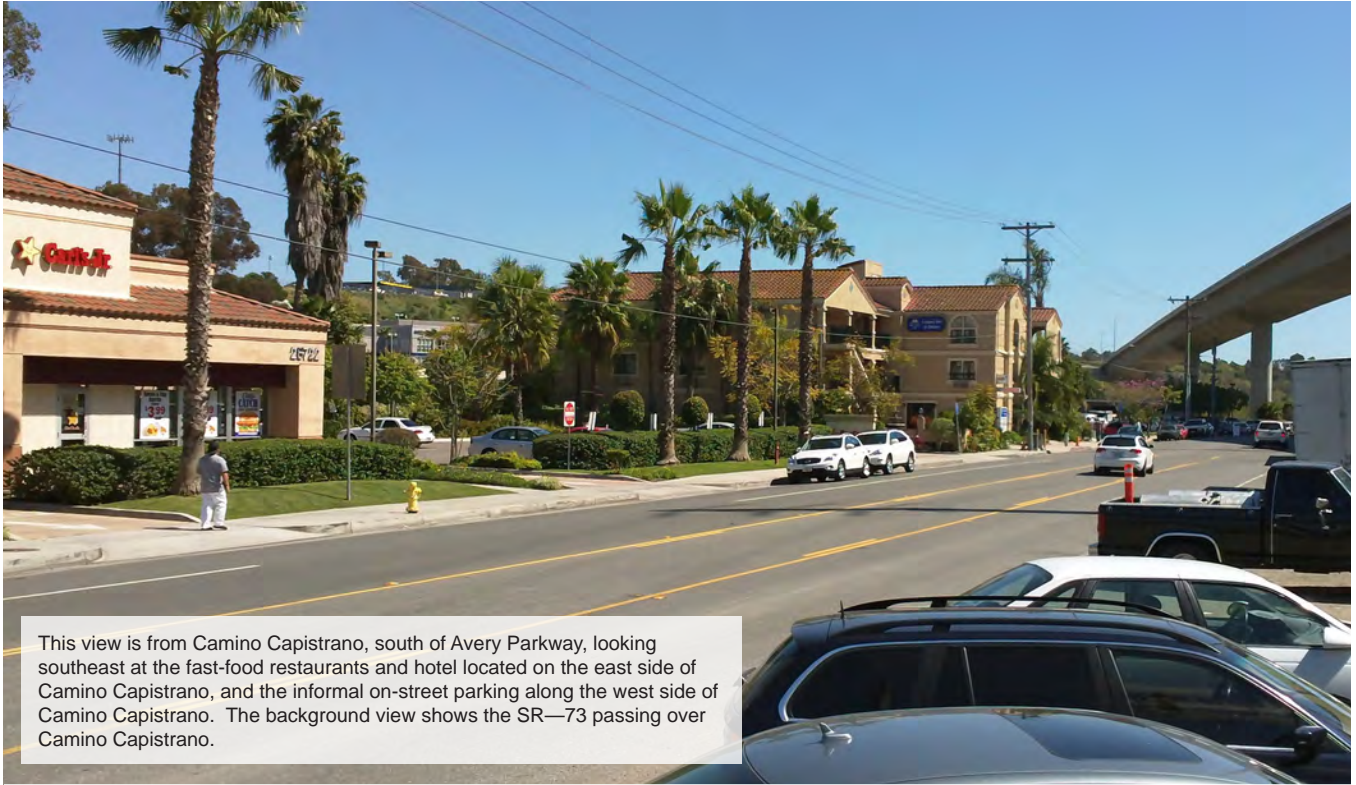
Viewpoint 20: Camino Capistrano from Paseo de Colinas

Source: Atkins, 2011.

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Figure 4.1-11
Viewpoints 19 and 20

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This view is from Camino Capistrano, south of Avery Parkway, looking southeast at the fast-food restaurants and hotel located on the east side of Camino Capistrano, and the informal on-street parking along the west side of Camino Capistrano. The background view shows the SR—73 passing over Camino Capistrano.

Viewpoint 21: South Camino Capistrano



This view is from Star Drive, looking south over the Mercedes Benz dealership, located in the southernmost portion of the Specific Plan area. The mid-range and background views show the SR—73 intersection with the I-5 freeway, to the east of the Mercedes Benz site.

Viewpoint 22: Star Drive

Source: Atkins, 2011.

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Figure 4.1-12
Viewpoints 21 and 22

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The types of land uses that are typically sensitive to excess light and glare include homes, hospitals, senior housing, and other types of uses where excessive light and glare may disrupt sleep. In addition, light and glare may interfere with the vision of drivers.

■ Shade and Shadow

The current low-rise buildings within the Specific Plan area presently create limited shade and shadow patterns that are contained within a close proximity to each low-rise building. A few exceptions exist including the 6-story Crown Cabot Financial Center located between Cabot Road and SR-73, where shadows cast by existing on-site development are more extensive.

4.1.2 Regulatory Framework

■ Federal

There are no federal regulations related to aesthetics that apply to the proposed project.

■ State

The California Department of Transportation designates scenic highway corridors. The project site is not visible from any existing designated (or eligible) scenic highways. The nearest highways that are eligible for a state scenic highway designation are Pacific Coast Highway, approximately 6.25 miles west of the Specific Plan area, and SR-74 approximately 4.5 miles to the south (Caltrans 2010a).

■ Local

The City of Laguna Niguel addresses aesthetic considerations for development in the City in various City documents. Specifically, the City of Laguna Niguel General Plan contains policies relevant to the visual quality and character of the proposed project.

Land Use Element

- | | |
|---------------------|---|
| Goal 2 | A sufficient amount of commercial and industrial uses that provide jobs and revenue to the City without compromising environmental quality. |
| Policy 2.2 | Enhance the quality and competitive advantage of commercial centers and business parks within the City. |
| Action 2.2.1 | Consider the adoption of commercial design standards to ensure that high-quality commercial centers and business parks are developed in the City. |
| Action 2.2.2 | Incorporate landscaping requirements for commercial development into community design guidelines. |
| Policy 3.3 | Reduce land use conflicts between residential and nonresidential uses. |

- Policy 1.1** Preserve and protect the scenic and visual quality of areas designated for Open Space areas as a resource of public importance.
- Action 1.1.1** Where feasible, to secure permanent open space through dedication and/or easements as a part of the discretionary review process.
- Policy 1.2** When siting a proposed development project, locate the project in areas containing less sensitive landforms and preserve the most sensitive landforms and natural resources of the project site as open space.
- Goal 4** Conservation and enhancement of visual resources along scenic highway corridors.
- Policy 4.1** Coordinate with the County of Orange and the Cities of Orange County in requiring scenic corridors to protect existing scenic qualities of the corridors.
- Action 4.1.1** Impose conditions on new development along landscaped corridors to preserve unique visual features.
- Goal 6** Carefully review sensitive hillside areas within the community.
- Policy 6.2** Consider significant natural features, including sensitive hillsides and ridgelines as part of the development review process.
- Action 6.2.1** Respect the natural landform as a part of site planning and architectural process to minimize grading and visual impact.

Consistency Analysis

The Specific Plan Update would serve to transition the Specific Plan area from an area that currently supports only commercial and industrial uses with little architectural quality and landscaping consistency to a pattern of commercial, mixed-use, and business park subareas, each with enhanced visual character and market focus, and with supportive (and differentiated) land use and development policies. Enhanced landscape and urban streetscape design standards and guidelines are created for the entire Specific Plan area as guiding tools to transform the area from linear strip and surface parking street fronts to a pattern of districts and corridors, each with enhanced visual character, and with supportive (and differentiated) land use and development policies. Landscape and urban streetscape design themes are created for each districts and corridors. Landscaping would work in context with the districts and corridors to enhance the surrounding land uses and contribute to its distinct character, while providing connectivity between districts along the Forbes, Cabot, Camino Capistrano, and Crown Valley corridors. Infill development on underutilized properties responding to the framework of the Specific Plan would contribute to an emerging pattern of coherent arrangements of buildings, streets, and blocks that were formerly lacking. Development standards regulate landscaping, building scale, frontage and building placement, open space and other standards to guide development towards achieving the desired vision for the Specific Plan area. The visual continuity of such development standards would help to establish and encourage related

urban design themes along the streetscape, which would help to enhance the visual quality along the corridors in the Specific Plan area.

The Specific Plan also helps preserve sensitive hillside areas by designating them as Open Space where little to no new development will occur. The proposed project would therefore not conflict with the intent of the policies identified in the Open Space and Land Use Elements of the General Plan.

4.1.3 Project Impacts and Mitigation

■ Analytic Method

A qualitative assessment of visual impacts was prepared by evaluating the existing visual setting and comparing it to visual conditions assumed to occur under the proposed project. It is important to note that an assessment of visual impacts is not a quantitative analysis, but rather qualitative and can be largely subjective. The Specific Plan area and surrounding land uses were observed, and photographs were taken to determine the short- and long-term visual effects of the proposed project.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact if it would do any of the following:

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

■ Effects Found to Have No Impact

Threshold	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
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The California Department of Transportation designates scenic highway corridors. The project site is not within a state scenic highway. Therefore, the proposed project would have no impact to scenic resources including trees, rock outcroppings, and historic buildings and no further analysis of this issue is required in the PEIR.

■ Impacts and Mitigation Measures

Threshold	Would the project have a substantial adverse effect on a scenic vista?
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Impact 4.1-1 **Implementation of the proposed project would not have an adverse effect on a scenic vista. This impact is considered *less than significant*.**

Scenic vistas may generally be described in two ways: panoramic views (visual access to a large geographic area, for which the field of view can be wide and extend into the distance) and focal views (visual access to a particular object, scene, setting, or feature of interest). Panoramic views are typically associated with vantage points that provide a sweeping geographic orientation not commonly available. Examples of panoramic views include urban skylines, valleys, mountain ranges, or large bodies of water. Focal views are generally defined to include views of natural landforms, public art/signs, and visually important structures, such as historic buildings. For the purpose of this analysis, scenic vistas are those identified in the City of Laguna Niguel General Plan Open Space or Land Use Element.

Changes to a scenic vista would be considered substantial if the development permitted under the Specific Plan results in obstruction of a publicly accessible scenic view, or removal, alteration, or demolition of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area as viewed from public vantage points.

Scenic Vistas from within the Specific Plan Area

The Specific Plan is generally characterized by a linear pattern of low-rise commercial and light industrial buildings and surface parking lots. As such, the undifferentiated commercial and light industrial strip that currently dominates the Specific Plan area does not provide any panoramic views of designated scenic resources within the Specific Plan boundary.

Scenic Vistas Off Site of the Specific Plan Area

Significant panoramic views within the vicinity of the proposed project, as seen from various locations within the Specific Plan area, include views taken from north Cabot Road and looking east and east/west. Off-site panoramic views from this point include the I-5 Freeway and the urban landscape located just east of it. Relevant urban development east of I-5 includes the Kaleidoscope Entertainment Center as well as other commercial/office uses located east of the project boundary and east of I-5. In addition, the elevated portion of SR-73, which crosses the Specific Plan area, includes significant scenic vistas which expand beyond the Specific Plan boundaries in particular views of the hillside areas to the northwest of the site.

The Gateway Specific Plan Update includes development standards and design guidelines to ensure that implementation of the Specific Plan would not obstruct or degrade existing off-site scenic vistas. Standards include: height limits that respect the sloping topography of the Specific Plan area; ‘building-type’ standards that break up building mass and regulate articulation; architectural standards and guidelines to regulate and ensure use of high-quality design, materials and colors; build-to and setback standards, as well landscape and open space requirements to ensure streetscape continuity within each Planning District; and, Open Space zoning to strike a balance between the built and natural environment.

Summary

Because there are no designated scenic vistas located within the Specific Plan area boundaries, and because implementation of the proposed project would not obstruct or otherwise degrade existing off-site scenic vistas, this impact is considered *less than significant*.

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
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Impact 4.1-2 **Implementation of the proposed project would not degrade the visual character or quality of the site but could result in shade/shadow impacts on nearby light-sensitive uses. However, with implementation of mitigation measures, this impact is considered *less than significant*.**

Existing aesthetic conditions within the Specific Plan area consist mostly of linear strip service, retail, and light industrial centers with street-fronting surface parking lots. The Specific Plan Update includes policies and guidelines for implementing new landscape and streetscape development standards that will regulate new development towards achieving an enhanced vision for the Specific Plan area. The visual continuity of such new development would serve to enhance the visual quality along the corridors in the Specific Plan area.

The proposed Specific Plan Update would enable a transition from linear strip and surface parking street fronts to a pattern of districts and corridors each with enhanced visual character, and with supportive (and differentiated) land use and development policies. Landscape and urban streetscape design themes have been developed for each district and corridor. Landscaping would work to enhance the surrounding land uses and contribute to its distinct character, while providing connectivity between districts along the Forbes, Cabot, Camino Capistrano, and Crown Valley corridors. Infill development on underutilized properties responding to the framework of the Specific Plan Update would contribute to an emerging pattern of coherent arrangements of buildings, streets, and blocks that are currently lacking in the Specific Plan area. Development standards would regulate landscaping, building scale, frontage and building placement, open space and other standards to guide development towards achieving the desired vision for the Specific Plan area. The visual continuity of such development standards would help to establish and encourage related urban design themes along the streetscape, which would help to enhance the visual quality along the districts and corridors throughout the Specific Plan area.

Visual Character Changes through Emerging Land Use Patterns

Through implementation of the proposed Specific Plan, the Specific Plan area corridors would be transformed from an area dominated by commercial uses to a pattern of higher density mixed-use and commercial centers. Whereas the commercial area is undifferentiated—a linear pattern of exclusively commercial buildings, typically low-rise (with a few exceptions), surface parking lots, and monument signs—implementation of the Specific Plan would result in the Specific Plan area being characterized by an emerging structural differentiation that gradually increases in intensity as development gets closer to Crown Valley Parkway.

There would be clusters of mixed-use pedestrian-friendly activity (residential, retail, and office); and there would be longer linear portions distinguished by commercial auto-oriented uses, particularly along the east side of Camino Capistrano. Whereas the existing commercial uses caters to a narrow segment of market demand (the demand for auto-oriented commercial goods and services), the new development would have a much wider appeal through the continuous implementation of enhanced landscape and streetscape design standards.

The overall scale and massing of development would gradually transition from the one- and two-story scale of the vast majority of the existing development throughout the Specific Plan area to a higher-intensity mixed-use Gateway center for the City. The proposed open space and Oso Creek areas within the Specific Plan area would focus on preservation of existing hillside open space areas as well as the Oso Creek, enhancing it as an open space amenity for residents and visitors.

In order to accomplish the proposed changes within the Specific Plan area, the Specific Plan Update outlines specific strategies and development regulations to help implement and incentivize the desired change. Strategies include providing greater development intensities in targeted areas, specifying and requiring landscape improvements and expanding permitted land uses. The Specific Plan implements the proposed strategies by requiring new development to progress in a manner that creates placemaking through the implementation of high-quality, pedestrian friendly, and sustainable development.

Infill development on underutilized properties within the Specific Plan area would contribute to an emerging pattern of coherent arrangements of buildings, streets, and blocks that is currently absent from the area. Similarly, the integrated design measures in the Specific Plan would foster architectural quality and variety, community connections, landscape buffers, and pedestrian-oriented uses. A variety of massing and forms would also be encouraged to introduce variety at the ground plane and skyline of the Specific Plan area. New street improvements would enhance the walking and driving environment as well as the visual identity of the corridors.

New and renovated buildings would embody architectural characteristics that maintain the desired human scale, rhythm, and character appropriate for the corridors. With the goal of strengthening Laguna Niguel's "sense of place" and architectural identity in mind, the Specific Plan provides guidance for individual developers to incorporate characteristics of predominant architectural styles such as (but not limited to) massing, horizontal and vertical scale increments, façade composition, architectural elements, materials, and colors.

One of the primary intents of the proposed Specific Plan is to guide new development that enhances the overall image of the Specific Plan area as an exciting destination for visitors and residents with a cohesive identity. Pedestrian activity would be encouraged in key areas and new development would include increased or improved landscaping and open space areas. New landscaping would occur as new developments are implemented throughout the Specific Plan area and would serve to soften and buffer views of the proposed structures. Publicly accessible open spaces would be provided and built with the quality and care necessary to ensure the development of a varied network of well-used, interconnected public spaces that enhance the livability of the Specific Plan area. The incorporation of new landscaping and other outdoor amenities (such as lighting and benches) would provide an additional visual enhancement to the Specific Plan area.

Streetscape Improvements

Phased streetscape improvements would occur over time as financial resources allow and as part of individual private development projects, would contribute significantly to the enhancement of the visual appeal and identity of the Specific Plan area.

The integration of streetscape with building design standards and site improvements would result in the emergence of an increasingly cohesive and iconic Specific Plan area for the City.

Building Heights

Under the existing zoning regulations, height limits within the majority of the Specific Plan area's land uses are up to 80 feet (approximately six stories). Therefore, in general, the project site currently has a height limit of six stories, such as the existing Crown Cabot Financial Center. Implementation of the proposed Specific Plan would allow increased building heights in some zoning districts. Table 4.1-1 (Proposed Building Heights) compares the existing and proposed maximum building height regulations by land use.

<i>Land Use</i>	<i>Max Height, Existing</i>	<i>Max Height, Proposed</i>
Business Park	60 ft	60 ft
Mixed-Use	80 ft	80 to 120 ft (varies by location)
Retail/Commercial	80 ft	120 ft
Multi-Family Residential	—	80 to 120 ft (varies by location)
Office	80 ft	80 to 120 ft (varies by location)
Commercial/Service	50 ft	50 ft

The Gateway area topography generally slopes downward from west to east, with building sites along Forbes Road that are between 20 and 80 feet below the building sites along Cabot Road. As such, the properties along Forbes Road may be developed at with building heights as high as 120 feet, or ten stories, where currently a maximum height of 80 feet, or six stories, is allowed.

In addition, adherence to Specific Plan building-type and design regulations will serve to break the building mass into separate components, adding architectural interest and upper level setbacks, as well as add to the pedestrian scale and character of the outdoor environment.

With very few exceptions (such as the Crown Cabot Financial Center), the current low-rise buildings that dominate the project site presently create limited shade and shadow patterns that are contained within a close proximity to each low-rise building. Future development of multi-story buildings in the project site may create new sources of shading that could impact shadow-sensitive uses in the vicinities of new development sites.

Due to the programmatic nature of this PEIR, specific project-level design plans (including building heights, positioning, and dimensions) are not available at this time and a complete assessment of shade and shadow impacts of future development that could occur under the Specific Plan is not possible. In the future when specific development projects are proposed, project design plans will be evaluated, as necessary, to determine the extent of potential shade and shadow impacts upon adjacent light-sensitive uses. Light-sensitive uses are those that depend upon light for their operation (e.g., solar panels) or for which solar access is essential for their function (e.g., swimming pools). Light-sensitive uses also include public parks and routinely useable outdoor spaces associated with residences and schools (e.g., yards and

playgrounds). Typically, a variety of criteria are used to determine the significance of a shadow impact, including the following:

- Affected land use (criticality of direct sunlight for use)
- Duration (hours per day in shadow)
- Time of day (critical time period for direct sunlight)
- Season (time of year use would be shadowed)
- Extent (percentage of use that would be shadowed)
- Type (solid or dappled shadow)
- Preexisting condition (shadow condition due to existing buildings, landscaping, or other features)

With these criteria as a basis for shadow impact analysis, the following mitigation measure shall be applied to future development in the Specific Plan in which City Planning officials believe may result in a potentially significant shade/shadow impact on adjacent light-sensitive uses. In cases where new development can clearly demonstrate that a project would have minimal effect on light-sensitive uses, no mitigation would be necessary.

MM4.1-1 For projects that may result in a potential shade/shadow impact on nearby light-sensitive uses, as determined by the Director of Community Development, the following mitigation measure shall be implemented:

Prior to project approval by the decision-making authority, the Applicant shall be required to perform a shade and shadow analysis that demonstrates that the project will not result in significant impacts according to the following criteria. Shadowing impacts in the Specific Plan boundary are considered significant when shadows would be cast upon potentially sensitive uses during a substantial portion (typically greater than 50 percent) of the main daylight hours (9:00 AM to 3:00 PM during the fall, winter, and spring seasons, and 9:00 AM to 5:00 PM [daylight savings time] during the summer season). Light-sensitive uses are those that depend upon light for their operation (e.g., solar panels) or for which solar access is essential for their function (e.g., swimming pools). Light-sensitive uses also include public parks and routinely used outdoor spaces associated with residences and schools (e.g., yards and playgrounds).

Adherence to mitigation measure MM4.1-1 would require individual shade and shadow analyses, for those projects where the City deems it necessary, to ensure that new buildings do not impact adjacent properties. In some cases, it's reasonable to assume that future projects wouldn't require implementation of MM4.1-1 due to shade and shadow effects from pre-existing conditions.

In general, while portions of the Specific Plan area would change and intensify, development standards and guidelines of the proposed project would ensure that future development includes proper site planning, unique architecture, high-quality building materials, and extensive indoor and outdoor amenities. Implementation of the Specific Plan would ensure that form, height, and treatment of buildings would reinforce the prominence and role of major urban spaces within this portion of the City, and improve those areas that are in need of revitalization. Future development would serve to improve the aesthetic character of the Specific Plan area and enhance the City's identity. Although future development could result in taller buildings compared to existing uses, the overall changes that are proposed would be designed to create visually attractive and compatible uses. Consequently, future development that would be permitted under the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. Rather, implementation of the

proposed Specific Plan would ultimately improve the aesthetic image of the area and reduce the existing “degraded views” that are present within the Gateway. This impact would be *less than significant*.

Threshold	Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?
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Impact 4.1-3 Implementation of the proposed project would introduce new sources of light and glare into the project vicinity that could adversely affect day or nighttime views in the area. However, with implementation of mitigation measures, this impact is considered *less than significant*.

For the purposes of this analysis, light or glare effects evaluate the change in illumination level as a result of project sources and the extent to which project lighting would spill off the Specific Plan area and affect adjacent light-sensitive areas. Implementation of the proposed project would result in greater intensity and density of development over that which currently exists, which could result in a greater potential for light and glare impacts.

Light

Future development that would be permitted under the Specific Plan would increase overall nighttime lighting in the Specific Plan area. Artificial lighting would accompany all new development, including exterior lighting for streetlights, parking lots, signs, walkways, and interior lighting, which could be visible from outside. Transportation infrastructure, including the I-5 and SR-73, open space, commercial, light industrial, and office uses surround the boundaries of the Specific Plan. Residential uses, considered light-sensitive receptors, surrounding the Specific Plan area are limited to those single-family units located on top of the hillside areas west of the Specific Plan area boundary. Most of these single-family residences are located higher and far enough from areas designated for intensification. In addition, future Multi-Family residences could be located throughout the Specific Plan area if developed under the Specific Plan would also be considered light-sensitive receptors.

Night illumination can affect people in several ways. For example, where intense lighting is viewed against a dark background, the contrast attracts the attention of the viewer and could be considered annoying. Under low-light conditions, the human eye adjusts to the brightest light within the field of view. If the range of light intensity to which the eye is exposed is large, the eye will be relatively insensitive to the more dimly lighted areas within the field of view. In addition, increased illumination can affect the suitability of sleeping areas, use of outdoor areas at natural light levels, and privacy. The degree of impacts may be related to the degree of change from the illumination levels to which people have become accustomed.

Due to the urbanized nature of the Specific Plan area, a significant amount of ambient nighttime light currently exists, reducing the views of stars and affecting views of the nighttime sky. Streetlights and headlights along the major streets within the project site provide a significant amount of existing ambient light surrounding the Specific Plan area. Anticipated development under the Specific Plan would permit increased densities in targeted areas of the Specific Plan area, which would introduce nighttime lighting directly onto future development sites, as well as into the project vicinity. Consequently, the surrounding uses could be exposed to increased levels of exterior lighting associated with the proposed development;

however, the Specific Plan's development standards addressing density, height, and scale are included to ensure that future development is sited appropriately with respect to the character and surrounding land uses of the area.

Furthermore, Laguna Niguel Municipal Code Section 9-1-35.15 regulates both security and decorative outdoor lighting, including: intensity, height, location, design, as well as parking lot, common area, and game court lighting standards, all to achieve safety and aesthetic goals while minimizing glare and spillover.

Existing lighting and nighttime vehicular traffic within the Specific Plan area would also mask some of the increase in nighttime lighting that would occur with implementation of the Specific Plan. While the Specific Plan would introduce residential and mixed-use development, permitting residential uses along segments that currently are developed with nonresidential uses, future residents would be making a conscious decision to live in a high-density area where there could be increased light sources associated with the mixed-uses in the general vicinity as compared to other areas in the City. Therefore, light impacts would be *less than significant*.

Glare

New development would generally range from two to six stories at a minimum, and from six to ten stories at a maximum permitted height, depending on the land use and parcel location. Buildings generally three or more stories in height have the potential to include large building faces that could introduce reflective surfaces (e.g., brightly colored building façades, reflective glass) that could increase existing levels of daytime glare. The proposed project could, therefore, serve as a new source of light and glare in the area, and impacts would be potentially significant. Implementation of mitigation measure MM4.1-2 would be required.

MM4.1-2 Proposed new structures shall be designed to maximize the use of nonreflective façade treatments, such as matte paint or glass coatings. Prior to project approval by the decision-making authority, the Applicant shall indicate provision of these materials on the project plans.

The provision of nonreflective façade treatments and the minimization of unrelieved glass surfaces would reduce the reflective properties of the building materials employed on new developments, such as glass, metal, or finished concrete. Therefore, glare impacts would be *less than significant*.

4.1.4 Cumulative Impacts

The geographic context for the analysis of cumulative aesthetic impacts includes areas with views of the proposed project site. The analysis accounts for all anticipated cumulative growth within this geographic area; however, the primary contributor to potential visual changes in this area of the City is the proposed project since it encompasses nearly 3.5 miles of generally commercial and mixed-use corridors. There are no other individual projects that could occur in the immediate vicinity.

Threshold	Would the project have a substantial adverse effect on a scenic vista?
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Scenic vistas within the City of Laguna Niguel include panoramic views of the Pacific Ocean and focal views of individual sites throughout the City. Views of the ocean are not available from the project site

due to topography and existing development. Instead, the sweeping views are only available when one is directly on the beach or traveling west on Crown Valley Parkway or other westbound thoroughfare that connects the City with Pacific Coast Highway and the beach. Therefore, cumulative development of the project would not block existing views of the ocean. Focal views are site specific, and visual impacts are generally limited to the immediate vicinity of a proposed project, where views from a Specific Plan area are more likely to be experienced. Although it is possible that structures could be built that would block individual focal views in the City, the combination of existing regulations and local design review procedures, severely restrict the possibility that future development would substantially block visually important features within the City. Therefore, implementation of the Specific Plan would not contribute to adverse effects on scenic vista and cumulative impacts are considered *less than significant*.

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
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Cumulative development within the surrounding areas would constitute further intensification of an already urban area of the City and generally future projects would be designed to enhance the existing character of a site. Design review would consider the types and placement of planned development throughout the City. Consequently, changes in land use that would substantially degrade the area would generally not be permitted to occur, thereby protecting and enhancing the visual character of these areas. Consequently, cumulative impacts are anticipated to be less than significant. Moreover, the contribution of the proposed project to such cumulative impacts would not be cumulatively considerable, because as described above, the proposed project would not have a substantial adverse effect on the visual quality of the Specific Plan area. Instead, the proposed project is designed to enhance the overall aesthetic character of the City by providing a place-making gateway into Laguna Niguel. In addition, shade and shadow impacts are site-specific effects of individual projects on adjacent uses. It is possible that cumulative development could result in taller buildings that may reduce the amount of available sunlight on adjacent sensitive uses. However, the combination of existing regulations and local design review procedures would ensure that such potential effects are reviewed and mitigated prior to development. In addition, as future development under the Specific Plan would be required to adhere to significance criteria for shade impacts with respect to sensitive land uses (MM4.1-1), cumulative impacts would not be cumulatively considerable. Therefore, the cumulative impact of the project would be *less than significant*.

Threshold	Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?
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Laguna Niguel is nearly built out and contains numerous existing sources of nighttime lighting. Cumulative development would constitute further intensification of an already urban area and would generally occur through infill development. Although cumulative new development could include direct illumination of project structures, features, and/or walkways, the increase in ambient nighttime lighting levels in these areas would only rise minimally because a significant amount of ambient lighting currently exists due to the urbanized nature of the City as a whole. Thus, increases in nighttime lighting that would occur under cumulative development would not significantly affect nighttime views of the sky because such views are already limited. Cumulative development, in combination with development under the proposed project, is not anticipated to result in the creation of new sources of light that could negatively

affect nighttime views. Therefore, cumulative impacts associated with ambient nighttime lighting would be considered *less than significant*.

The cumulative context for spillover light would be other development that could add to the spillover light effects of the project on properties in the adjacent residential neighborhoods. In general, spillover light is a site-specific effect that could only be added to by other projects in the immediate vicinity of the affected property. However, due to the size of the proposed project, the Specific Plan represents the entirety of cumulative development in terms of spillover light. Future development would add lighting typical of mixed-use residential and commercial developments. This includes directed lighting for architectural accents, signage, landscape elements, and security lighting. Although some residential uses surround the project site, future development would be replacing existing commercial uses along the corridors that already have nighttime lighting. New development may include additional lighting compared to existing conditions; however, it would be incremental in nature considering the built-out nature of the project site. In addition, the City Municipal Code Section 9-1-35.15 regulates both security and decorative outdoor lighting, including: intensity, height, location, design, as well as parking lot, common area, and game court lighting standards, all to achieve safety and aesthetic goals while minimizing glare and spillover. Future residents of high-density residential and mixed-use projects in the Gateway area would make a conscious decision to live in an area that could include increased lighting due to the mix of uses proposed. Therefore, there would be *less-than-significant* cumulative impact associated with spillover lighting.

Cumulative development could result in some increase in glare, as specific building materials and configurations are uncertain. However, these potential increases are likely to be minor and consistent with the existing built environment due to limited development potential and existing City regulations. Further, future projects would, in many cases, be subject to CEQA review and would require mitigation for these effects, which would likely also reduce the impacts to a less-than-significant level. Consequently, cumulative glare within the surrounding area would be less than significant. As implementation of the proposed project would not, after MM4.1-2, result in a significant daytime glare impact, the proposed project would not result in a cumulatively considerable contribution to this impact. Therefore, cumulative impacts associated with glare would not be cumulatively considerable and would be *less than significant*.

4.1.5 References

- Laguna Niguel, City of. 1992. *City of Laguna Niguel General Plan*, adopted August 4.
- . 1999. *Laguna Niguel Gateway Specific Plan*.
- . 2011. *Laguna Niguel Gateway Public Draft Specific Plan*, January 25.
- . *Laguna Niguel Municipal Code*. <http://library.municode.com/index.aspx?clientId=12544&stateId=5&stateName=California> (accessed January and February 2011).

4.2 AIR QUALITY

This section of the PEIR analyzes the potential environmental effects on air quality from implementation of the proposed project. Two comment letters addressing air quality were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from various sources, including the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, the SCAQMD Air Quality Analysis Guidance Handbook, and the 2007 Air Quality Management Plan (AQMP), and other sections of this document. Full reference-list entries for all cited materials are provided in Section 4.2.5 (References).

4.2.1 Environmental Setting

■ Climate

The City of Laguna Niguel is situated in south Orange County, California, which is located approximately 50 miles south of downtown Los Angeles and 65 miles north of downtown San Diego. The City is located within the South Coast Air Basin (Basin), named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys or basins below. This 6,600-square-mile area includes all of Orange County and the nondesert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is influenced by a wide range of emission sources, such as dense population centers, heavy vehicular traffic, industry, and meteorology.

A semi-permanent, subtropical high-pressure cell over the Pacific Ocean largely controls the climate of the Basin by moderating the difference in seasonal temperatures. The annual average temperature varies little throughout the Basin, with the average in the middle 60s, measured in degrees Fahrenheit (°F). Coastal areas have a more pronounced oceanic influence, and show less variability in annual minimum and maximum temperatures than inland areas. The City of Laguna Niguel is located in the southern portion of the Basin. The City experiences average temperature ranges from approximately 67.0°F in January to 79.0°F in August.

Although the climate of the Basin can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. Humidity restricts visibility in the Basin. The annual average relative humidity is 71 percent along the coast and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast. The year-round humidity of Laguna Niguel is generally 72 percent, and the sun shines approximately 280 days out of the year. The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin, along the coastal side of the mountains. Average rainfall in the City of Laguna Niguel is

13.56 inches annually with February being the wettest month of the year, averaging 2.96 inches of rainfall. The influence of rainfall on the contaminant levels in the Basin is minimal.

The Basin experiences a persistent temperature inversion, which is characterized by increasing temperature with increasing altitude. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. The mixing height for this inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

The vertical dispersion of air contaminants in the Basin is also affected by wind conditions. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas in the Basin are transported predominantly on-shore into Riverside and San Bernardino Counties.

The Santa Ana winds are strong, dry, north or northeasterly winds that occur during the fall and winter months, and disperse air contaminants in the Basin. The Santa Ana winds often last for several days at a time. Winds in the vicinity of the proposed project site blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in Laguna Niguel average about 2.0 miles per hour. Summer wind speeds are, on average, slightly higher than winter wind speeds. Peak gust velocities can reach as high as 36 miles per hour.

■ Air Quality Background

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources are usually required to have a permit from the SCAQMD in order to operate. Point sources typically occur at specific identified locations, and are associated with manufacturing and industry. Some examples of point sources are boilers or combustion equipment that produce electricity or generate heat, such as heating, ventilation, and air conditioning (HVAC) units.

Area sources are widely distributed and produce many small emissions. The area-wide use of area sources contributes to regional air pollution. Examples of area sources include residential and commercial water heaters, painting operations, portable generators, lawn mowers, agricultural fields, landfills, and consumer products, such as barbeque lighter fluid and hairspray.

Mobile sources are classified as either on-road or off-road sources and account for the majority of the air pollutant emissions within the Basin. Examples of mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. On-road sources are those that are legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and construction vehicles. Mobile sources account for the majority of the air pollutant emissions within the Basin. However, air pollutants can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of specific pollutants, which are referred to as “criteria pollutants.” The national and state ambient air quality standards have been set at concentration levels that will protect the most sensitive persons from illness or discomfort with a margin of safety. Applicable ambient air quality standards are identified later in this section.

The criteria pollutants for which federal and state standards have been promulgated and that are most relevant to air quality planning and regulation in the Basin are ozone, carbon monoxide, fine suspended particulate matter, nitrogen dioxide, sulfur dioxide, and lead. In addition, toxic air contaminants are of concern in the Basin. Each of these is briefly described below.

- **Ozone (O₃)** is a gas that is formed when volatile organic compounds (VOCs)/reactive organic gases (ROGs) and nitrogen oxides (NO_x), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- **Carbon monoxide (CO)** is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Motor vehicles operating at slow speeds are the primary source of CO in the Basin because CO is emitted directly from internal combustion engines. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- **Respirable particulate matter (PM₁₀)** and **fine particulate matter (PM_{2.5})** consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- **Nitrogen dioxide (NO₂)** is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of nitrogen oxide compounds, NO₂ is the most abundant in the atmosphere. Commuters in heavy traffic may be exposed to higher concentrations of NO₂ than those indicated by regional monitors, because ambient concentrations of NO₂ are related to traffic density.
- **Sulfur dioxide (SO₂)** is a colorless, extremely irritating gas or liquid which enters the atmosphere as a pollutant, mainly as a result of burning high sulfur-content fuel oils and coal, as well as from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates. Collectively, these pollutants are referred to as sulfur oxides (SO_x).
- **Lead (Pb)** is a solid heavy metal that can exist in air as an aerosol particle component. An aerosol is a collection of solid, liquid, or mixed-phase particles suspended in the air. Lead was first regulated as an air pollutant in 1976. Leaded gasoline was first marketed in 1923 and was used in motor vehicles until around 1970. The exclusion of lead from gasoline helped to decrease emissions of lead in the United States from 219,000 to 4,000 short tons per year between 1970 and 1997. Even though leaded gasoline has been phased out in most countries, some still use leaded gasoline. Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering. The

mechanisms by which lead can be removed from the atmosphere (sinks) include deposition to soils, ice caps, oceans, and inhalation.

Lead concentrations once exceeded the state and national air quality standards by a wide margin but have not exceeded state or national air quality standards at any regular monitoring station since 1982. Lead is no longer an additive to normal gasoline, which is the main reason concentration of lead in air is low. Lead is typically only emitted during demolition of structures expected to include lead-based paint and materials. However, the developer would be required to follow federal and state regulations that govern the renovation and demolition of structures where materials containing lead are present. The proposed Project will not include a direct source of lead emissions and therefore, lead is eliminated from further review in this analysis.

- **Toxic air contaminants (TACs)** refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. Toxic air contaminants are different than “criteria” pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be local rather than regional.

State standards have been promulgated for other criteria air pollutants, including sulfates, hydrogen sulfide, and visibility-reducing particles. The state also recognizes vinyl chloride as a TAC, but with an undetermined threshold level of exposure for adverse health effects. Vinyl chloride and hydrogen sulfide emissions are typically generated from mining, milling, refining, smelting, landfills, sewer plants, cement manufacturing, or the manufacturing or decomposition of organic matter. The state standards for sulfate and visibility reducing particles are not exceeded anywhere in the Basin.

■ Health Effects of Air Pollutants

Ozone

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities.

Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

Nitrogen Dioxide

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

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

Carbon Monoxide

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include pre-term births and heart abnormalities.

Particulate Matter

A consistent correlation between elevated ambient fine particulate matter (PM₁₀ and PM_{2.5}) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life span, and an increased mortality from lung cancer.

Daily fluctuations in PM_{2.5} concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter.

Sulfur Dioxide

A few minutes of exposure to low levels of SO₂ can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to airflow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂.

Animal studies suggest that despite SO₂ being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Odors

Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

Toxic Air Contaminant Emissions

TACs are airborne substances that are capable of causing chronic and acute adverse effects on human health. They include numerous organic and inorganic chemical substances that may be emitted from a variety of common sources and have varied potential health impacts. Due to the vast number of compounds that are considered TACs and the varied potential health impacts, a detailed discussion of all of the potential chemicals and their potential impacts is not included in this document. Diesel particulate matter is identified here as it is the greatest TAC emitted and is specifically analyzed in this document.

Diesel particulate matter is a mixture of many exhaust particles and gases produced when an engine burns diesel fuel. DPM consists of small particles with an aerodynamic diameter that is less than or equal to 10 microns (one-seventh the diameter of a single human hair) (SMAQMD 2009, 6). Many compounds found in diesel exhaust are carcinogenic, including sixteen that are classified as possibly carcinogenic by the International Agency for Research on Cancer. The size of the particles allows them to reach and become lodged in the air sacs deep in the lungs resulting in adverse health effects. Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, and can cause coughs, headaches, light-headedness, and nausea. Long term (chronic) effects include aggravation of existing respiratory and cardiovascular disease, alteration in the body's defense systems against foreign materials, damage to lung tissue, reduced lung function, carcinogenesis, premature birth rates, and premature death (SMAQMD 2009, 6–7). Pregnant women, children, the ill, and the elderly are more susceptible to adverse health effects from DPM exposure.

■ Regional Air Quality

Measurements of ambient concentrations of the criteria pollutants are used by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (California ARB) to assess and classify the air quality of each air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national, state, and federal standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment.” If the pollutant exceeds the standard, the area is classified as a “nonattainment” area. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

The entire Basin is a federal-level nonattainment area for Ozone, PM_{10} , and $PM_{2.5}$, as designated by the USEPA. The Basin is in federal attainment (or unclassified) for CO and NO_2 , and attainment for SO_2 . The Basin is a state-level extreme nonattainment area for ozone, and is a state-level nonattainment area for $PM_{2.5}$, PM_{10} , and NO_2 . It is in attainment for the state CO, SO_2 , sulfates, and lead (Orange County) standards. The state standards for Hydrogen Sulfide and Visibility Reducing Particles are unclassified (California ARB 2010a).

The SCAQMD divides the Basin into forty source receptor areas (SRAs) in which thirty-six monitoring stations operate to monitor the various concentrations of air pollutants in the region. The City of Laguna Niguel is located within SRA 21, which covers the south Orange County area. The Saddleback Valley monitoring location is the nearest monitoring station to the project site and currently monitors emission levels of ozone, CO, Ozone, PM_{10} , and $PM_{2.5}$ but does not monitor the pollutant levels of NO_2 or SO_2 . For NO_2 and SO_2 levels, data from the North Coastal Orange County monitoring location was used.

Table 4.2-1 (Summary of Ambient Air Quality in the Proposed Project Vicinity) identifies the national and state ambient air quality standards for the relevant air pollutants and the ambient pollutant concentrations that have been measured at the Saddleback Valley and North Coastal Orange County monitoring stations from 2007 through 2009.

According to air quality data shown in Table 4.2-1, the national 1-hour ozone standard has not been exceeded in the past three years at this monitoring station. However, the state 1-hour ozone standard was exceeded a total of 21 days over the past 3 years. The national 8-hour ozone standard was exceeded a total of 30 days over the past three years, while the state 8-hour ozone standard was exceeded a total of 49 days over the past three years. No national or state standards for CO, NO_2 , or SO_2 have been exceeded over the last three years at these monitoring stations. Particulate matter (PM_{10}) did not exceed the national 24-hour standard over the last 3 years; however, the state 24-hour standard was exceeded a total of 3 days in 2007. Fine particulate matter ($PM_{2.5}$) exceeded the national 24-hour standards on a total of 3 days from 2007 through 2009.

Table 4.2-1 Summary of Ambient Air Quality in the Proposed Project Vicinity

Air Pollutants Monitored Within SRA 21—South Orange County Area	Year		
	2007	2008	2009
Ozone (O₃)			
Maximum 1-hour concentration measured	0.108 ppm	0.118 ppm	0.121 ppm
Number of days exceeding national 0.12 ppm 1-hour standard	0	0	0
Number of days exceeding state 0.09 ppm 1-hour standard	5	9	7
Maximum 8-hour concentration measured	0.090 ppm	0.104 ppm	0.095 ppm
Number of days exceeding national 0.075 ppm 8-hour standard	5	15	10
Number of days exceeding state 0.070 ppm 8-hour standard	10	25	14
Nitrogen Dioxide (NO₂)^a			
Maximum 1-hour concentration measured	0.07 ppm	0.08 ppm	0.07 ppm
Number of days exceeding state 0.18 ppm 1-hour standard	0	0	0
Annual average	0.0132 ppm	0.0132 ppm	0.0130 ppm
Number of days exceeding state 0.030 ppm annual standard	0	0	0
Carbon Monoxide (CO)			
Maximum 1-hour concentration measured	3 ppm	2 ppm	2
Number of days exceeding national 35.0 ppm 1-hour standard	0	0	0
Number of days exceeding state 20.0 ppm 1-hour standard	0	0	0
Maximum 8-hour concentration measured	2.1 ppm	1.1 ppm	1.0 ppm
Number of days exceeding national 9.0 ppm 8-hour standard	0	0	0
Number of days exceeding state 9.0 ppm 8-hour standard	0	0	0
Suspended Particulates (PM₁₀)			
Maximum 24-hour concentration measured	74 µg/m ³	42 µg/m ³	41 µg/m ³
Number of days exceeding national 150 µg/m ³ 24-hour standard	0	0	0
Number of days exceeding state 50.0 µg/m ³ 24-hour standard	3	0	0
State Annual Average Concentration µg/m ³	23.0	22.6	23.2
Suspended Particulates (PM_{2.5})			
Maximum 24-hour concentration measured	46.9 µg/m ³	32.6 µg/m ³	39.2 µg/m ³
Number of days exceeding national 35 µg/m ³ 24-hour standard	2	0	1
Sulfur Dioxide (SO₂)^a			
Maximum 24-hour concentration measured	0.004 ppm	0.003 ppm	0.004 ppm
Number of days exceeding federal 0.14 ppm 24-hour standard	0	0	0
Number of days exceeding state 0.04 ppm 24-hour standard	0	0	0

SOURCE: South Coast Air Quality Management District, Historical Data by Year (n.d.), <http://www.aqmd.gov/smog/historicaldata.htm>, (accessed April 2011).

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

a. Nitrogen Dioxide (NO₂) and Sulfur Dioxide (SO₂) concentrations were measured at the North Coastal Orange County station located in SRA 18.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution because exercise places a high demand on respiratory functions, which can be impaired by air pollution.

■ **Local Air Quality**

Motor vehicles (off highway and highway) are the primary source of pollutants in the vicinity of the proposed project. Local emissions sources also include stationary activities, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources. Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed “CO hotspots.” Chapter 5 of the SCAQMD’s CEQA Air Quality Handbook identifies CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots.

The SCAQMD recommends the use of CALINE4, a dispersion model for predicting CO concentrations, as the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak hour turning volumes to ambient CO air concentrations. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations.

Maximum existing CO concentrations were calculated for the intersection of Marguerite Parkway and Avery Parkway, the intersection within the study area that would be affected by project-related traffic and represents the lowest levels of service (D, E, or F) as determined in the traffic report prepared by Iteris (Appendix E). As all other intersections are expected to operate at a better LOS, those intersections would produce lower CO concentrations. The results of these calculations are presented in Table 4.2-2 (Existing Localized Carbon Monoxide Concentrations) for representative receptor locations at 25 feet from each roadway. This distance was selected because it represents locations where a person may be living or working for one to 8 hours at a time. The national 1-hour standard is 35.0 parts per million (ppm), and the state 1-hour standard is 20.0 ppm. The 8-hour national and state standards are both 9.0 ppm. As shown in Table 4.2-2, no intersection currently exceeds national or state standards for 1-hour or 8-hour CO concentrations. Therefore, CO hotspots do not currently exist at this intersection.

Table 4.2-2 Existing Localized Carbon Monoxide Concentrations

<i>Intersection</i>	<i>AM/PM</i>	<i>Level of Service</i>	<i>Peak Hour Volume</i>	<i>1-Hr Conc. (ppm)</i>	<i>8-Hr Conc. (ppm)</i>	<i>Exceeds Standard?</i>
State Standards	—	—	—	20	9	—
Marguerite Parkway at Avery Parkway	PM	E	4,040	3.5	2.5	No

SOURCE: Atkins (2011) (calculation sheets are provided in Appendix B).

a. National 1-hour standard is 35.0 ppm. State 1-hour standard is 20.0 ppm.

b. National 8-hour standard is 9.0 ppm. State 8-hour standard is 9.0 ppm.

c. Data for the 1-hour concentration was taken from the highest peak hour result, AM peak hour or PM peak hour, whichever is greater.

Toxic Air Contaminants

Lifetime cancer risk is defined as the increased chance of contracting cancer over a 70-year period as a result of exposure to a toxic substance or substances. It is the product of the estimated daily exposure of each suspected carcinogen by its respective cancer unit risk. The end result represents a worst-case estimate of cancer risk. The California ARB has produced a series of estimated inhalation cancer risk maps based on modeled levels of outdoor composite toxic pollutant levels that are available on California ARB's website (California ARB 2010c). The 2010 estimated map indicates that people in the area in and around the Laguna Niguel Gateway Specific Plan are exposed to an estimated inhalation cancer risk of more than 250 cases per million. These risk maps depict inhalation cancer risk due to modeled outdoor toxic pollutant levels, and do not account for cancer risk due to other types of exposure. The largest contributors to inhalation cancer risk are diesel engines. The SCAQMD provides a more detailed analysis of existing health risks within the District in the Mates II and Mates III studies. According to the Mates III study (SCAQMD, 2008) the existing cancer risk within the Laguna Niguel Gateway Specific Plan is between 428 and 483 cases in a million.

4.2.2 Regulatory Framework

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

■ Federal

Clean Air Act

The Clean Air Act of 1970 (CAA) and the CAA Amendments of 1971 required the USEPA to establish National Ambient Air Quality Standards (NAAQS) with states retaining the option to adopt more stringent standards or to include other specific pollutants. Current NAAQS are listed in Table 4.2-1. The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The

SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

United States Environmental Protection Agency

The USEPA is responsible for setting and enforcing the NAAQS for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

■ State

California Air Resources Board

The California ARB, a part of the California EPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the California ARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The California ARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

■ Regional

South Coast Air Quality Management District

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with the Southern California Association of Governments (SCAG), County Transportation Commissions, and local governments and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. The most recent of these was adopted by the Governing Board of the SCAQMD on June 1, 2007, to update and revise the previous 2003 AQMP. The 2007 AQMP was prepared to comply with the federal and state Clean Air Acts and amendments, to accommodate growth, to reduce the high pollutant levels in the Basin, to meet federal and state ambient air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The purpose of the 2007 AQMP for the Basin is to set forth a comprehensive program that will lead the area into compliance with all federal and state air quality planning requirements.

The Final 2007 AQMP control measures consist of four components: (1) The District's Stationary and Mobile Source Control Measures; (2) California ARB's Proposed State Strategy; (3) District Staff's Proposed Policy Options to Supplement ARB's Control Strategy; and (4) Regional Transportation

Strategy and Control Measures provided by SCAG. The Final 2007 AQMP builds upon improvements accomplished from the previous plans, and aims to incorporate all feasible control measures while balancing costs and socioeconomic impacts. Further, the combined control strategies selected to attain the federal PM_{2.5} and 8-hour ozone standards must complement each other, representing the most effective route to achieve and maintain the standards.

The Final 2007 AQMP relies on a comprehensive and integrated control approach aimed at achieving the PM_{2.5} standard by 2015 through implementation of short-term and midterm control measures and achieving the 8-hour ozone standard by 2024 based on implementation of additional long-term measures. In order to demonstrate attainment by the prescribed deadlines, emission reductions needed for attainment must be in place by 2014 and 2023, respectively.

Under the 2007 AQMP, the SCAQMD is enhancing two of its proposed control measures for PM_{2.5} (i.e., wood-burning fireplaces, wood stoves, and commercial under-fired charbroilers). SCAQMD also proposes the following control approaches that would help achieve the long-term reductions needed for ozone attainment: extensive retirement of high-emitting light duty vehicles and accelerated penetration of partial zero-emissions vehicles and zero-emission vehicles; expanded modernization and retrofit of heavy-duty trucks and buses, expanded Inspection and Maintenance Program, and advanced near-zero and zero-emitting cargo transportation technologies; expanded modernization and retrofit of off-road equipment; more stringent gasoline and diesel specifications and extensive use of diesel alternatives; more stringent emission standards and programs for new and existing ocean-going vessels and harbor craft; more stringent emission standards for jet aircraft (engine standards, clean fuels, retrofit controls); ultra low-VOC formulations and reactivity-based controls on consumer products; and accelerated use of renewable energy and development of hydrogen technology and infrastructure.

In order to achieve necessary reductions for meeting air quality standards, all four agencies (i.e., AQMD, California ARB, USEPA, and SCAG) would have to aggressively develop and implement control strategies through their respective plans, regulations, and alternative approaches for pollution sources within their primary jurisdiction. Even though SCAG does not have direct authority over mobile source emissions, it will commit to the emission reductions associated with implementation of the 2004 Regional Transportation Plan and 2006 Regional Transportation Improvement Program which are imbedded in the emission projections. Similarly, the Ports of Los Angeles and Long Beach have authority they must utilize to assist in the implementation of various strategies if the region is to attain clean air by federal deadlines.

■ Local

City of Laguna Niguel

Local jurisdictions, such as the City of Laguna Niguel, have the authority and responsibility to reduce air pollution through their police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation, as necessary, of air emissions resulting from its land use decisions. The City of Laguna Niguel is also responsible for the implementation of transportation control measures within their jurisdiction as outlined in the 2007 AQMP. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, mitigates

potentially significant air quality impacts by conditional discretionary permits, and monitors and enforces implementation of such mitigation.

City of Laguna Niguel General Plan

Laguna Niguel General Plan

The Laguna Niguel General Plan was adopted in 1992 to set forth objectives, policies, standards, and programs for land use and new development, Circulation and Public access, and Service Systems for the Community as a whole. The following goals and policies are applicable to air quality:

Land Use Element

- | | | | | | | | | | | | | | | | |
|---------------------|---|---------------------|---|---------------------|---|---------------------|---|---------------------|---|-------------------|---|--|--|---------------------|--|
| Goal 1 | A well-balanced mixture of land uses that meet the residential, commercial, open space, and public service needs of residents. | | | | | | | | | | | | | | |
| | <table border="0"> <tr> <td style="vertical-align: top;">Policy 1.1</td> <td>Encourage the development of land uses that contribute to the goal of a well-balanced community.</td> </tr> <tr> <td></td> <td> <table border="0"> <tr> <td style="vertical-align: top;">Action 1.1.1</td> <td>Require comprehensive analysis of any proposed General Plan Amendment to ensure that the amendment will result in a desirable mixture of land uses meeting the social and fiscal needs of the City and its residents.</td> </tr> <tr> <td style="vertical-align: top;">Action 1.1.2</td> <td>Promote commercial, office and industrial uses, as appropriate, within the three opportunity areas in order to improve the City's land use balance.</td> </tr> </table> </td> </tr> </table> | Policy 1.1 | Encourage the development of land uses that contribute to the goal of a well-balanced community. | | <table border="0"> <tr> <td style="vertical-align: top;">Action 1.1.1</td> <td>Require comprehensive analysis of any proposed General Plan Amendment to ensure that the amendment will result in a desirable mixture of land uses meeting the social and fiscal needs of the City and its residents.</td> </tr> <tr> <td style="vertical-align: top;">Action 1.1.2</td> <td>Promote commercial, office and industrial uses, as appropriate, within the three opportunity areas in order to improve the City's land use balance.</td> </tr> </table> | Action 1.1.1 | Require comprehensive analysis of any proposed General Plan Amendment to ensure that the amendment will result in a desirable mixture of land uses meeting the social and fiscal needs of the City and its residents. | Action 1.1.2 | Promote commercial, office and industrial uses, as appropriate, within the three opportunity areas in order to improve the City's land use balance. | | | | | | |
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| Action 1.1.1 | Require comprehensive analysis of any proposed General Plan Amendment to ensure that the amendment will result in a desirable mixture of land uses meeting the social and fiscal needs of the City and its residents. | | | | | | | | | | | | | | |
| Action 1.1.2 | Promote commercial, office and industrial uses, as appropriate, within the three opportunity areas in order to improve the City's land use balance. | | | | | | | | | | | | | | |
| Goal 2 | A sufficient amount of commercial and industrial uses that provide jobs and revenue to the City without compromising environmental quality. | | | | | | | | | | | | | | |
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commercial centers and business parks are developed in the City.

Action 2.2.2 Incorporate landscaping requirements for commercial development into community design guidelines.

Goal 3 Compatible relationships between land uses in the community.

Policy 3.1 Ensure that effective buffers between residential and nonresidential uses are established and maintained.

Policy 3.2 Discourage the proliferation of strip commercial development along major streets that create negative impacts on adjoining residential areas.

Action 3.2.1 Concentrate commercial development in clearly defined commercial centers.

Policy 3.3 Reduce land use conflicts between residential and nonresidential uses.

Action 3.3.1 Enact design guidelines to ensure that neighborhood commercial areas are compatible with adjacent residential areas.

Action 3.3.2 Evaluate the impacts on surrounding land uses when reviewing proposals for new development.

Action 3.3.3 Develop compatibility guidelines and procedures for effectively evaluating development projects.

Action 3.3.4 Adopt site development standards that mitigate land use conflicts.

Policy 3.4 Ensure that residential densities are compatible with the surrounding land uses and buildings are in scale with the neighborhood character.

Goal 4 Urban design that provides community gathering areas and other pedestrian spaces.

Policy 4.3 Require, where feasible, the development of open spaces and places for people to gather within commercial and office complexes.

Policy 4.4 Provide, where feasible, pedestrian walkways and linkages between residential, commercial, office, open space/recreation facilities, and other public places.

Action 4.4.1 Prepare and implement pedestrian access design guidelines for implementation in the development review process.

- Goal 5** Preservation and enhancement of the natural setting of the City.
- Policy 5.3** Strive to maintain or improve the City’s existing environmental quality.
- Goal 6** Enhanced community identity for residents, visitors, and commuters.
- Policy 6.1** Provide for the development of pedestrian gathering areas to promote social interaction.
- Action 6.1.1** Require pedestrian amenities and public gathering areas to be part of new commercial development.
- Action 6.1.2** Establish Citywide design themes for signage and major activity centers.
- Goal 8** Revitalization of Camino Capistrano/Cabot Road Business Area.
- Policy 8.2** Enhance where feasible local and regional circulation in the area.
- Action 8.2.2** Coordinate with other jurisdictions on regional and local circulation improvements in the project area, particularly the City of Mission Viejo on circulation improvements to the north and east.
- Action 8.2.3** Coordinate with appropriate agencies on the development of a commuter rail station within the Galivan Flood Control basin.
- Policy 8.3** Allow for the redevelopment or reuse of existing commercial and industrial uses along with the phasing of adequate infrastructure and other needed public facilities.
- Action 8.3.1** Prepare a special study for the Camino Capistrano/Cabot Road Business Area including a thorough review of potential transportation improvements to allow floor area ratios in the area to be maximized beyond the maximum FAR of 1.0 (assuming the satisfaction of required conditions) by considering options such as the transfer of development rights, without compromising circulation goals. The special study shall also address the possibility of preparing a Specific Plan or a Redevelopment Plan for the area.
- Policy 8.4** Enhance riding, biking, and bikeway opportunities within the project area.
- Action 8.4.1** Through the site plan approval process, ensure that pedestrian and bicycle linkages are provided from existing and future land uses to

the Oso Creek Regional Riding and Hiking Trail.

Open Space Element

- Goal 3** A trail system that meets the bicycling, hiking, and equestrian needs of residents.
- Policy 3.1** Implement the Bikeway, and Hiking and Equestrian Plans.
- Action 3.1.1** Require the dedication of right-of-way and construction of public trails to City standards as a condition of approval of development projects, where feasible.
- Policy 3.2** Identify areas where trails can be located off street and separated from vehicular traffic wherever possible. Class I bike trails shall not be located on or in conjunction with sidewalks intended for pedestrian use.
- Policy 3.3** Expand existing regional trail facilities where attractive opportunities exist or can be created.
- Policy 3.4** Plan bicycle routes to facilitate access to open space areas and recreational facilities, as well as other uses such as schools, neighborhoods, and commercial centers.
- Action 3.4.2** Locate bikeways along designated scenic corridors wherever environmentally, physically, and economically feasible.
- Action 3.4.3** Provide bicycle trail information to the public.
- Action 3.4.4** Encourage developers to provide local bicycle trails and rack facilities within their projects as conditions of development.

Circulation Element

- Goal 3** A circulation system that maximizes efficiency through the use of transportation system management and demand management strategies.
- Policy 3.1** Encourage new development that facilitates transit services, provides for non-automobile circulation, and minimizes vehicle miles traveled.
- Policy 3.2** Implement traffic signal coordination on arterial streets where practical, and integrate signal coordination efforts with those of adjacent jurisdictions.
- Policy 3.3** Implement intersection capacity improvements where feasible and justified by traffic demand.
- Policy 3.4** Encourage the implementation of employer Transportation Demand Management (TDM) requirements included in the City's adopted TDM ordinance and in the Southern California Air Quality Management District's Regulation XV Program.

- Policy 3.5** Support the development of additional regional public transportation facilities and services.
- Policy 3.6** Promote ridesharing through publicity and distribution of information to the public.
- Goal 4** An efficient public transportation system that provides mobility to all City residents, employees, and visitors.
- Policy 4.1** Support the efforts of the Orange County Transit Authority (OCTA) to provide additional local and express bus service to Laguna Niguel.
- Policy 4.3** Encourage employers to reduce vehicular trips by offering employee incentives.
- Policy 4.4** Promote new development that is designed in a manner that (1) facilitates provision or expansion of transit service, (2) provides on-site commercial and recreational facilities to discourage mid-day travel, and (3) provides non-automobile circulation within the development.
- Action 4.4.1** Require new development to fund transit facilities, such as bus shelters and turnouts.
- Policy 4.5** Encourage developers to work with agencies providing transit service with the objective of maximizing the potential for transit use by residents and/or visitors.
- Policy 4.6** Encourage the provision of safe, attractive, and clearly identifiable transit stops and related high-quality pedestrian facilities throughout the community.
- Goal 5** An efficient bicycle, equestrian and pedestrian circulation system that encourages these alternative forms of transportation.
- Policy 5.1** Require proposed developments, whenever feasible, to dedicate easements for Class I bikeways and to provide additional right-of-way for Class II bike lanes in the project vicinity on all major or primary roadways or other roadways where deemed appropriate.
- Policy 5.2** Support and coordinate the development and maintenance of City bikeways in conjunction with the City's Bikeway Plan, the County of Orange Master Plan of Countywide Bikeways and the bikeway plans of neighboring jurisdictions.
- Policy 5.5** Encourage the provision of showers, changing rooms, and an accessible and secure area for bicycle storage at all new and existing developments and public places.
- Policy 5.6** Require developers, whenever feasible, to provide facilities for pedestrian travel such as sidewalks, and to design developments to provide pedestrian access to the development on sidewalks

and not require that pedestrians use driveways to access development.

- Goal 9** Support the location of a commuter rail system within the Galivan Basin that meets the needs of current and future residents.
- Goal 10** Provide public transportation for residents to airport facilities in the region.
- Policy 10.1** Work with the Orange County Transit Authority (OCTA) and other appropriate agencies to provide express transportation to regional airports.

Consistency Analysis

The proposed Specific Plan Update would allow for the development of mixed uses within the Specific Plan area, including residential uses where none currently exist. One of the primary objectives of the proposed project is to focus development opportunities within the Specific Plan area on mixed-use development and the improvement of alternative transportation and pedestrian opportunities. The development of multi-family housing units in the Specific Plan area is intended to enable residents to live in proximity to their jobs, commercial services, and transit, thereby reducing automobile trips, commuting distances, criteria pollutant and greenhouse gas emissions while improving their quality of life. As stated below and shown in Section 4.14 (Transportation/Traffic), the proposed Specific Plan would reduce the number of vehicle trips within the Specific Plan compared to build-out of the uses allowed under the current Specific Plan designations and zoning. Therefore, the average daily VMT, and thereby emissions, associated with uses within the Specific Plan area would be expected to also decrease compared to the currently allowed build-out for the Specific Plan area. Further, incorporation of the mitigation measures listed below and in Section 4.6 (Greenhouse Gas Emissions) and Section 4.15 (Utilities/Service Systems) would assist in the reduction of nonvehicular emissions. The proposed project would support the completion of multi-use trails, sidewalks, and pathways to provide connectivity within the Gateway area and to the City's trail system to maximize nonmotorized mobility. The Specific Plan Update, and mitigation measures identified below and in Section 4.10 (Noise), would ensure that conflicts between existing and new uses would not occur, consistent with the General Plan goals and policies. As such, the proposed project would be considered consistent with the goals and polices of the General Plan.

4.2.3 Project Impacts and Mitigation

■ Analytic Method

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed project. Air pollutant emissions associated with the proposed project would result from operation of the proposed development and from project-related traffic volumes. Construction activities would also generate emissions in the project area and on roadways resulting from construction-related traffic. The net increase in project site emissions generated by these activities and other secondary sources have been quantitatively estimated and compared to thresholds of significance established by the SCAQMD.

Construction Emissions

The SCAQMD has established thresholds for the analysis of construction emissions which are published in the SCAQMD CEQA Air Quality Handbook. The construction activities associated with the proposed project would create diesel emissions and would generate emissions of dust. Construction equipment used for development would also generate VOCs/ROGs, CO, NO_x, SO_x, PM₁₀, and PM_{2.5} pollutants.

The land use within the Laguna Niguel Gateway Specific Plan includes residential development of 2,994 dwelling units, 531,648 square feet (sf) of retail and commercial development, 1,141,019 sf of office space, 399,695 sf of business park, 350 hotel rooms, a total of 17.8 acres of auto sales (includes 187,599 sf of building space and 587,769 of exterior sales space) and 114 acres of open space. While the amount of allowable development is known, the development will be spread out over the next twenty-four years and the phasing of the construction will be determined by market need. Therefore, the construction details would be difficult, if not impossible to quantify due to the variables associated with daily construction activity (e.g., construction schedule, number and types of equipment, etc.). Because the level of detail needed to model construction related impacts is not available, a qualitative analysis is used to project the potential significance of project implementation with regards to construction emissions.

Operational Emissions

Operational emissions associated with the proposed project are estimated using the URBEMIS2007 computer model developed for the California ARB and recommended by the SCAQMD, the information provided in Chapter 3 (Project Description), and trip generation rates from the traffic report (Appendix E). Operational emissions are comprised of mobile source emissions and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project area associated with operation of the proposed project. Area source emissions are generated by natural gas consumption for space and water heating, and landscape maintenance equipment. To determine if an air quality impact would occur, the increase in emissions was compared with the SCAQMD's regional emissions thresholds.

Localized CO Concentrations for Operation

As stated previously, CO concentrations were calculated based on CALINE4 screening. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. For this analysis, CO concentrations for the ten roadway intersections determined to operate at LOS D or worse at build-out of the Specific Plan were modeled and analyzed. All other roadway intersections evaluated in the traffic analysis operate at LOS C or better therefore, due to lesser congestion and traffic, they are expected to generate lower CO concentrations than the intersections modeled.

Toxic Air Contaminants

The California ARB indicates that one of the highest public health priorities is the reduction of DPM generated by vehicles on California's highways, as it is one of the primary TACs. Other potential TAC generators within South Coast Air Basin are associated with specific types of facilities such as dry

cleaners, gas stations, distribution centers, and ports, and are the focus of California ARB's control efforts. California ARB has made specific recommendations with respect to considering existing sensitive uses when siting new TAC-emitting facilities or with respect to TAC-emitting sources when siting sensitive receptors (California ARB 2005). California ARB recommends the following buffer distances be observed when locating TAC emitters or sensitive land uses:

- Freeways or major roadways—500 feet
- Dry cleaners—500 feet
- Auto body repair services—500 feet
- Gasoline dispensing stations with an annual throughput of less than 3.6 million gallons—50 feet
- Gasoline dispensing stations with an annual throughput at or above 3.6 million gallons—300 feet
- Other TAC sources including furniture manufacturing and repair services that use Methylene Chloride or other solvents identified as a TAC—300 feet
- Distribution centers with more than 100 trucks per day; more than 40 trucks with operating transport refrigeration units per day; or where transport refrigeration unit operations exceed 300 hours per week—1,000 feet
- Rail yards for major service and maintenance operations—1,000 feet
- Chrome platers—1,000 feet
- Port developments should not site the heavily impacted areas immediately upwind of sensitive land uses
- Petroleum refineries should not site the heavily impacted areas immediately upwind of sensitive land uses

The SCAQMD recommends that site-specific health risk assessments be performed to document potential cancer risk when siting sensitive land uses within the above buffer zones.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on air quality if it would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA Air Quality Handbook. These thresholds were developed to

provide quantifiable levels so that projects can be compared using the same standard. The following quantifiable thresholds are currently recommended by the SCAQMD and are used to determine the significance of air quality impacts associated with the proposed project.

Construction Emissions Thresholds

The SCAQMD currently recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered significant. The SCAQMD also recommends that any construction-related emissions from individual development projects that exceed these thresholds be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the emissions collectively generated by related projects:

- 550 pounds per day of CO
- 75 pounds per day of ROG
- 100 pounds per day of NO_x
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

Operational Emissions Thresholds

The SCAQMD recommends that projects with operational emissions that exceed any of the following emissions thresholds should be considered significant; these thresholds apply to individual development projects only; they do not apply to cumulative development:

- 550 pounds per day of CO
- 55 pounds per day of ROG
- 55 pounds per day of NO_x
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

Implementation of several state mandates initiated for the reduction of greenhouse gas emissions will also reduce the emission of criteria pollutants through the increase in vehicle fleet emissions and natural gas efficiency of equipment, or the reduction in vehicle miles traveled. The following outline the state and SCAQMD measures that reduce criteria pollutant emissions, and these requirements have been assumed for emission calculation purposes.²

- **SR-T1: Assembly Bill 1493: Pavley I & Pavley II**—Assembly Bill (AB) 1493 (Pavley) required the California Air Resources Board (ARB) to adopt regulations that will reduce GHG from automobiles and light-duty trucks by 30 percent below 2002 levels by the year 2016, effective with 2009 models.
- **SR-T2: Executive Order S-1-07 (Low Carbon Fuel Standard)**—The Low Carbon Fuel Standard (LCFS) requires a reduction of at least ten (10) percent in the carbon intensity of California's transportation fuels by 2020.

² SR = State Requirement; T = Transportation; E = Energy; AQ = Required by SCAQMD

- **SR-T3: Tire Pressure Program**—The AB 32 early action measure involves actions to ensure that vehicle tire pressure is maintained to manufacturer specifications.
- **SR-T4: Low Rolling Resistance Tires**—This created an energy efficiency standard for automobile tires to reduce rolling resistance.
- **SR-T5: Low Friction Engine Oils**—This AB 32 early action measure would increase vehicle efficiency by mandating the use of engine oils that meet certain low friction specifications.
- **SR-T6: Cool Paints and Reflective Glazing**—This AB 32 early action measure is based on measures to reduce the solar heat gain in a vehicle parked in the sun.
- **SR-T7: Goods Movement Efficiency Measure**—This AB 32 early action measure targets system wide efficiency improvements in goods movement to achieve reductions from reduced diesel combustion.
- **SR-T8: Heavy-Duty Vehicle Emission Reduction**—This AB 32 early action measure would increase heavy-duty vehicle (long-haul trucks) efficiency by requiring installation of best available technology and/or ARB approved technology to reduce aerodynamic drag and rolling resistance.
- **SR-T9: Medium and Heavy Duty Vehicle Hybridization**—The implementation approach for this AB 32 measure is to adopt a regulation and/or incentive program that reduce the emissions from new trucks (parcel delivery trucks and vans, utility trucks, garbage trucks, transit buses, and other vocational work trucks) sold in California by replacing them with hybrids.
- **SR-E2: AB 1109 Energy Efficiency Requirements for Lighting**—Assembly Bill (AB 1109) mandated that the California Energy Commission (CEC) adopt energy efficiency standards for general purpose lighting. These regulations, combined with other state efforts, shall be structured to reduce state-wide natural gas consumption in the following ways:
- **SR-E4: Natural Gas Energy Efficiencies**—This includes energy efficiency measures that will result in additional emissions reductions beyond those already accounted for in California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulations; hereinafter referred to as, “Title 24 Energy Efficiency Standards”) etc.
- **AQ-O1: SCAQMD Rule 445** states that no permanent wood burning devices can be installed in new development and only clean burning devices can be sold for use in existing residences.

Cumulative Impacts

In order to assess cumulative impacts, the SCAQMD recommends that projects be evaluated to determine whether they would be consistent with 2007 AQMP performance standards and project-specific emissions thresholds. In the case of the Laguna Niguel Gateway Specific Plan, air pollutant emissions would be considered to be cumulatively considerable if the new sources of emissions exceed SCAQMD project-specific emissions thresholds.

CO “Hotspots”

The SCAQMD has established the following threshold criteria to determine if a project has the potential to contribute to an exceedance of the state Ambient Air Quality Standards with respect to CO emissions from operational mobile sources:

- 20 ppm (17 ppm maximum allowable project contribution) for 1 hour CO concentrations
- 9 ppm (6.9 ppm maximum allowable project contribution) for 8 hour CO concentrations

Toxic Air Contaminants

Based on the methodology established by the Office of Environmental Health Hazard Assessment (OEHHA) and the SCAQMD, the following thresholds have been established to determine the maximum individual cancer risk (MICR), and hazard index (HI) for development under the Laguna Niguel Gateway Specific Plan.

- MICR—cancer risk of less than 10 in one million ($< 10 \times 10^{-6}$)
- HI—highest chronic health index of less than 1

■ Effects Found to Have No Impact

No Effects have been identified that would not have an impact with respect to air quality.

■ Impacts and Mitigation Measures

Threshold	Would the project conflict with or obstruct implementation of the applicable air quality plan?
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Impact 4.2-1 Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. This would be a *less-than-significant* impact.

The 2007 AQMP was prepared to accommodate growth, to reduce high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment, because this growth is included in the projections used to formulate the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Projects that are consistent with the projections of employment and population forecasts identified in the Growth Management chapter of the SCAG's Regional Comprehensive Plan and Guide (RCPG) are considered consistent with the AQMP growth projections.

The Specific Plan area is currently planned for commercial and industrial land uses. The proposed Specific Plan would result in a decrease in light industrial land uses, reduce net commercial development, and introduce residential land uses. This would result in a growth in population of 5,240 people within the Specific Plan area. The current SCAG projections show a Citywide population estimate of 73,163 by 2035. According to the U.S. Census, in 2010 the City of Laguna Niguel had a population of 62,979. With the addition of the residential growth in the Specific Plan area, as well as remaining residential growth approved elsewhere in the City, population for the City of Laguna Niguel is anticipated to reach 68,219 in 2035, well below the SCAG Projected population.

Some of the commercial and light industrial land uses estimated under the existing (1999) Specific Plan will be converted to residential land uses decreasing the nonresidential development anticipated with respect to the existing Specific Plan. The nonresidential uses anticipated with development of the

proposed Specific Plan would therefore be within the future growth specified by the City’s General Plan. Considering the proposed project in conjunction with future known and approved cumulative residential development, the cumulative impact on employment growth from nonresidential uses would not exceed SCAG projections as these projections were based on the existing General Plan.

In order to evaluate the total changes (decrease in employment combined with an increase in population), an evaluation of total annual vehicle miles traveled (VMT) was conducted. VMT estimations under the existing Specific Plan, which is accounted for in the SCAG Projections and therefore in the AQMD, are 881,137 annual VMT at build-out. VMT estimations with implementation of the Specific Plan Update would result in a decrease of 161,204 annual VMT, for a total estimated VMT at build-out of 719,933. Although there is an increase in population over what was projected in the 2007 AQMP, the decrease in employment estimates, and therefore VMT, ensures that the revised project is consistent with the SCAG and AQMP projections. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
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Impact 4.2-2 Implementation of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a *significant and unavoidable* impact.

Construction Emissions

Construction of individual new development projects with implementation of the Specific Plan would occur as market demands between 2011 and 2035. Because market demand will fluctuate with the economy, there is no construction schedule in place for the development anticipated under the proposed project. Construction emissions are dependent on the number of construction and delivery vehicles operating, the length of time in operation, and the amount of soil that is disturbed on a daily basis. Without a known schedule or an anticipated annual or daily level of construction, construction related emissions cannot be accurately estimated.

Individual development projects implemented under the Specific Plan would be required to analyze the impacts from construction activities. The following mitigation measures shall be implemented by individual development projects prior to issuance of any grading permit to reduce impacts to air quality from emissions generated by construction activities.

MM4.2-1 Name and phone number of the contractor’s superintendent hired by the Applicant shall be submitted to the Community Development and Public Works Departments. In addition, clearly visible signs shall be posted on the perimeter of the site indicating who shall be contacted for information regarding this development and any construction/grading-related concerns. This contact person shall be available immediately to address any concerns or issues raised by adjacent property owners during the construction activity. S/he will be responsible for ensuring compliance with the conditions herein, specifically, grading activities, truck routes, construction hours, noise, etc. Signs shall include the Applicant’s contact number regarding grading and construction activities, and “1-800-CUTSMOG”

in the event there are concerns regarding fugitive dust and compliance with SCAQMD Rule No. 403.

- MM4.2-2 *Wind barriers shall be installed along the perimeter of the site and/or around areas being graded.*
- MM4.2-3 *Project Applicant shall establish an on-site construction equipment staging area and construction worker parking, located on either paved surfaces or unpaved surfaces subjected to soil stabilization treatments, as close as possible to a public roadway.*
- MM4.2-4 *Project Applicant shall control access to the public by limiting curb cuts/driveways to minimize project construction impacts upon roadway traffic operations;*
- MM4.2-5 *Project Applicant shall properly maintain nonvehicular equipment engines to minimize the volume of exhaust emissions;*
- MM4.2-6 *Project Applicant shall use electricity from power poles, rather than temporary diesel or gasoline powered generators, as feasible;*
- MM4.2-7 *Project Applicant shall use on-site mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible;*
- MM4.2-8 *Project Applicant shall pave all construction roads as feasible; and*
- MM4.2-9 *Project Applicant shall provide ridesharing or shuttle service for construction workers, as feasible.*

In addition, emission levels of VOCs, which are a precursor for ozone, would potentially exceed SCAQMD significance thresholds during the application of architectural coatings (paint and primer) during build-out of the proposed project. In order to reduce the VOC emissions levels associated with architectural coatings, the following mitigation measure would be implemented:

- MM4.2-10 *Project Applicant shall ensure that all architectural coating (paint and primer) products applied during construction have a low to no VOC rating.*

Due to the unknown level of construction activity that would occur on any given day during the proposed Specific Plan build-out, this is considered a potentially significant impact. Implementation of mitigation measures MM4.2-1 through MM4.2-10 would reduce this impact, but not necessarily to a less-than-significant level. Individual development projects could, even with implementation of the identified mitigation, result in an air quality violation or a substantial contribution to an existing air quality violation. Therefore, this would be a **significant and unavoidable** impact for construction activities on a programmatic level.

Operational Emissions

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities within the Specific Plan area. Operational emissions are identified in Table 4.2-3 (Daily Unmitigated Operational Emissions). As shown, operational emissions, without the incorporation of mitigation would result in significant impacts for CO, NO_x, ROG, PM₁₀, and PM_{2.5}.

Table 4.2-3 Daily Unmitigated Operational Emissions

	CO	NO _x	ROG	SO _x	PM ₁₀	PM _{2.5}
Mobile	2,226	231	218	8	1,242	241
Area	1,337	83	582	4	202	194
Total	3,563	314	800	11	1,444	435
SCAQMD Thresholds	550	55	55	150	150	55
Significant?	Yes	Yes	Yes	No	Yes	Yes

SOURCE: Atkins (2011) (calculation sheets are provided in Appendix B).

The proposed Specific Plan would result in a high-density urban district that provides employment opportunities, a variety of housing types, as well as commercial services, all within easy access of regional transportation and transit, and all interconnected by a system of pedestrian and bicycle trails. Such development would result in the reduction of vehicle trips and develop land uses and densities that maximize ridership and support public investment in transit facilities. Implementation of the proposed Specific Plan Policies as identified in Chapter 3 of the Specific Plan, include incentives to use alternative transportation modes such as ridesharing, carpools, vanpools, public transit, bicycles, and walking. These policies, as well as incorporation of the following mitigation measures would reduce criteria pollutant emissions associated with operation of the Specific Plan at full build-out.

- MM4.2-11 *Electrical outlets shall be included in the building design of all loading docks to allow use by refrigerated delivery trucks. The Project Applicant shall require that no trucks idle for more than five minutes. Refrigerated delivery trucks shall use the electrical outlets to continue powering the truck refrigeration units.*
- MM4.2-12 *All multi-family residential and nonresidential facilities shall ensure that current transit schedules are available in common areas for the use of employees and residents.*
- MM4.2-13 *All retail facilities in excess of 100 employees shall provide preferential vanpool/carpool employee parking.*
- MM4.2-14 *Project Applicant shall promote trip reduction through commuter-choice programs, employer transportation management, guaranteed ride home programs, and commuter assistance and outreach type programs intended to reduce commuter vehicle miles traveled. Employers with more than 100 employees shall establish a trip reduction plan to include annual employee commute surveys, marketing of commute alternatives, ride matching assistance, and transit information at a minimum, and implement secure bicycle parking, showers and lockers for employees who bike to work. Further this measure would encourage building management companies and smaller businesses located in close proximity to each other to cooperate in establishing joint trip reduction plans.*
- MM4.2-15 *The Project Applicant shall ensure that all new development is equipped with outdoor electrical outlets to accommodate landscaping equipment.*
- MM4.2-16 *Project Applicant shall ensure that maintenance requiring the reapplication of architectural coating (paint and primer) shall use products that have a low to no VOC rating.*

Table 4.2-4 (Daily Mitigated Operational Emissions) shows operational emissions at full build-out after the incorporation of state and local regulations along with mitigation measures MM4.2-11 through

MM4.2-16. With the implementation all feasible mitigation measures, SO_x would remain less than significant, however, all other criteria pollutants would still exceed their respective daily thresholds. Therefore, this would remain a *significant and unavoidable* impact.

	CO	NO _x	ROG	SO _x	PM ₁₀	PM _{2.5}
Mobile	1,462	152	143	5.04	816	158
Area	16	54	112	0.09	1	1
Total	1,478	206	255	5.13	817	159
SCAQMD Thresholds	550	55	55	150	150	55
Significant?	Yes	Yes	Yes	No	Yes	Yes

SOURCE: Atkins (2011) (calculation sheets are provided in Appendix B).

Threshold	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?
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Impact 4.2-3

Implementation of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is nonattainment under applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a *significant and unavoidable* impact.

The Basin is designated as a federal-level severe nonattainment area for ozone, meaning that federal ambient air quality standards are not expected to be met for more than 18 years, and as nonattainment areas for PM₁₀ and PM_{2.5}. The Basin is a state-level extreme nonattainment area for ozone, and is a state-level nonattainment area for PM_{2.5} and PM₁₀ (California ARB 2010a). As indicated under Impact 4.2-2, emissions from operational activities are anticipated to exceed the operational threshold for all criteria pollutants except SO_x before mitigation. Because the estimated emissions from the Specific Plan area at build-out would be significant on a project level, and the basin is in nonattainment for PM₁₀ and PM_{2.5}, this is considered to be a potentially significant cumulative impact. Implementation of measures MM4.2-11 through MM4.2-16 would reduce these impacts; however, emissions would still exceed the daily regulatory thresholds. Because the project exceeds thresholds for standards that the Basin is currently in nonattainment, the proposed project would make a considerable contribution to the cumulative impact. Because all exceedances of project level thresholds inhibit the Basin's ability to reach attainment, any exceedance is considered a *significant and unavoidable cumulative* impact.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?
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Impact 4.2-4 **Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a *significant and unavoidable* impact.**

CO Hotspot Analysis

Maximum build-out CO concentrations were calculated for ten of the intersections within the Laguna Niguel Gateway Specific Plan area that would be affected by project-related traffic at build-out. These intersections represent the lower levels of service (D, E, or F) and the most daily traffic as determined from the traffic report prepared by Iteris (Appendix E). As all other intersections are expected to operate at a better LOS, those intersections would produce lower CO concentrations. The results of these calculations are presented in Table 4.2-5 (Build-Out Localized Carbon Monoxide Concentrations). As shown, no intersection would exceed national or state standards for 1-hour or 8-hour CO concentrations. Therefore, CO hotspots are not anticipated for the build-out of the proposed Project. This impact is considered *less than significant*, and no mitigation is required.

Table 4.2-5 Build-Out Localized Carbon Monoxide Concentrations

<i>Intersection</i>	<i>Level of Service</i>	<i>Peak Hour Volume</i>	<i>1-Hr Conc. (ppm)</i>	<i>8-Hr Conc. (ppm)</i>	<i>Exceeds Standard?</i>
State Standards	—	—	20	9	—
Marguerite Pkwy at Avery Pkwy	F	5,261.0	3.6	2.5	No
Crown Valley Pkwy at Marguerite Pkwy	F	9,917.0	3.9	2.7	No
Crown Valley Pkwy at Los Altos	E	7,302.0	3.8	2.7	No
Crown Valley Pkwy at Medical Center	E	7,777.0	3.9	2.7	No
Crown Valley Pkwy at Puerta Real	D	9,011.0	3.9	2.7	No
Crown Valley Pkwy at I-5 NB Ramps	D	8,807.0	4.0	2.8	No
Crown Valley Pkwy at I-5 SB Ramps	D	8,524.0	3.9	2.7	No
Crown Valley Pkwy at Cabot Rd	D	6,462.0	3.7	2.6	No
Crown Valley Pkwy at Greenfield Dr	D	5,705.0	3.7	2.6	No
Crown Valley Pkwy at Moulton Pkwy	D	7,645.0	3.7	2.6	No

SOURCE: Atkins (2011) (calculation sheets are provided in Appendix B).
 a. National 1-hour standard is 35.0 ppm. State 1-hour standard is 20.0 ppm.
 b. National 8-hour standard is 9.0 ppm. State 8-hour standard is 9.0 ppm.
 c. Data for the 1-hour concentration was taken from the highest peak hour result, A.M. Peak Hour or P.M. Peak Hour, whichever is greater.

Toxic Air Contaminants (TAC) Analysis

Diesel particulate matter, a carcinogen, is also a component of exhaust. However, construction of individual development projects pursuant to the proposed Specific Plan would be short-term in nature. Estimation of the cancer risk from diesel particulate matter assumes long-term exposure to the pollutant. Therefore, the health risk from air pollutants generated during construction is anticipated to be less than significant.

The California ARB indicates that one of the highest public health priorities is the reduction of DPM generated by vehicles on California's highways, as it is one of the primary TACs. Other potential TAC generators are associated with specific types of facilities such as dry cleaners, gas stations, and chrome plating facilities, and are the focus of California ARB's control efforts. California ARB has made specific recommendations with respect to considering existing sensitive uses when siting new TAC-emitting facilities or with respect to TAC-emitting sources when siting sensitive receptors.

California ARB recommends that sensitive land uses not be located within 500 feet of a freeway or that site-specific health risk assessments be performed when siting sensitive land uses within that buffer.

Long-term exposure to toxic air contaminants of potential concern within the Specific Plan area include diesel particulate matter, a form of PM₁₀ and PM_{2.5} emitted mostly from diesel powered cars and trucks on the I-5 and the SR-73 freeways, diesel particulate matter from trains traveling through the area as well as idling while dropping off and picking up passengers, and chemicals emitted from the existing light industrial uses within the area.

Individual projects that could result from the implementation of the Specific Plan are anticipated to convert light industrial to business, commercial, and residential; however, there is the potential for some TAC sources to be built and operated such as dry cleaning establishments and gasoline stations. Because the number and location of these potential sources are unknown, TAC's from these sources cannot be identified, nor emissions quantified.

While potential future sources of TACs are not known, the impacts anticipated from the location of residential developments near the freeways and railroad has been evaluated. Assumptions and calculations used in determining the health risk with respect to roadway and railroad usage in the project area is included in Appendix B. The following summarizes the results of the analysis.

The Health Risk identifies the maximum potential cancer risks from DPM as 57.09 cases per million persons northwest of the Metrolink station. It should be noted that the 57.09 cases per million represents a worst case within the Specific Plan area. The range of cancer risk within the Specific Plan Area based on distance from mobile sources of DPM is 8.41 to the 57.09 cases per million. Without the incorporation of project design features or mitigation to reduce the potential cancer risk to future residents, cancer risks of greater than 10 cases per million would expose the future onsite residential occupants to a substantial increase in health risk from exposure to DPM from the nearby freeways and rail line. Table 4.2-6 (Cancer and Noncancer Risks from Mobile DPM Exposure) shows the cancer and noncancer risks at several locations within the Specific Plan area.

Table 4.2-6 Cancer and Noncancer Risk from Mobile DPM Exposure

Receptor		Modeled DPM ($\mu\text{g}/\text{m}^3$)	Cancer Risk	> 10 per million?	Noncancer Risk	> 1?
Description	#					
29066 Camino Capistrano (west -by rail)	1	0.02710	9.00	No	0.0054	No
28613 Camino Capistrano	2	0.02531	8.41	No	0.0051	No
28055 Forbes Road	3	0.17184	57.09	Yes	0.0344	No
27805 Camino Capistrano (east by Freeway)	4	0.09397	31.22	Yes	0.0188	No
27015 Cabot Road	5	0.04813	15.99	Yes	0.0096	No
25887 Crown Valley Parkway	6	0.06120	20.33	Yes	0.0122	No
26077 Getty Drive	7	0.07829	26.01	Yes	0.0157	No

The following mitigation measures will be implemented in order to reduce the potential impact from exposure to DPM due to the potential siting of residential or other sensitive receptor development within 500 feet of a freeway or railway.

MM4.2-17 Development of uses that would contain sensitive receptors within 500 feet of the I-5 and/or the SR-73, and the railway shall incorporate tiered planting of vegetation, as deemed feasible and appropriate by the decision-making authority, adjacent to the TAC source in order to reduce toxic exposure. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency.

MM4.2-18 Mixed-use or residential development within 500 feet of the I-5 and/or the SR-73 and the existing railway shall implement sealed HVAC systems for all multi-family development. The sealed air system shall be designed so that all ambient air introduced into the interior living space would be filtered to remove DPM and other particulate matter at minimum of up to 75 percent of particulates of 0.3 micron or larger in size from the ambient air that is introduced to the system, and 90 percent of particulates of 1 micron or larger (NAFA 1999).

While the specific future development within the Laguna Niguel Gateway Specific Plan area is unknown, incorporation of mitigation measures would reduce the potential impacts to sensitive receptors from TAC exposure due to the development of TAC emitters from new commercial and industrial uses within the Specific Plan area.

- MM4.2-19*
- a. All new industrial and commercial development projects that have the potential to emit TACs shall be required to be located an adequate distance from existing and proposed development used by sensitive receptors, unless a project-specific evaluation of human health risks is conducted and the results of the evaluation determine that no significant impact would occur, to the satisfaction of the City's decision-making authority. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency. The determination of development projects that have the potential for TAC emissions and adequate distances from sensitive receptors are identified in the California ARB's "Air Quality and Land Use Handbook—A Community Health Perspective (April 2005; California ARB Guidance).*
 - b. Development projects within the Laguna Niguel Gateway Specific Plan with the potential to emit TAC shall consult with the SCAQMD to identify TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.*

The California ARB has indicated buffer zones within which a source has the potential to adversely impact a sensitive receptor. While the specific future development within the Specific Plan area is unknown, incorporation of certain mitigation measures would reduce the potential impacts to sensitive receptors from TAC exposure from existing emitters, such as freeways or uses specific uses such as auto repair and other light industrial uses within the Specific Plan area. For sensitive receptors sited within the buffer zones of existing TAC emitters, as outlined in the Analytical Methodology Section, the following mitigation measure will be implemented in order to reduce the potential impact from exposure TAC contaminants.

MM4.2-20 Prior to project approval by the City's decision-making authority, applicants for proposed new development with sensitive receptors shall conduct an evaluation of human health risks to identify and reduce any potential health risks from TAC sources within the California ARB buffer zones, to the extent deemed feasible and appropriate by the City's decision-making authority. Sensitive receptors include residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency.

Operational activities under the Laguna Niguel Gateway Specific Plan may include the implementation of commercial activities that will emit TACs or the siting of sensitive receptors in the vicinity of existing TAC emitters, including the I-5 and SR-73 freeways and the existing rail line. This is considered a potentially significant impact. Implementation of mitigation measures MM4.2-17 through MM4.2-20 would reduce this impact, but not to a less-than-significant level. Therefore, the implementation of the proposed Specific Plan would result in a **significant and unavoidable** impact with respect to TAC emissions.

Threshold	Would the project create objectionable odors affecting a substantial number of people?
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Impact 4.2-5 Implementation of the proposed project could create objectionable odors affecting a substantial number of people. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a less-than-significant level.

Odors emanate from trace substances within the air that can be perceived by the sense of smell. This analysis focuses on objectionable odors. Although almost any land use has the potential to emit odors, some land uses are more likely to produce odors because of their operations. Land uses that are known to have the potential to emit odors include: agriculture, chemical plants, composting operations, dairies, fiberglass molding, landfills, light industrial processes, refineries, rendering plants, rail yards, and wastewater treatment plants.

Because the specific uses that would be allowed with implementation of the Specific Plan, there is a limited potential that new development operations could emit odors. Each individual development project under the Specific Plan would be required to evaluate the project with respect to odor impacts. By evaluating for potential odor impacts early in the development process, odor sources can be sited away from sensitive receptors or mitigated to a level where odors are not objectionable. Mitigation measures include:

- MM4.2-21 *Locate potential odor sources predominantly downwind from existing sensitive receptors and potential sensitive receptors predominantly upwind from existing odor sources;*
- MM4.2-22 *Maintain an adequate buffer between potential odor sources and receptors such that emitted odors are dissipated before reaching the receptors (minimum of 500 feet depending on odor source); and*
- MM4.2-23 *Design odor emitting source facilities such that odor emitters are located as far from potential receptors as possible and stack heights are balanced to provide the maximum dispersion of odor between the stack and the nearest sensitive receptor.*

This is considered a potentially significant impact. However, implementation of mitigation measures MM4.2-21 through MM4.2-23 would reduce this impact to a ***less-than-significant*** level.

4.2.4 Cumulative Impacts

In order to assess cumulative impacts, the SCAQMD recommends that projects be evaluated to determine whether they would be consistent with 2007 AQMP performance standards and project-specific emissions thresholds. In the case of the Laguna Niguel Gateway Specific Plan, air pollutant emissions would be considered to be cumulatively considerable if the new sources of emissions exceed SCAQMD project-specific emissions thresholds. The cumulative context for consideration of most air quality impacts is the South Coast Air Basin; the context for localized significance thresholds and CO hotspot analysis would be the Laguna Niguel Specific Plan area.

Threshold	Would the project conflict with or obstruct implementation of the applicable air quality plan?
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The 2007 AQMP anticipates and accounts for growth within the South Coast Air Basin. Future growth that does not exceed these projections would not conflict with the AQMP. As discussed under Impact 4.2-1, In order to evaluate the total changes anticipated under the Gateway Specific Plan, an evaluation of VMT was conducted. The decrease in employment, combined with an increase in population results in a net decrease in VMT from what was anticipated under the AQMP. Although there is an increase in area population, the limited growth in population combined with the decrease in employment and VMT, ensures that the project is consistent with the projections as provided to SCAG. Because VMT is anticipated to reduce as a whole over the next several years due to an increased emphasis on transportation-oriented development, and the decrease anticipated in VMT from build-out of the Laguna Niguel Gateway Specific Plan, the project would ***not make a cumulatively considerable contribution.***

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
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The South Coast Air Basin is designated as a federal-level severe nonattainment area for ozone, meaning that federal ambient air quality standards are not expected to be met for more than 18 years, and as nonattainment areas for PM₁₀ and PM_{2.5}. The Basin is a state-level extreme nonattainment area for ozone, and is a state-level nonattainment area for PM_{2.5} and PM₁₀ (California ARB 2010a). As indicated under Impact 4.2-2, emissions from operational activities are anticipated to exceed the operational threshold for

all criteria pollutants except SO_x before mitigation. Implementation of measures MM4.2-11 through MM2.4-16 would reduce these impacts; however, emissions would still exceed daily regulatory thresholds. Because emissions from the Laguna Niguel Gateway Specific Plan area would be significant on a project level, and the Basin is in nonattainment for PM₁₀ and PM_{2.5}, the project would make a considerable contribution to the cumulative impact. Because all exceedances of project level thresholds inhibit the Basin's ability to reach attainment, any exceedance is considered a ***significant cumulative impact***.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?
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As discussed in the Local Air Quality portion of Section 4.2.1, no intersection within the Laguna Niguel Gateway Specific Plan area currently exceeds national or state standards for 1-hour or 8-hour CO concentrations. Therefore an impact with respect to localized CO concentrations does not currently exist within the Project area. As discussed in Impact 4.2-4, as the Laguna Niguel Gateway Specific Plan area is built out, the level of service on roadways has the potential to deteriorate; however, no intersection would exceed national or state standards for 1-hour or 8-hour CO concentrations. Therefore, the project would ***not make a cumulatively considerable contribution*** to CO hotspots.

The SCAQMD provides a detailed analysis of existing TAC health risks within the District that indicates existing cancer risk within the Laguna Niguel Gateway Specific Plan area is between 428 and 483 cases in a million. Operational activities under the Specific Plan area may include the implementation of commercial activities that will emit TACs or the siting of sensitive receptors in the vicinity of existing TAC emitters. The potential increase in TAC emissions would result in a ***cumulatively considerable contribution*** to TAC impacts. Even with implementation of mitigation measures MM4.2-17 through MM4.2-20, the project in combination with future development would not reduce impacts to a less-than-significant level. Therefore, the Gateway Specific Plan results in a ***significant and unavoidable cumulative impact*** from TAC emissions.

Threshold	Would the project create objectionable odors affecting a substantial number of people?
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As indicated under Impact 4.2-5, because of the unknown disposition of the developable land under the Laguna Niguel Gateway Specific Plan, there is the potential that new development operations will emit odors that could be objectionable and could be in close proximity to existing sensitive receptors. Therefore the Gateway Specific Plan has the potential to result in a cumulative impact, and because the exact disposition of land uses is unknown, has the potential to result in a cumulatively considerable contribution to the project's cumulative impact. Each individual development project under the Gateway Specific Plan will be required to evaluate the project with respect to odor impacts. By evaluating for potential odor impacts early in the development process, odor sources can be sited away from sensitive receptors or mitigated to a level where odors are not objectionable. The implementation of mitigation measures MM4.2-21 through MM4.2-23 would reduce this impact to less than significant at a project level. Because odors are localized impacts and the siting of new odor sources as well as sensitive receptors will be evaluated and mitigated such that no localized odor impacts occur, this project would result in a ***less than significant cumulative impact***.

4.2.5 References

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4.3 BIOLOGICAL RESOURCES

This section of the PEIR analyzes the potential environmental effects on biological resources from implementation of the proposed Specific Plan. No comment letters addressing biological resources were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from a search of biological resources databases; a review of pertinent literature, photographs, and aerial imagery; and site visits to selected portions of the Specific Plan area. No site-specific biological surveys, vegetation mapping, special-status species protocol-level surveys, or wetland delineation surveys were conducted. Full reference-list entries for all cited materials are provided in Section 4.3.5 (References). The following provides a summarized list of the primary resources consulted for the preparation of this section:

■ Databases

- > Calflora Plant Observation Library (Calflora 2011a)
- > California Department of Fish and Game (CDFG) Natural Diversity Database (CDFG 2011a)
- > California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2011)
- > Consortium of California Herbaria (Consortium 2011)
- > U.S. Department of Agriculture (USDA) Web Soil Survey (USDA 2011)
- > U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2011a)
- > USFWS National Wetlands Inventory Wetlands Mapper (USFWS 2011c)

■ Literature Review

- > CDFG State- and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFG 2011b)
- > CDFG Special Vascular Plants, Bryophytes, and Lichens List (CDFG 2011c)
- > CDFG Special-Status Animals List (CDFG 2011d)

4.3.1 Environmental Setting

■ Regional Context

The Specific Plan area is located within the northeastern portion of the City of Laguna Niguel in southern Orange County. The general area also encompasses the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Mission Viejo, and San Juan Capistrano, as well as unincorporated areas of Orange County. Located approximately 5 miles inland and northeast of the Pacific Ocean, the bioregion that defines the area is influenced by a coastal Mediterranean climate. The area's climate, coupled with coastal geological formations and land features, give rise to an array of habitat types and vegetation communities that are typical to coastal southern California. Grasslands, coastal sage scrub, chaparral, riparian woodlands and forests, and riverine and palustrine habitats contribute to the overall biological value and aesthetic appeal of the general area. Although past agricultural practices and urbanization have resulted in the conversion of land and development within much of the general area, there remains few larger blocks and linkages of undeveloped land that provide important habitat for plant and wildlife species that reside and migrate to and from the area.

■ Topography and Soils

Topographic features not only provide for scenic viewsheds in a community, but also support the collection and delivery of important water resources, dictate the distribution of valuable habitat types, and aid in the facilitation of wildlife movement to and from important habitat areas. In general, the Specific Plan area is situated within a relatively narrow north-south trending corridor for the Oso Creek watershed. No major ridgeline features or mountain peaks characterize the Specific Plan area. The highest elevations occur within the western portions of the Specific Plan area at approximately 520 feet above mean sea level (amsl). The lowest elevations occur within the southern portions of the Specific Plan area at approximately 220 feet amsl.

Two major water features occur within the Specific Plan area: Oso Creek and the Galivan Basin. Within the Specific Plan area, Oso Creek and the Galivan Basin are owned and maintained by the Orange County Flood Control District (OCFCD). The Galivan Basin is a man-made flood control feature located in the northern portions of the Specific Plan area that serves as an overflow and retarding basin for Oso Creek. A small, unnamed drainage feature runs through the Galivan Basin before discharging into Oso Creek. The Galivan Basin is actively maintained by OCFCD and therefore routinely disturbed and cleared of vegetation. An approximately 2.0-mile (11,000-linear-foot) reach of Oso Creek traverses the Specific Plan area, the entirety of which has been channelized and diverted from its natural course. Within the Specific Plan area, nearly all of Oso Creek is contained within a concrete channel, and depending upon flows and seasonal conditions, little or no vegetation occurs. Oso Creek is a blue-line stream and tributary water to Trabuco Creek, which occurs further to the south of the Specific Plan area, as depicted on the San Juan Capistrano, California USGS 7.5" topographic quadrangle map. Trabuco Creek is a tributary water to San Juan Creek, which discharges into the Pacific Ocean approximately 6.0 river miles downstream of the Specific Plan area.

The geology and soils associated with topographic features give way to varying habitat types and often provide unique safe havens for plants and animals with specific microhabitat requirements such as clay, shale, granite, and limestone pockets, rock outcrops, and cliff faces. In highly urbanized settings, such as the Specific Plan area, the native soils are often heavily disturbed and altered from their natural state. In most cases, urbanization has resulted in the cutting and filling of native soils for the placement of permanent developments. The underlying soils of the Specific Plan area consist of Capistrano Formation bedrock from late Miocene to early Pliocene age. Quaternary alluvium of Oso Creek and its tributaries overlie the bedrock. The Specific Plan area is mapped as being supported by eighteen separate soil map units. The dominant soil unit is Alo clay, which underlies roughly 50 percent of the Specific Plan area. Other soil units identified include various types of clay, loam, clay loam, sandy loam, loamy sand, cobbly sandy loam, and riverwash.

■ Vegetation

The vegetation mapping for this programmatic assessment takes a broad-based approach toward defining habitat types and vegetation communities that occur within the Specific Plan area. Vegetation communities have been defined based on overall dominance of trees, shrubs, and herbaceous plants that occur over relatively large areas, as determined by review of aerial imagery, relevant literature, photographs, and field visits to the Specific Plan area. As environmental conditions change and more

specific studies are conducted, deviations from the large-scale assessment may occur as specific data is collected, and more fine-scale mapping may reveal a greater diversity of habitat types.

A total of five general vegetation communities or habitat types characterize the Specific Plan area. These include urban/developed, grassland, coastal sage scrub, riparian, and unvegetated channel. For general location of these communities within the Specific Plan area, refer to Figure 4.3-1 (Vegetation Communities). The names and definitions of vegetation communities are discussed below and are suggested based on general definitions provided by Holland (1986) and Sawyer and Keeler-Wolf (2009) natural communities classification systems.

Urban/Developed

Urban/developed includes land that has been permanently altered due to the construction of aboveground developments such as buildings and roads. Urban/developed areas may include stands of nonnative vegetation planted for landscaping improvements, including ornamental tree- and shrub-vegetated slopes and rights-of-way and groundcover-vegetated parks. Nonnative species typical of urban/developed areas may include ornamental tree plantings such as pine (*Pinus* spp.), gum (*Eucalyptus* spp.), pepper (*Schinus* spp.), and palms (*Arecaceae* family), ornamental shrubs such as wattle (*Acacia pycnantha*, *Acacia* spp.), oleander (*Nerium oleander*), pittosporum (*Pittosporum* spp.), and tea tree (*Leptospermum* spp.), and nonnative groundcover species such as freeway ice plant (*Carpobrotus edulis*), crystalline ice plant (*Mesembryanthemum crystallinum*), and various turf grasses (*Festuca* spp., *Cynodon* spp., *Digitaria* spp., *Eremochloa* spp., *Zoysia* spp.).

Urban/developed land is the predominant land use or vegetation community within the Specific Plan area, generally occurring in the form of industrial and commercial developments, surface streets, arterials, and other infrastructure. Areas characterized by urban/developed land provide very limited biological function and value.

Grassland

For the purposes of this assessment, grassland can be divided into two general categories: native grassland or nonnative grassland. The predominant native grassland type that is known to occur in the region is valley needlegrass grassland. Valley needlegrass grassland has been defined as supporting a vegetative cover that includes at least 10 percent coverage by native purple needlegrass (*Nassella pulchra*), with the remaining 90 percent comprised of other native and nonnative grasses and forbs (Sawyer and Keeler-Wolf 2009). Nonnative grassland, or annual grassland, is more prevalent and widespread in the region, and is described as a dense to sparse cover of nonnative annual grasses, often associated with numerous ruderal species and native annual forbs, especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. In addition to purple needlegrass, other native grasses typically found within valley needlegrass grasslands may include foothill needlegrass (*Nassella lepida*), California brome (*Bromus carinatus* var. *carinatus*), and California blue-eyed grass (*Sisyrinchium bellum*), among others. Native forbs may also be present such as fiddleneck (*Amsinckia* spp.), California poppy (*Eschscholzia californica*), popcorn flower (*Plagiobothrys* spp.), and phacelia (*Phacelia* spp.). Nonnative species typically found in both native and nonnative grassland habitats include grasses such as red brome (*Bromus*

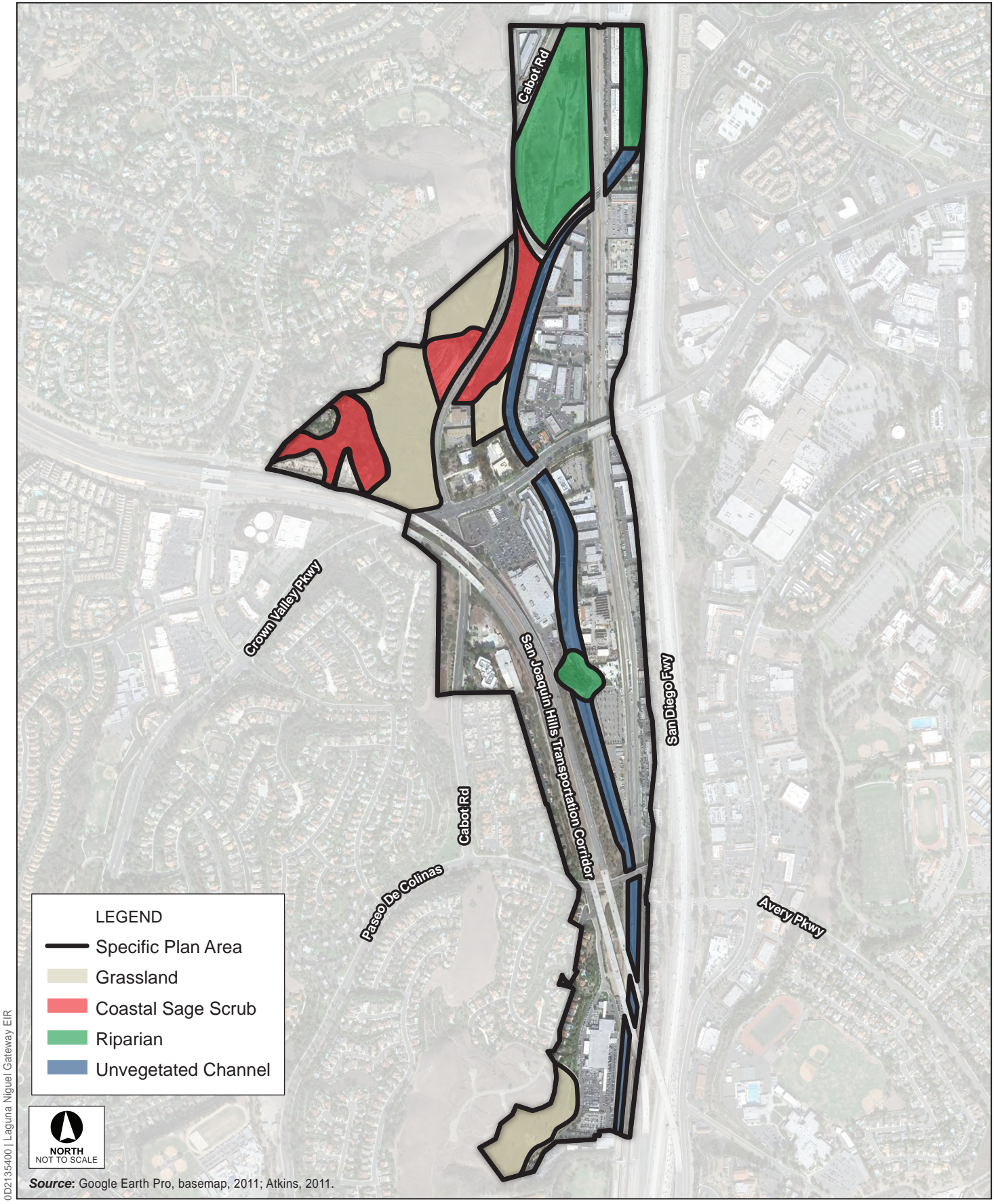
madritensis ssp. *rubens*), ripgut (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), cheat grass (*Bromus tectorum*), oats (*Avena* spp.), barleys (*Hordeum* spp.), and rattail fescue (*Vulpia myuros*), and forbs such as black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), filaree (*Erodium* spp.), and sweet fennel (*Foeniculum vulgare*).

Grassland occurs in patches on the east-facing slopes located north of Crown Valley Parkway and on the east and west side of Cabot Road, within Districts C, D, and J. Smaller, isolated patches of grassland also occur south of Crown Valley Parkway and adjacent to State Route 73 (SR-73) and Cabot Road. These patches are not likely to be comprised of native grassland due to the prevalence of nonnative grasses in the local area and historical land use disturbances, namely, past grazing activities. The patches on the slopes north of Crown Valley Parkway in the western portions of the Specific Plan area function as understory extensions to the sparse, isolated stands of remnant coastal sage scrub. Because the grassland areas represent some of the last remaining undeveloped land in the local area, they could provide foraging and dispersal habitat for wildlife species that reside or move through the area. However, the existing developments that surround them limit the potential for wildlife use and their overall biological function and value.

Coastal Sage Scrub

Coastal sage scrub is a native scrub-type community that is widespread throughout the lower elevations of coastal southern California. For the purposes of this assessment, coastal sage scrub habitat has been defined to include elements of Diegan coastal sage scrub (Holland 1986) and California buckwheat scrub or *Eriogonum fasciculatum* alliance (Sawyer and Keeler-Wolf 2009). Coastal sage scrub vegetation typically consists of low-growing, drought-deciduous perennial and evergreen shrubs adapted to xeric sites supported by steep and gentle sloping topography with severely drained soils or clays that release stored soil moisture slowly. This scrub type may occur as a dense scrub-type community of scattered shrubs, sub-shrubs, and herbs generally less than 3 feet tall and often developing considerable cover. Typical stands in the bioregion are relatively dense and dominated by the native shrub, California sagebrush (*Artemisia californica*), with a sub-dominance of one or more native shrubs, and an herbaceous understory consisting of native and nonnative grasses, and annual forbs. Diagnostic species generally include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), laurel sumac (*Malosma laurina*), sticky monkeyflower (*Mimulus aurantiacus*), chaparral yucca (*Yucca whipplei*), and California aster (*Corethrogyne filaginifolia*), among others. This community is fire-adapted, with many constituent species being able to sprout new stems from remnant crowns after a burn. In southern California, this community typically intergrades with coastal dunes scrub and foredune habitats along the coast, and with grassland, chaparral, and oak woodland habitats at inland locales.

Coastal sage scrub occurs as sparse stands within limited areas on the hillsides in the western portions of the Specific Plan area within Districts C and D. Some of the coastal sage scrub that exists within the Specific Plan area is not naturally occurring, and had been planted or hydroseeded as a result of previous developments for Cabot Road and SR-73. Within these areas, California buckwheat strongly dominates the vegetation composition, with other native shrubs such as coyote brush (*Baccharis pilularis*) and California sagebrush present in much lower densities. Pure stands of high-quality coastal sage scrub do not occur within the Specific Plan area; most of the scrub habitat is sparse and intergrades with the expansive grassland that dominates the undeveloped western portions of the Specific Plan area. Although



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Figure 4.3-1
Vegetation Communities

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historically this habitat may have been more widespread and higher quality, developments within Specific Plan area and vicinity have compromised the overall biological function and value of the habitat, and have limited the capacity for sensitive species to persist.

Riparian

Riparian habitats are generally characterized by dense, broadleafed, evergreen sclerophyllous, and winter-deciduous riparian thickets of vegetation, typically dominated by several species of willow (*Salix* spp.), emergent cottonwood (*Populus* spp.), California sycamore (*Platanus racemosa*), and mulefat (*Baccharis salicifolia*). Riparian habitat within the Specific Plan area may include elements of mixed riparian woodland, southern willow scrub, and/or mule fat scrub (Holland 1986). Riparian habitats are found in a number of scenarios: within narrow ribbons along streambeds and washes that tend to dry out quickly after storm events; within areas characterized by loose, sandy, or fine gravelly alluvium deposits near stream channels exposed to flood flows; within intermittent stream channels with fairly coarse substrate, moderate depth to the water table, and maintained by frequent flooding or scouring; within low gradient stream reaches and seasonally flooded bottomlands supported by moist or saturated sandy or gravelly soils; within drier outer flood plains along perennial streams; or within or adjacent to the active stream channel and primary floodplain of intermittent or perennial streams. Many riparian systems support wetland habitats within and adjacent to their understory. In addition to the dominants discussed above, other species associated with riparian habitat in the region may include coyote bush, skunkbush (*Rhus trilobata*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), docks (*Rumex* spp.), sedges (*Carex* spp.), rushes (*Juncus* spp.), and mustards (e.g., *Brassica*, *Hirschfeldia*, *Rapa* spp.), among others. Riparian habitat was formerly extensive along the major rivers of coastal southern California; however, urban expansion, agriculture, flood control, and channel improvements that have disrupted natural flow regimes have resulted in major reductions of this habitat.

Within the Specific Plan area, riparian habitat occurs within very limited portions of Oso Creek and the Galivan Basin in the northern portion of the Specific Plan area, within Districts A and B. In addition, a small stand of this habitat occurs within Oso Creek in the central portion of the Specific Plan area, between Districts G and H. Much of the historical riparian habitat within the Specific Plan area has been removed as a result of the channelizing of Oso Creek and OCFCD maintenance. Dominant species within the few remnant stands include arroyo willow (*Salix lasiolepis*) and mulefat. The limited riparian habitat within the Area Plan is of relatively low biological function and value due to the small size of existing stands, isolation from larger better quality stands, adjacent developments, and disturbance.

Unvegetated Channel

Unvegetated channel communities include concrete channels, unvegetated water retention ponds and manmade flood retention channels. Vegetation is absent or limited to temporary habitats growing on sediment deposits that are typically scoured away each rainy season. Within the Specific Plan area, unvegetated channel characterizes the majority of Oso Creek, and portions of the Galivan Basin. Due to the lack of vegetative cover, modified hydrology, unsuitable substrate, and disturbance, the unvegetated channel within the Specific Plan area provides relatively low biological function and value. These areas provide temporary foraging habitat (water source) and potential travel routes for common wildlife species.

■ Sensitive Biological Resources

Sensitive biological resources are defined as the following: (1) vegetation communities that are unique, of relatively limited distribution, or of particular value to wildlife; and (2) species that have been given special recognition by federal or state agencies, or are included in regional conservation plans due to limited, declining, or threatened populations.

Sensitive Biological Resources Designations

Federal

Federal listing of endangered and threatened wildlife and plants is administered under the federal Endangered Species Act (ESA) by the U.S. Fish and Wildlife Service (USFWS) for terrestrial and freshwater species, and by the National Marine Fisheries Service (NMFS) for marine and anadromous (i.e., fish species that migrate from the sea to freshwater to breed) species. Before a species can receive protection under the ESA, it must first be placed on the federal list. An “endangered” species is defined as one that is in danger of extinction throughout all or a significant portion of its range. A “threatened” species is one that is likely to become endangered in the foreseeable future. The USFWS and NMFS recognize species of concern that are candidates for listing. The USFWS also maintains a list of species of special concern for possible addition to the federal list but that are not currently regulated.

State

California Department of Fish and Game (CDFG) implements the California Endangered Species Act. The CDFG maintains a list of designated endangered, threatened, and rare plant and animal species that are known to occur within California. Listed species are either designated under the Native Plant Protection Act or designated by the Fish and Game Commission. The CDFG also affords interim protection to candidate species while they are being reviewed for formal listing by the Fish and Game Commission. In addition, the CDFG maintains a list of “Species of Special Concern,” most of which are species whose breeding population in California faces extinction. Sensitive natural communities are vegetation communities, associations, or sub-associations designated by the CDFG and/or California Native Plant Society (CNPS) that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. The primary information source on the distribution of special-status species and sensitive natural communities in California is the California Natural Diversity Database (CNDDDB) inventory, which is maintained by the Wildlife and Habitat Data Analysis Branch of the CDFG.

Special-Status Species

Plants

Based on a list compiled through the CNDDDB (CNDDDB 2011) and other sources (CNPS 2011; Consortium 2011; BerkeleyMapper 2011; Calflora 2011a; CDFG 2011c, 2011d), a total of 10 special-status plant species have been reported in the vicinity (within approximately 5 miles) of the Specific Plan area (Table 4.3-1 [Special-Status Wildlife Species Known to Occur within the Project Vicinity]). None of the ten special-status plant species have been reported as occurring within the Specific Plan area.

Table 4.3-1 Special-Status Wildlife Species Known to Occur within the Project Vicinity

Species (Scientific Name Common Name)	Status			Preferred Habitat	Life Form	Blooming Period
	Federal	State	CNPS			
<i>Atriplex coulteri</i> Coulter's saltbush	—	—	1B.2	Valley and foothill grassland, coastal dunes, coastal bluff scrub, coastal sage scrub supported by alkaline or clay soils. Known Elevation Range: 5–1,510 feet	Perennial herb	Mar–Oct
<i>Brodiaea filifolia</i> Thread-leaved brodiaea	FT	SE	1B.1	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grasslands, and vernal pools supported by clay soils. Known Elevation Range: 130–4,005 feet	Perennial bulbiferous herb	Mar–Jun
<i>Calochortus weedii</i> var. <i>intermedius</i> Intermediate mariposa-lily	—	—	1B.2	Coastal sage scrub, chaparral, and valley and foothill grassland supported by rocky and calcareous soils. Known Elevation Range: 340–2,805 feet	Perennial bulbiferous herb	May–Jul
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i> Orcutt's pincushion	—	—	1B.1	Coastal dunes and coastal bluff scrub supported by sandy soils. Known Elevation Range: 5–330 feet.	Annual herb	Jan–Aug
<i>Dudleya multicaulis</i> Many-stemmed dudleya	—	—	1B.2	Openings in chaparral and coastal sage scrub, and valley and foothill grasslands, often supported by clay soils. Known Elevation Limits: 50–2,590 feet.	Perennial herb	Apr–Jul
<i>Dudleya stolonifera</i> Laguna Beach dudleya	FT	ST	1B.1	Valley and foothill grassland, coastal sage scrub, chaparral and cismontane woodland at rocky locales. Known Elevation Range: 30–855 feet	Perennial stoloniferous herb	May–Jul
<i>Euphorbia misera</i> Cliff spurge	—	—	2.2	Coastal bluff scrub, coastal sage scrub, and Mojavean desert scrub at rocky locales. Known Elevation Range: 30–1,640 feet	Perennial herb	Dec–Aug
<i>Hemizonia (Centromadia) parryi</i> ssp. <i>Australis</i> Southern tarplant	—	—	1B.1	Margins of marshes and swamps, vernal mesic valley and foothill grasslands, and vernal pools. Known Elevation Range: 0–1,395 feet	Annual herb	May–Nov
<i>Pentachaeta aurea</i> ssp. <i>allenii</i> Allen's pentachaeta	—	—	1B.1	Openings in valley and foothill grasslands and coastal sage scrub. Known Elevation Range: 245–1,710 feet	Annual herb	Mar–Jun
<i>Quercus dumosa</i> Nuttall's scrub oak	—	—	1B.1	Coastal sage scrub, chaparral, and closed-cone coniferous forest supported by sandy or clay loam soils. Known Elevation Range: 45–1,315 feet	Perennial evergreen shrub	Feb–Aug

SOURCE: CDFG 2011a. CNPS 2011. Calflora 2011. Consortium 2011. The list of species in this table is based on database queries for areas within approximately 5 miles of the project site, including selected results from the San Juan Capistrano, Laguna Beach, Tustin, El Toro, Santiago Peak, Canada Gobernadora, San Clemente, and Dana Point, California USGS 7.5-Minute Quadrangles.

Federal

FE = Federal Endangered
FT = Federal Threatened
PE = Proposed Endangered
PT = Proposed Threatened
FC = Federal Candidate

State

SE = California Endangered
ST = California Threatened
SR = California Rare

California Native Plant Society (CNPS)

1A = Plants presumed extinct in California
1B = Plants rare, threatened, or endangered in California and elsewhere
2 = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants in need of more information
4 = Plants of limited distribution
x.1 = Seriously endangered in California (>80% of occurrences threatened or high degree and immediacy of threat)
x.2 = Fairly endangered in California (20-80% of occurrences threatened)
x.3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)

Based on a programmatic assessment, four of the ten special-status plant species were determined to have a potential to currently occur within Specific Plan area due to the presence of suitable soils and vegetation associations, and proximity to known occurrences. These species are described in further detail below.

Thread-Leaved Brodiaea

Thread-leaved brodiaea (*Brodiaea filifolia*) is listed by the USFWS as federally threatened and by the CDFG as state endangered. It is also designated by the CNPS as a List 1B.1 species. This brodiaea occurs within grasslands, playas, and vernal pools, and openings of coastal sage scrub, chaparral, and cismontane woodland habitats that are supported by clay soils. Suitable grassland and open-canopy coastal sage scrub supported by clay soils for this species occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road.

Many-Stemmed Dudleya

Many-stemmed dudleya (*Dudleya multicaulis*) is not federally or state listed as endangered or threatened, however is designated by the CNPS as a List 1B.2 species. This species occurs within grasslands and openings in chaparral and coastal sage scrub supported by clay soils and outcrops. Marginal grassland and open-canopy coastal sage scrub supported by clay soils for this species occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road.

Allen's Pentachaeta

Allen's pentachaeta (*Pentachaeta aurea* ssp. *allenii*) is not federally or state listed as endangered or threatened, however is designated by the CNPS as a List 1B.1 species. This species occurs within grasslands and coastal sage scrub. Marginal grassland and coastal sage scrub for this species occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road.

Southern Tarplant

Southern tarplant (*Hemizonia parryi* ssp. *australis*) is not federally or state listed as endangered or threatened, however is designated by the CNPS as a List 1B.1 species. This species occurs within seasonally wet grasslands, vernal pools, and along the margins of marshes and swamps. Marginal habitat for this species occurs within the Galivan Basin in the northern portion of the Specific Plan area.

Wildlife

Based on a list compiled through the CNDDDB (CNDDDB 2011) and other sources (CDFG 2009c, 2011d, 2011b), a total of nineteen special-status wildlife species are known to occur in the vicinity (within approximately 5 miles) of the Specific Plan area (Table 4.3-2 [Special-Status Wildlife Species Known to Occur within the Project Vicinity]).

Two of the nineteen special-status wildlife species, arroyo chub (*Gila orcuttii*) and coastal California gnatcatcher (*Poliophtila californica californica*), have been previously reported as occurring within the Specific Plan area. Based on a programmatic assessment, six of the nineteen special-status wildlife species, including the coastal California gnatcatcher, were determined to have a potential to currently occur

Table 4.3-2 Special-Status Wildlife Species Known to Occur within the Project Vicinity

Species (Scientific Name Common Name)	Status			Preferred Habitat
	Federal	State	Other	
Invertebrates				
<i>Danaus plexippus</i> Monarch butterfly	—	—	—	(Roost Sites) Wind protected tree groves (e.g., <i>Eucalyptus</i>) with nectar sources nearby.
Fish				
<i>Gila orcuttii</i> Arroyo chub	—	SSC	—	Requires slow water stream sections with muddy or sandy bottoms. Feeds heavily on aquatic vegetation and associated invertebrates. Native to streams from Malibu Creek to the San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, and Santa Ynez River basins.
Amphibians and Reptiles				
<i>Actinemys marmorata pallida</i> Southwestern pond turtle	—	SSC	—	Permanent or nearly permanent fresh water habitats below 6,000 feet in elevation. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. In lower elevations and latitudes, this species may be active at aquatic sites year-round. Uses protected upland terrestrial sites near aquatic sites with appropriate slope aspect and soils for an oviposition site.
<i>Anaxyrus californicus</i> Arroyo toad	FE	SSC	—	Semi-arid regions near washes and intermittent streams characterized by valley and foothill riparian, desert riparian, desert wash, and other riparian habitats. Prefers rivers with unvegetated sandy banks and loose gravelly areas of streams for burrowing and foraging.
<i>Aspidoscelis hyperythra</i> Orange-throated whiptail	—	SSC	—	Low elevation coastal sage scrub, chaparral, and valley and foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Requires habitats with perennial plants. Primary forage type is termites.
<i>Aspidoscelis tigris stejnegeri</i> Coastal western whiptail	—	WL	—	Sparse scrub-type habitats within deserts and semiarid areas. Also found within woodland and riparian habitats. Substrates may be firm, sandy, or rocky.
<i>Crotalus ruber ruber</i> Northern red-diamond rattlesnake	—	SSC	—	Occurs from coastal areas to the eastern slopes of the mountains and in desert habitats. Occurs from sea level to 900 meters in chaparral, woodland, and arid desert habitats in rocky areas and dense vegetation.
<i>Phrynosoma coronatum (blainvillii population)</i> Coast (San Diego) horned lizard	—	SSC	—	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions. Also inhabits annual grassland, oak woodland, riparian woodland, and coniferous forest. Requires loose fine soils with a high sand fraction for burrowing. Feeds primarily on harvester ants, but also termites, beetles, flies, wasps, and grasshoppers. This species is unable to survive in habitats altered through urbanization, agriculture, off-road vehicle use, or flood control structures.
<i>Taricha torosa torosa</i> Coast range newt	—	SSC	—	Occurs within a wide variety of scrub-, woodland-, and grassland-type terrestrial habitats in coastal locales from Mendocino County south to San Diego County. Breeding habitat consists of reservoirs, ponds, and slow moving streams. Adults will migrate over 1.0 kilometer from terrestrial sites to breeding sites.
<i>Thamnophis hammondi</i> Two-striped garter snake	—	SSC	—	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.

Table 4.3-2 Special-Status Wildlife Species Known to Occur within the Project Vicinity

Species (Scientific Name Common Name)	Status			Preferred Habitat
	Federal	State	Other	
Birds				
<i>Agelaius tricolor</i> Tricolored blackbird	—	SSC	—	Nesting habitat consists of protected emergent wetland and riparian habitats adjacent to open water including, lakes, ponds, slow moving streams, canals, sloughs and backwaters. Foraging areas support high density of insect prey. Highly colonial species that is most abundant in the Central Valley and vicinity.
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	—	SSC	—	Nesting habitat includes steep, often rocky, hillsides characterized by grass and forb patches intermittent to sparse coastal sage scrub and sparse mixed chaparral stands.
<i>Campylorhynchus brunneicapillus sandiegensis</i> Coastal cactus wren	—	SSC	—	Requires tall <i>Opuntia</i> spp. cactus within coastal sage scrub for nesting and roosting.
<i>Elanus leucurus</i> White-tailed kite	—	SF	—	Rolling foothills and valley margins characterized by scattered oaks. Also, river bottomlands or marshes adjacent to deciduous woodland. Forages in open grasslands, meadows, or marshes that occur adjacent to isolated, densely vegetated treetops used for nesting and perching.
<i>Empidonax trallii extimus</i> Southwestern willow flycatcher	FE	SE	—	Summer resident of dense riparian woodland and forest habitats.
<i>Icteria virens</i> Yellow-breasted chat	—	SSC	—	Summer resident within riparian thickets of <i>Salix</i> spp. and shrub tangles near watercourses. Nests within low, dense riparian habitat consisting of <i>Salix</i> spp., <i>Rubus</i> spp., and <i>Vitis</i> spp. Forages and nests within 10 feet of the ground.
<i>Polioptila californica californica</i> Coastal California gnatcatcher	FT	SSC	—	Coastal sage scrub on mesas, gently sloping areas, and along the lower slopes of the coast ranges. May also use chaparral, grassland, and riparian habitats.
<i>Vireo bellii pusillus</i> Least Bell's vireo	FE	SE	—	Summer resident of riparian habitat below 2,000 feet in elevation in vicinity of water or in dry river bottoms. Nests within habitat margins and intersecting riparian shrubs and trees along canopy pathways. Associated with <i>Salix</i> spp., <i>Baccharis</i> spp., and <i>Prosopis</i> spp.
Mammals				
<i>Eumops perotis californicus</i> Western mastiff bat	—	SSC	—	Occurs in a variety of open, semi-arid to arid, habitats, including conifer and deciduous woodlands, coastal sage scrub, grasslands, and chaparral. Roost sites occur within crevices in cliff faces, high buildings, trees, and tunnels.
SOURCE: CDFG 2011a. The list of species in this table is based on database queries for areas within approximately 5 miles of the project site, including selected results from the San Juan Capistrano, Laguna Beach, Tustin, El Toro, Santiago Peak, Canada Gobernadora, San Clemente, and Dana Point, California USGS 7.5-Minute Quadrangles.				
<u>Federal</u>	<u>State</u>	<u>Other</u>		
FE = Federal Endangered	SE = California Endangered	—		
FT = Federal Threatened	ST = California Threatened			
FC = Federal Candidate	SF = California Fully Protected			
	SSC = California Species of Special Concern			
	WL = Watch List			

within Specific Plan area due to the presence of suitable habitat and proximity to known occurrences. These species are described in further detail below.

Arroyo Chub

The arroyo chub is not federally or state listed as endangered or threatened, however is designated by the CDFG as a California state species of special concern. This freshwater fish is resident to a number of southern California streams, and requires slow water stream sections with muddy or sandy bottoms. The report of arroyo chub within the Specific Plan area corresponds to a previously undisturbed section of Oso Creek, and dates back to 1975, with the record last updated in 1991 (CNDDDB 2011). Since the construction of SR-73 and other developments, the section of Oso Creek that corresponds to the 1975 record has been channelized, and currently, no longer supports the habitat requirements for the arroyo chub. Due to channelization and lack of suitable substrate and other habitat requirements, this species is not likely to be present within the section of Oso Creek that traverses the Specific Plan area. The proposed project is not likely to result in any direct or indirect impacts to this species or its habitat.

Orange-Throated Whiptail

The orange-throated whiptail (*Aspidoscelis hyperythra*) is not federally or state listed as endangered or threatened, however is designated by the CDFG as a California state species of special concern. This species occurs within low elevation coastal sage scrub, chaparral, and valley and foothill hardwood habitats, and prefers washes and other sandy areas with patches of brush and rocks. The presence of perennial plants and termites are part of this species' foraging requirements. Marginal coastal sage scrub habitat occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road that could be suitable for this species.

Coastal Western Whiptail

The coastal western whiptail (*Aspidoscelis tigris stejnegeri*) is not federally or state listed as endangered or threatened, or currently provided any special designation by the CDFG. It has been assigned global and state heritage rankings and is currently a species for which additional information is required in order to assign a specific degree of rarity, threat, and endangerment status. This species generally occurs within sparse scrub-type habitats such as open-canopy coastal sage scrub and chaparral, in addition to woodland and riparian habitats. Suitable coastal sage scrub habitat occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road that could be suitable for this species.

Northern Red-Diamond Rattlesnake

The northern red-diamond rattlesnake (*Crotalus ruber ruber*) is not federally or state listed as endangered or threatened, however is designated by the CDFG as a California state species of special concern. This species generally occurs in dense scrub, chaparral, woodland, and arid desert habitats, especially within areas supported by rocky substrates and boulder outcrops. Marginal coastal sage scrub habitat occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road that could be suitable for this species.

Coastal California Gnatcatcher

The coastal California gnatcatcher is listed by the USFWS as a federally threatened species and designated by the CDFG as a California state species of special concern. This species is a year-round resident of coastal sage scrub habitats in southern California generally below approximately 2,000 feet in elevation. The report of coastal California gnatcatcher presence within portions of the Specific Plan area dates back to 1980, with the species last seen in 2000, and the record last updated in 2003 (CNDDDB 2011). Since 1980, this species was observed on several occasions in the western portions of the Specific Plan area, and specifically, within coastal sage scrub habitat located west of Cabot Road and south of Deputy Circle, toward to top of the east-facing slope for the Oso Valley. This species also has a potential to use other coastal sage scrub in the vicinity of Cabot Road for breeding, foraging, and dispersal habitat. The proposed Specific Plan includes plans for future development down toward the base of the east-facing slope abutting Cabot Road. Although no future developments would be expected to occur within the higher elevation areas reported as being occupied by the coastal California gnatcatcher, potential impacts to this species and its habitat could occur as a result of the removal of other coastal sage scrub located adjacent to Cabot Road, in addition to the placement of developments in the immediate vicinity of potentially occupied habitat.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is listed by the USFWS as a federally endangered species and by the CDFG as a California state endangered species. This species requires relatively dense stands of riparian scrub, woodland, and forest habitats for nesting, but may use sparser, isolated, and smaller riparian stands as temporary habitat during foraging, migration, and dispersal. No suitable nesting habitat is likely to occur within Specific Plan area for this species. Marginal riparian habitat occurs within very limited areas of the Specific Plan area that could provide temporary habitat for this species during migration and dispersal.

Southern California Rufous-Crowned Sparrow

The southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is not federally or state listed as endangered or threatened, however is designated by the CDFG as a California state species of special concern. This species occurs within sparse coastal sage scrub and mixed chaparral, and is often associated with hillsides characterized by grass and forb patches intermittent to shrub stands. Marginal coastal sage scrub habitat occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road that could be suitable for this species.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is not federally or state listed as endangered or threatened, however is designated by the CDFG as a California state fully protected species. This species is most commonly observed foraging in open grasslands, meadows, or marshes that occur adjacent to isolated, densely vegetated treetops used for nesting and perching. It can occur within a variety of habitats, including river bottomlands or marshes adjacent to deciduous woodland, rolling foothills and valley margins characterized by scattered oaks. No suitable nesting habitat is likely to occur within Specific Plan area for

this species. Suitable grassland and coastal sage scrub occurs within limited areas of the western portions of the Specific Plan area surrounding Cabot Road that could provide foraging habitat for this species.

Western Mastiff Bat

The western mastiff bat (*Eumops perotis californicus*) is not federally or state listed as endangered or threatened, however is designated by the CDFG as a California state species of special concern. This species can occur in a variety of open habitats in close proximity to roost sites, which can include suitable crevices in cliff faces, high buildings, trees, and tunnels. The Specific Plan area is not likely to support suitable habitat for the establishment of roost sites; however, this species may forage within the habitats associated with Oso Creek and the Galivan Basin, in addition to the grassland and open scrub the western portions of the Specific Plan area surrounding Cabot Road.

Sensitive Natural Communities

Based on a list compiled through the CNDDDB (CNDDDB 2011; CDFG 2003), four sensitive natural communities are known to occur in the vicinity (within approximately 5 miles) of the Specific Plan area (Table 4.3-3 [Sensitive Natural Communities Known to Occur within the Project Vicinity]). None of these sensitive communities have been reported as occurring within the Specific Plan area.

Based on a programmatic assessment, one of the four sensitive natural communities, valley needlegrass grassland, was determined to have a potential to occur within Specific Plan area. This native grassland community could occur as scattered patches within the east-facing slopes in the western portions of the Specific Plan area adjacent to Cabot Road.

Table 4.3-3 Sensitive Natural Communities Known to Occur within the Project Vicinity

<i>Natural Community</i>	<i>Global Ranking</i>	<i>State Ranking</i>
Southern Coast Live Oak Riparian Forest	G4	S4
Southern Cottonwood Willow Riparian Forest	G3	S3.2
Southern Mixed Riparian Forest	G2	S2.1
Valley Needlegrass Grassland	G1	S3.1

SOURCE: CDFG 2011a. The list of natural communities included in this table is based on database queries for areas within approximately 5 miles of the project site, including selected results from the San Juan Capistrano, Laguna Beach, Tustin, El Toro, Santiago Peak, Canada Gobernadora, San Clemente, and Dana Point, California USGS 7.5 Minute Quadrangles.

Global Rankings

G1 = Less than 2,000 acres exist worldwide.
G2 = Approximately 2,000 to 10,000 acres exist worldwide.
G3 = Approximately 10,000 to 50,000 acres exist worldwide.
G4 = Community is secure worldwide, but factors exist to cause some concern.

State Rankings

S2.1 = Considered very threatened in California; approximately 2,000 to 10,000 acres exist statewide.
S3.1 = Considered very threatened in California; approximately 10,000 to 50,000 acres exist statewide.
S3.2 = Considered very threatened in California; approximately 10,000 to 50,000 acres exist statewide.
S4 = Community is secure statewide, but factors exist to cause some concern.

Wildlife Corridors and Linkages

Wildlife corridors link areas of habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates

isolated “islands” of habitat, separating different populations of a single species. Corridors act as links between these “islands” and populations, and represent a specific travel route that is used for movement and migration of species between constrained lands. A corridor may be different from a “linkage” because it may represent a smaller, narrower avenue for movement. Linkages are assemblages of connecting live-in habitats that support the movement of wildlife and genetic exchange. Wildlife corridors and linkages are perhaps most important in serving species that are mobile and migratory, or require large home ranges to carry out their life history requirements.

No known wildlife corridors or linkages occur on or in the immediate vicinity of the Specific Plan area. The majority of the Specific Plan area is highly urbanized and does not contain any resources that would contribute to the assembly and function of any local or regional wildlife corridors or linkages. Oso Creek represents the only potential resource that could be used in facilitating the movement of wildlife through the Specific Plan area. Although the majority of Oso Creek is channelized within the Specific Plan area, common mammals such as coyote (*Canis latrans*), and to a lesser extent, bobcat (*Lynx rufus*), may use Oso Creek when moving to and from urban and natural habitats located in the Specific Plan area vicinity. Oso Creek may also facilitate dispersal and migration of amphibians and birds that are both resident and migratory to south Orange County. Common amphibians such as Pacific tree frog (*Pseudacris regilla*) and western toad (*Bufo boreas*) rely on seasonal water sources for larval dispersal and refuge, and birds such as song sparrow, lesser goldfinch (*Carduelis psaltria*), common yellowthroat, snowy egret (*Egretta thula*), and great blue heron (*Ardea herodias*), among others, may use Oso Creek as foraging habitat and a dispersal route. Due to its channelized nature and lack of continuous riparian habitat, Oso Creek does not function as a corridor or linkage for wildlife species that typically utilize riparian corridors as a travel route, or temporary or live-in habitat.

Jurisdictional Waters and Wetlands

Jurisdictional waters and wetlands include resources under the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and state Porter-Cologne Water Quality Control Act, and the CDFG pursuant to Sections 1600 et seq. of the California Fish and Game Code.

The most significant waterways within the Specific Plan area include Oso Creek and the Galivan Basin. In addition to intermittent and ephemeral surface water flows, these features support riparian habitat and likely support wetland conditions within limited areas. These features and their tributaries within the Specific Plan area would likely meet the criteria to be considered under the regulatory jurisdiction of the USACE, RWQCB, and/or CDFG.

4.3.2 Regulatory Framework

■ Federal

Federal Endangered Species Act (ESA)

The U.S. Congress passed the federal ESA in 1973 to provide a means for conserving the ecosystems that endangered and threatened species require in order to prevent species extinctions. The federal ESA

has four major components: (1) Section 4, which provides for listing species and designating critical habitat; (2) Section 7, which requires federal agencies, in consultation with the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of species or result in the modification or destruction of critical habitat; (3) Section 9, which prohibits against “taking” listed species; and (4) Section 10, which provides for permitting incidental take of listed species.

Under the federal ESA, the term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” “Critical habitat” is defined as “the specific areas within the geographic area occupied by a species on which are found those physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species.” Critical habitat has been designated for numerous species in the unincorporated County.

Migratory Bird Treaty Act (MBTA)

The MBTA of 1918 (16 USC 703-711) implements an international treaty for the conservation and management of bird species that may migrate through more than one country. Enforced in the U.S. by the USFWS, the MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a “take” and is potentially punishable by fines and/or imprisonment. In 1972, the MBTA was amended to include protection for migratory birds of prey (raptors). Generally, applicants who obtain an ESA Section 10(a) permit simultaneously receive a three-year MBTA permit for ESA-listed migratory birds.

Federal Water Pollution Control Act (Clean Water Act) (1972)

The Water Pollution Control Act, passed by Congress in 1948, authorized the Surgeon General of the Public Health Service to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. The Act was later amended to become the federal Water Pollution Control Act Amendments of 1972, commonly known as the Clean Water Act (CWA). The CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the U.S. and gave the EPA the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The EPA has delegated responsibility for implementation of portions of the CWA in California to the State Water Resources Control Board (SWRCB) and the RWQCB, including water quality control planning and control programs.

The CWA also prohibits the discharge of any pollutants from a point source into navigable waters, except as allowed by permits issued under certain sections of the CWA. Specifically, Section 404 authorizes the USACE to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other “waters of the U.S.” Under the CWA and its implementing regulations, “waters of the U.S.” are broadly defined as rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands. Further, Section 401 allows states to certify or deny federal permits or licenses that might result in a discharge to state waters, including wetlands. Section 401 certifications are issued by the

RWQCB for activities requiring a federal permit or license that may result in the discharge of pollutants into waters of the U.S.

■ State

California Endangered Species Act

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

CESA authorizes that “Private entities may take plant or wildlife species listed as endangered or threatened under the federal ESA and CESA, pursuant to a federal incidental take permit issued in accordance with Section 10 of the federal ESA, if the California Department of Fish and Game (CDFG) certifies that the incidental take statement or incidental take permit is consistent with CESA (California Fish and Game Code Section 2080.1(a)).

California Fish and Game Code

California Fish and Game (CFG) Code Sections 1600 et seq. regulate the alteration of jurisdictional waters, which may include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, lakes, and watercourses with subsurface flows, and mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.” CDFG’s jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) characterized by (1) the presence of hydrophytic vegetation; (2) the location of definable bed and banks; and (3) the presence of existing fish or wildlife resources. Section 1602 of the CFG Code requires a Streambed Alteration Agreement for any activity that may alter the bed and/or bank of a stream, river, or channel. Typical activities that require a Streambed Alteration Agreement include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. The state definition of “lakes, rivers, and streams” includes all rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation. Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Under the CDFG definition, a watercourse need not exhibit evidence of an ordinary high water mark (OHWM) to be claimed as jurisdiction. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

Section 2081(b) and (c) of the CESA allows CDFG to issue an incidental take permit for a state-listed threatened and endangered species only if specific criteria are met. These criteria can be found in Title 14 CCR, Sections 783.4(a) and (b). No Section 2081(b) permit may authorize the take of “fully protected” species. If a project is planned in an area where a fully protected species occurs, an applicant must design the project to avoid all take of the fully protected species; the CDFG cannot provide take authorization for fully protected species under CESA. No licenses or permits may be issued for take of fully protected species or parts thereof except for necessary scientific research. CFG Code Section 3511 lists fully protected bird species; Section 4700 lists fully protected mammal species; Section 5050 lists fully protected reptiles and amphibians; and, Section 5515 lists fully protected fish species.

CFG Code Section 3503 makes it illegal to destroy any birds’ nest or any birds’ eggs that are protected under the MBTA. CFG Code Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes (birds of prey, such as hawks and owls) and their eggs and nests from any form of take. CFG Code Section 3505 makes it illegal to take, sell, or purchase any “specified birds” under this Section, including any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such bird.

Native Plant Protection Act of 1977

The Native Plant Protection Act of 1977 and implementing regulations in Sections 1900 et seq. of the CFG Code designates rare and endangered plants, and provides specific protection measures for identified populations. It is administered by the CDFG.

California Native Plant Society Listings

The California Native Plant Society (CNPS) is a California resource conservation organization that has developed an inventory of California’s special-status plant species (Tibor 2001). This inventory summarizes information on the distribution, rarity, and endangerment of California’s vascular plants. The inventory is divided into four lists based on the rarity of the species. A CNPS list species is assigned a status value by the CNPS based on rarity indices of List 1A, List 1B, List 2, List 3, or List 4, and a level of endangerment value for each rarity index of 0.1, 0.2, or 0.3. CNPS rarity indices of List 1A and levels of endangerment of 0.1 correspond to species of highest priority in protecting the resource from threatening or endangerment of extinction, whereas rarity indices of List 4 and levels of endangerment of 0.3 correspond to species of lowest priority in protecting the resource from threatening or endangerment of extinction. In addition, the CNPS provides an inventory of plant communities that are considered special status by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. The Act established the California SWRCB as the statewide authority and nine separate RWQCBs to oversee smaller regional areas within the state. The Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and ground waters); and directs the RWQCBs to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The purpose of each

plan is to designate beneficial uses of the Region’s surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

■ Local

Laguna Niguel General Plan

The Laguna Niguel General Plan establishes goals, policies, and programs that serve as a decision-making tool to guide future growth and development in the City.

Open Space Element

- Goal 5** Conservation of natural resource areas of community and regional significance.
- Policy 5.1** Conserve sensitive species and plant communities and wildlife habitats to the maximum extent feasible through open space dedication and easements, creative site design and other workable mitigation actions.
- Action 5.1.1** Evaluate impacts on sensitive species, such as the species identified by California Department of Fish and Game, U.S. Fish and Wildlife Service, the California Native Plant Society, and the California Natural Diversity Database, as part of the environmental review process on development projects.
- Action 5.1.2** Require replacement of valuable biological resources through enhancement or expansion of existing resources areas.
- Policy 5.2** Recognize Aliso Creek, Sulphur Creek, and Salt Creek as important open space resources and cooperate where feasible to enhance their conservation value.
- Action 5.2.1** Conduct a survey to identify specific sites suitable for wildlife habitat enhancement.
- Policy 5.3** Review the Plant Communities Map for all new development proposals.
- Action 5.3.1** Require development proposals in areas expected to contain important plant communities and wildlife habitat to provide detailed biological assessments.
- Action 5.3.2** Require mitigation for impacts to wildlife habitat to be provided within the City of Laguna Niguel, to the maximum extent feasible.

- Goal 6** Carefully review sensitive hillside areas within the community.
- Policy 6.1** Provide for the preservation of sensitive hillside and canyon areas in accordance with the City's Hillside Protection Ordinance.
- Policy 6.2** Consider significant natural features, including sensitive hillsides and ridgelines as part of the development review process.
- Action 6.2.1** Respect the natural landform as a part of site planning and architectural process to minimize grading and visual impact.

Consistency Analysis

The Specific Plan incorporates goals, objectives, and measures to enhance the conservation and protection of open space, including preserving existing undeveloped native habitats within the western slopes surrounding Cabot Road, as well as within Oso Creek and the Galivan Basin. Where the potential for sensitive species and habitat occurs, the Specific Plan and this PIER requires that future developments adhere to the project-level review processes identified for the City within the Open Space Element of the General Plan, including performing the appropriate biological studies, avoiding and minimizing potential project impacts, fully mitigating project impacts, and coordinating project-level reviews with the regulatory agencies. The Specific Plan also helps preserve sensitive hillside areas by designating them as Open Space where little to no new development will occur. As future development projects implemented under the Specific Plan would be required to perform site-specific studies for biological resources, and identify measures to minimize impacts to such resources, the proposed project would not conflict with the intent of the policies identified in the Open Space Element of the General Plan.

City of Laguna Niguel Municipal Code

Hillside Protection

Municipal Code Section 9-1-81 provides local regulations that protect hillsides from incompatible development, and preserve the natural terrain, quality environment, and aesthetic character while encouraging creative, innovative, and safe development.

Tree Preservation

Municipal Code Sections 9-1-92.3(h) and 9-1-93.3(d) provide local regulations for tree preservation. New projects are to be designed to preserve existing trees to the greatest extent possible. Landscape, grading, and site plans should incorporate these trees into the overall project design, including measures to protect the existing trees during and after construction. Such measures are required to be clearly indicated in both preliminary and final construction drawings. In conjunction with such efforts, the applicant may be required to engage a properly credentialed arborist to submit evaluations and recommendations for saving, transplanting, or removing existing trees. If the decision-making authority determines that significant existing trees cannot be saved, it may require their replacement with new specimen-size trees having a cumulative trunk diameter of up to two times the cumulative trunk diameter of the trees to be removed. Trunk diameters shall be measured 3 feet above the base.

4.3.3 Project Impacts and Mitigation

■ Analytic Method

The analysis of significant impacts is based on the database and literature review as outlined in the introduction of this chapter and provided by reference in Section 4.3.5. The criteria for determining significant impacts on biological resources were developed in accordance with CEQA Guidelines. CEQA Guidelines Section 15065(a) states that a project may have a significant effect on the environment if “the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species.” An evaluation of whether an impact on biological resources would be significant must consider both the resource itself and how that resource fits into a regional or local context. Significant impacts would be those that would diminish, or result in the loss of, an important biological resource or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse, but not significant, because they would result in an adverse alteration of existing conditions, but they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- 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 ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

■ Effects Found to Have No Impact

Threshold	Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
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The proposed project is not subject to any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or any other approved local, regional, or state habitat conservation plans. The proposed project occurs within the boundaries of the Orange County Central and Coastal NCCP/HCP Subregion Plan; however, the City of Laguna Niguel is not a participant or permittee to this subregional plan, and is therefore not subject to the requirements of the plan. No portions of the Specific Plan area have been identified as proposed Reserve Areas for the Orange County Central and Coastal NCCP/HCP Subregion Plan, including Reserve, Special Linkage, Existing Use, Non-Reserve Open Space, or Policy Plan areas. Therefore, the proposed project would not conflict with any provisions related to such plans and would result in *no impact*. No further discussion of this effect is required.

Threshold	Would the proposed project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
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The Specific Plan area is located in an urbanized area of the City of Laguna Niguel and would occur primarily within urban/developed land. No known wildlife corridors or linkages occur on or in the immediate vicinity of the Specific Plan area. The majority of natural habitats have been removed and fragmented by urbanization within the Specific Plan area. Areas surrounding the immediate vicinity of the Specific Plan area are largely developed as well, and no portions of these adjacent areas act as a wildlife corridor, linkage, or nursery site for any wildlife species. Oso Creek represents the only potential resource that could be used in facilitating the movement of common wildlife through the Specific Plan area. Due to its channelized nature and lack of continuous riparian habitat, Oso Creek does not likely function as a corridor or linkage for wildlife species that typically utilize riparian corridors as a travel route, or temporary or live-in habitat. Implementation of the proposed Specific Plan would not adversely affect the continued function of Oso Creek as a travel route and corridor for common wildlife species, and therefore would not 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. *No impact* would occur and no further discussion of this effect is required.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
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Impact 4.3-1 **Implementation of the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. This would be a potentially significant impact. Implementation of mitigation measures MM4.3-1 through MM4.3-4 would reduce this impact to a *less-than-significant* level.**

The proposed project would occur primarily within highly disturbed land that contains existing developments and is not suitable habitat for any candidate, sensitive, or special-status species. Approximately 115 acres or 37 percent of the Specific Plan area contains open space in the form of undeveloped land or natural and protected open space areas. Implementation of the Specific Plan would result in the majority of existing open space areas being left in a natural or undeveloped state because of their physical constraints. Where open space areas occur within the Specific Plan area, the proposed Specific Plan includes goals and policies for the avoidance, protection, and enhancement of existing biological resources.

The Specific Plan policies pertain to careful site selection and sustainable land development. These policies require that office and/or multi-family residential buildings, parking areas, and other physical site improvements be located and designed to minimize grading and disruption of plant habitats, conform to natural slopes and topography, and maintain viewsheds from adjoining residential neighborhoods. The Specific Plan land development policies further promote the use of sustainable land development best practices depending on the size of the property and importance of the natural habitat. These may include opportunities for on-site stormwater detention and re-use with zero-net discharge into the City's storm drainage system, use of permeable paving surfaces, self-contained energy systems (solar, co-generation, etc.), wastewater recycling on-site, drought-tolerant landscapes, and so on. The Specific Plan policies, in combination with other federal, state, and local requirements, would ensure that potential impacts to special-status species and other sensitive resources resulting from future developments are minimized and/or avoided during project-level review.

Suitable habitat for special-status species is restricted to limited areas of existing open space within the Specific Plan area. Limited portions of Oso Creek, the Galivan Basin, and land located north of Crown Valley Parkway on either side of Cabot Road contain undeveloped land that provides potential habitat for several special-status species known to occur in the general vicinity of the Specific Plan area. As such, based on a programmatic-level assessment, future developments proposed within the Specific Plan area could result in potential direct and indirect impacts to these special-status species, as described in further detail below.

Future developments in the Specific Plan area could occur within or immediately adjacent to Oso Creek and the Galivan Basin that may support habitat that is suitable for special-status species. Oso Creek and the Galivan Basin are highly disturbed and frequently maintained in these areas; however, based on a programmatic assessment, portions may support wetland and riparian habitats that could be suitable for southern tarplant, least Bell's vireo, and western mastiff bat.

Limited portions of the Specific Plan area contain grassland and native coastal sage scrub habitat that could be suitable for special-status species, including special-status plant species such as thread-leaved brodiaea, many-stemmed dudleya, and Allen's pentachaeta, and special-status wildlife species such as coastal California gnatcatcher, southern California rufous-crowned sparrow, white-tailed kite, orange-throated whiptail, coastal western whiptail, and northern red-diamond rattlesnake.

Additionally, the grassland and coastal sage scrub that occurs within limited hillside areas of the Specific Plan area could be used as foraging habitat common raptors (birds of prey, such as hawks) that may occur in the vicinity of the site, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), barn owl (*Tyto alba*), and great-horned owl (*Bubo virginianus*), in addition to sensitive raptors, such as the California state fully protected white-tailed kite, as described above. Through the proposed sustainable objectives, the project would minimize disruption of existing vegetation, and much of the existing foraging habitat will remain undeveloped. Potential impacts to raptor foraging habitat are anticipated to be less than significant on a local and regional scale, as additional foraging habitat occurs to the immediate northwest within the undeveloped land toward Rapid Falls Road, and further to the south of the site within the undeveloped slopes aligning the Salt Creek and Oso Creek/San Juan Creek drainages.

Potential indirect impacts to special-status species and their habitat from construction of future projects could include those resulting from impaired water quality, fugitive dust, noise, and night lighting. Special-status species could be present within habitat adjacent to project sites during construction of future projects within the Specific Plan area. Indirect impacts resulting in potential adverse effects on special-status species and their habitat would be considered significant. While indirect impacts could result as part of the individual construction scenarios, future development allowed under the proposed Specific Plan would be subject to individual environmental clearance to ensure adequate review of potential impacts. Implementation of the mitigation measures identified in this PEIR in Sections 4.1 through 4.14, as well as compliance with existing local, state, and federal laws and policies would reduce potential indirect impacts resulting from impaired water quality, fugitive dust, noise, and night lighting.

The following mitigation measures are designed to eliminate, or reduce to a level of less-than-significant, those potential significant impacts to special-status species caused by future development projects of the proposed Specific Plan, and which are capable of being feasibly eliminated or reduced to a level of less than significant. Implementation of mitigation measures MM4.3-1 through MM4.3-2 would reduce direct and indirect impacts to special-status species and their habitats to less-than-significant levels.

MM4.3-1 Project-Level Biological Resource Surveys. During the design phase and prior to project approval by the decision-making authority, for projects on undeveloped land, or developed land immediately adjacent to potential habitat within the Specific Plan area, including Oso Creek or undeveloped hillside areas, the project applicant will retain a qualified biologist as determined

appropriate and as approved by the City, to conduct project-level biological resources surveys and prepare biological resources technical reports.

Where future development projects have the potential to impact special-status species and/or reduce or eliminate sensitive habitat, including but not limited to those special-status species and sensitive natural communities listed in Table 4.3-1 through Table 4.3-3, the project applicant shall conduct biological resources surveys of the project areas to characterize the extent and quality of habitat that would be impacted by project development. Surveys shall be conducted in accordance with current USFWS, CDFG, and CNPS survey protocols for the target species by qualified biologists. If no special-status species are determined to have the potential to occur, and the regulatory agencies agree with those findings, then no further mitigation will be required for special-status species. Similarly, if no sensitive habitats are determined to be present, and the regulatory agencies agree with those findings, then no further mitigation will be required.

If the project-level surveys and reporting determine that special-status species could occur within the future project sites and/or could be adversely affected as a result of future project implementation, the appropriate presence/absence and protocol-level surveys will be conducted. The project applicant will retain a qualified biologist to conduct rare plant surveys for future projects determined to have the potential to affect special-status plant species. Further, the project applicant will retain a qualified biologist to conduct protocol-level surveys for future projects determined to have the potential to affect special-status wildlife species. Surveys will follow protocols and guidelines approved by the USFWS, CDFG, and CNPS, and will be conducted by qualified biologists permitted by the USFWS and/or CDFG, where applicable.

MM4.3-2

Special-Status Species and Sensitive Habitat Mitigation. If sensitive species or habitats are documented on a specific site the following process shall be followed. The applicant has two options: (1) the applicant can obtain suitable replacement habitat and dedicate that property to the conservation and protection of sensitive species in perpetuity, or (2) the applicant can satisfy the requirements of the federal ESA and CESA under the consultation and permitting provisions of these regulations. In both of these options, the applicant shall first consult with the appropriate resource agency (CDFG and/or USFWS) and establish a mitigation plan for the specific species or habitat. Appropriate mitigation shall be identified in a mitigation plan prepared by the applicant. Mitigation can include, but not be limited to avoidance of sensitive species or habitat, on-site retention of habitat or compensatory habitat replacement. In this mitigation plan the applicant shall demonstrate capacity for funding appropriate mitigation and the mitigation must be legally assured. Habitat acquisition and set-asides shall occur in areas with long-term conservation potential. Any mitigation proposed shall be approved by the City and appropriate resource agency prior to implementation.

MM4.3-1 through MM4.3-2 shall be implemented to mitigate for the impacts to sensitive species and their habitat. Successful implementation of these mitigation measures is expected to reduce the level of potential project-related impacts to sensitive species and their habitat to a **less-than-significant** level.

Nesting Birds

Future development within all Districts could result in potential significant impacts to nesting bird species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code) during the construction phase, including special-status species and raptors. The project would minimize disruption of existing vegetation, especially trees. However, it is likely that future developments would require the removal and trimming of existing trees and shrubs, or removal of

structures, that may provide nesting opportunities for bird species protected under the MBTA and CFG Code. Any impacts to nesting bird species in violation of the MBTA and CFG Code would be considered significant.

In order to reduce potential impacts to species protected under the MBTA and CFG Code, mitigation measures MM4.3-3 and MM4.3-4, which entail pre-construction surveys and avoidance measures for nesting birds and raptors, shall be implemented prior to the onset of ground disturbance activities., and appropriate agency consultation.

MM4.3-3 Avoidance of Nesting Raptors. To prevent impacts to nesting raptors protected under the MBTA and CFG Code, the project applicant will implement the following for all future projects resulting in the removal or trimming of vegetation or other habitat that is suitable for nesting birds:

If future project construction cannot avoid the raptor nesting season (January 15 through July 31), the project applicant will retain a qualified biologist as approved by the City to conduct a pre-construction survey for nesting raptors prior to clearing, grading and/or construction activities on the project site. The survey will be conducted within 72 hours prior to the start of construction. A copy of the pre-construction survey shall be submitted to the City of Laguna Niguel.

If any nesting raptors are present within or immediately adjacent to the proposed project construction area, the following will be required, as approved by the USFWS and/or CDFG:

- a. The project applicant will retain a qualified biologist to flag and demarcate the location of all nesting raptors and monitor construction activities. Temporary avoidance of active raptor nests, including the enforcement of an avoidance buffer of 500 feet will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the raptor surveys and any follow-up monitoring, as necessary, will be provided to USFWS and CDFG within 10 days of completing the final survey or monitoring event.*
- b. In the unlikely event that a California fully protected species (e.g., white-tailed kite) is found to be nesting on the project site, all work in the area will stop and the project applicant will notify the CDFG and/or USFWS. No impacts will be permitted to occur to fully protected species.*

MM4.3-4 Avoidance of Nesting Birds. To prevent impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code), the project applicant will implement the following for all future projects resulting in the removal or trimming of vegetation or other habitat that is suitable for nesting birds:

If construction of future projects on or within 250 feet of tree and shrub vegetation suitable for nesting birds cannot avoid the general nesting season (February 1 through August 31), the project applicant will retain a qualified biologist to conduct a pre-construction survey for nesting birds prior to clearing, grading and/or construction activities on the project site. The survey will be conducted within 72 hours prior to the start of construction. A copy of the pre-construction survey shall be submitted to the City of Laguna Niguel.

If any nesting birds are present within or immediately adjacent to the proposed project construction area, the following will be required, as approved by the USFWS and/or CDFG:

- a. The project applicant will retain a qualified biologist to flag and demarcate the location of all nesting birds and monitor construction activities. Temporary avoidance of active bird nests, including the enforcement of an avoidance buffer of 25 to 250 feet, as determined by the qualified*

biological monitor, will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the nesting bird surveys and any follow-up monitoring, as necessary, will be provided to USFWS and CDFG within 10 days of completing the final survey or monitoring event.

Implementation of mitigation measures MM4.3-3 and MM4.3-4 would require pre-construction surveys for nesting birds and raptors protected under the MBTA and CFG Code, and would include impact-avoidance measures to ensure that no impacts to these species or their nests occur. These measures would reduce this impact to a *less-than-significant* level.

Threshold	Would the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
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Impact 4.3-2 **Implementation of the proposed project could have a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. This would be a potentially significant impact. Implementation of mitigation measures MM4.3-1 and MM4.3-2 would reduce this impact to a *less-than-significant* level.**

The Specific Plan area does not occur within any critical habitat proposed or designated by the USFWS; therefore, no impacts to any critical habitat would occur as a result of future development under the proposed Specific Plan. Additionally, no impacts to sensitive natural communities would be expected to occur as a result of future developments proposed within previously developed areas of the Specific Plan area. These areas are highly urbanized and do not contain sensitive natural communities.

Future developments, including future Oso Creek trail improvements, could result in direct and/or indirect impacts to sensitive natural communities, including native grassland, coastal sage scrub, and/or riparian habitats within Oso Creek, the Galivan Basin, and land located adjacent to these features. Impacts to these sensitive natural communities would be considered significant, as further described below.

The Specific Plan considers future passive and active recreation uses within the Galivan Basin area, including trail improvements and connection from Oso Creek to Cabot Road. Project-specific information as to the siting and design of future developments is not available at this time. Although it is anticipated that future developments would be contained within disturbed upland areas on the top of the west rim for the Galivan Basin, future construction of trail improvements and associated developments could occur within or immediately adjacent to habitat associated with Oso Creek, and down within the bed and banks of the Galivan Basin, such that direct impacts to riparian and wetland sensitive natural communities could occur.

Additionally, future development may occur adjacent to Oso Creek, portions of which include earthen-lined areas that contain riparian vegetation and likely supports wetland conditions. Therefore, direct impacts to riparian and wetland sensitive natural communities could potentially occur.

Additionally, construction of future developments could occur within areas that may contain native grassland patches and/or stands of coastal sage scrub. In addition to being upland sensitive natural communities, these habitats may support special-status species. The direct removal of these two upland sensitive natural communities would be considered significant.

Implementation of mitigation measures MM4.3-1 and MM4.3-2 would address potential impacts to sensitive habitats within the Specific Plan area. These mitigation measures would require surveys to document sensitive habitat and would require either avoidance of sensitive habitat, retention of sensitive habitat onsite as feasible, or replacement habitat for areas of permanent loss. Thus, implementation of these mitigation measures and compliance with the requirements of the federal ESA and CESA would reduce potential impacts to sensitive habitat *less than-significant* level.

Threshold	Would the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
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Impact 4.3-3 **Implementation of the proposed project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. This would be a potentially significant impact. Implementation of mitigation MM4.3-5 and MM4.3-6 would reduce this impact to a *less-than-significant* level.**

The proposed Specific Plan includes future improvements to the existing Oso Creek Trail that could result in impacts to jurisdictional resources associated with the Galivan Basin. Future development could also result in impacts to jurisdictional resources associated with the Galivan Basin, in addition to those associated with channelized and earthen-lined portions of Oso Creek. In addition, the new Multi-Use Trail and Pedestrian Bridge in the southern portions of the Specific Plan area could result in impacts to jurisdictional resources associated with Oso Creek. Any impacts to federally protected wetlands or other resources subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFG would be significant.

Future developments within the Specific Plan area would accommodate future passive and active recreation uses within the Galivan Basin area, including trail improvements and trail connection from Oso Creek to Cabot Road. Project-specific information as to the siting and design of future developments is not available at this time. These improvements may result in new developments and/or new discharges within or adjacent to Oso Creek and the Galivan Basin. Although it is anticipated that future developments would be contained within disturbed upland areas on the top of the west rim for the Galivan Basin, future construction of trail improvements and associated developments could occur within or immediately adjacent to resources associated with the Galivan Basin and/or Oso Creek subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFG.

Future projects within the Specific Plan area may result in new developments and/or new discharges within or adjacent to Oso Creek. Therefore, construction and operation of future infrastructure

developments could occur within or immediately adjacent to Oso Creek, such that direct impacts to areas subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFG could occur.

The proposed project includes future development for the Oso Creek Trail, including a new multi-use trail section and associated pedestrian bridge adjacent to District G. Project-specific information as to the siting and design of future developments is not available at this time. Depending upon the siting of trail, pedestrian bridge, and drainage improvement developments, these improvements may result in new developments and/or new discharges within the measurable streambed and banks of Oso Creek. Therefore, future construction of trail improvements and associated developments could result in direct impacts to USACE, RWQCB, and/or CDFG jurisdictional areas.

Implementation of the following mitigation measures MM4.3-5 and MM4.3-6 would further reduce direct and indirect impacts to federally protected wetlands and other resources subject to the jurisdiction of the USACE, RWQCB, and/or CDFG resulting from future developments to ***less-than-significant*** levels.

MM4.3-5 Jurisdictional Wetland Delineations. *During the design phase and prior to the construction of future projects determined to affect potential jurisdictional resources associated with Oso Creek, the Galivan Basin, or their tributaries, the project applicant will retain a qualified biologist to conduct jurisdictional wetland delineations and prepare jurisdictional delineation reports. Wetland delineations will be conducted according to the methodologies and current regulatory guidance recommended by the USACE, RWQCB, and CDFG. The results of wetland delineations will be verified by the USACE during or prior to the permitting proposed below within mitigation measure MM4.3-6.*

MM4.3-6 Wetland Permits. *Prior to construction of any future project that would result in potential impacts to jurisdictional waters and wetlands identified through implementation of mitigation measure MM4.3-5, the project applicant will obtain the required permits from the USACE, RWQCB, and CDFG, as specified below:*

- *An application for a Nationwide or Individual Permit, depending upon the extent of impacts, will be submitted by the project applicant to the USACE pursuant to Section 404 of the CWA. If required and prior to the issuance of a grading permit, the project applicant will obtain a Nationwide or Individual Permit from the USACE for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as waters of the U.S. subject to USACE jurisdiction.*
- *A Request for Water Quality Certification will be submitted by the project applicant to the RWQCB pursuant to Section 401 of the CWA. If required and prior to the issuance of a grading permit, the project applicant will obtain a Water Quality Certification from the RWQCB for discharges into waters of the state subject to RWQCB jurisdiction.*
- *A Notification of Lake or Streambed Alteration will be submitted by the project applicant to the CDFG pursuant to CFG Code Section 1602. If required, a Streambed Alteration Agreement will be obtained from the CDFG for any impacts, temporary and permanent, to any areas within the proposed project which are determined to qualify as streambed and/or riparian subject to CDFG jurisdiction.*

In accordance with permit requirements, the project applicant will mitigate the loss of jurisdictional waters and wetlands through the implementation of the sensitive habitat measures proposed within measures MM4.3-1 and MM4.3-2.

Threshold	Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Impact 4.3-4 Implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy. This would be a *less-than-significant* impact.

Municipal Code Section 9-1-81, Hillside Protection, provides local regulations that protect hillsides from incompatible development, and preserve the natural terrain, quality environment, and aesthetic character while encouraging creative, innovative, and safe development. Further, Municipal Code Sections 9-1-92.3(h) and 9-1-93.3(d) provide local regulations for tree preservation, requiring that the construction and design of new projects incorporate preservation measures to protect existing trees in place to the greatest extent possible.

Consistent with the City's Hillside Protection Ordinance, the proposed project incorporates goals, objectives, and measures to contain future developments to lower elevation lands. Development within District C under the proposed Specific Plan will be restricted to lower elevations adjacent to Cabot Road. Higher elevation areas would remain in open space consistent with the City's hillside protection policies, general plan, and zoning code. In conforming with the City's hillside protection standards, development projects implemented under the proposed Specific Plan would further avoid and minimize potential impacts to sensitive natural communities (e.g., native grassland and coastal sage scrub) and associated special-status species (e.g., thread-leaved brodiaea and coastal California gnatcatcher) that may exist within these areas. Therefore, the proposed project would be consistent with applicable guidelines and regulations for the City's Hillside Protection Ordinance.

Consistent with the City's tree preservation policies, the proposed project incorporates goals, objectives, and measures to preserve existing trees in place. Where removal of trees are required, future projects would replace and supplement existing tree resources to enhance the aesthetic quality and biological function and value of the areas. One of the future development goals of the proposed Specific Plan includes planting native trees along portions of Oso Creek that are currently channelized and lack vegetation. In addition to enhancing recreational experiences and providing a buffer for future developments, these plantings would provide new habitat along Oso Creek where none currently exists. All future projects in the City and under the Specific Plan are subject to the City's tree preservation requirements. The coordination, review, and permitting processes between the City and project applicant would ensure that existing tree resources are protected and/or compensated accordingly. Therefore, impacts to existing trees in the Specific Plan area would be *less than significant*.

4.3.4 Cumulative Impacts

The geographic context for a discussion of cumulative impacts to biological resources is build-out of the City of Laguna Niguel General Plan. A cumulative impact analysis is provided only for those thresholds where a less-than-significant or significant and unavoidable impact was identified.

Threshold	Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
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Laguna Niguel is a developed master-planned community, with a mix of commercial and residential development and supporting amenities such as parks, schools, and utilities and services. Over one-third of the City’s total area (14.72 square miles) is designated open space. Nonetheless, development within the region has, over time, resulted in the removal of natural habitat, displacement of individuals, and populations of many species to drop below self-sustaining levels. These species have since been identified as candidate, sensitive, or special-status by the USFWS, CDFG, CNPS, and local and regional plans and policies. As indicated by their sensitive status, a significant cumulative impact has already occurred from the loss of sensitive species populations as a result of development of past and present projects in the highly urbanized cumulative setting, and future cumulative projects would also result in a significant cumulative impact.

As discussed above for project-level Impact 4.3-1, implementation of the proposed Specific Plan could result in direct impacts to thread-leaved brodiaea, a federally threatened and state endangered plant species, in addition to the nonlisted rare plants, southern tarplant, many-stemmed dudleya, and Allen’s pentachaeta. Further, implementation of the proposed Specific Plan could result in direct impacts to coastal California gnatcatcher, a federally threatened wildlife species, and the least Bell’s vireo, a federally and state endangered wildlife species. In addition, direct impacts could occur to nonlisted California state species of special concern and sensitive wildlife species western mastiff bat, southern California rufous-crowned sparrow, orange-throated whiptail, coastal western whiptail, and northern red-diamond rattlesnake. Implementation of the Specific Plan could also have the potential to result in a variety of indirect impacts to special-status plant species and vegetation communities. Therefore, the Specific Plan could result in direct and indirect impacts to special-status wildlife species. However, with implementation of mitigation measures MM4.3-1 through MM4.3-4, the proposed project’s direct and indirect impacts would be reduced to a level below significant and the proposed project’s contribution to the regional impact would not be cumulatively considerable. Therefore, the cumulative impact of the proposed project would be *less than significant*.

Threshold	Would the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
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Past and present cumulative projects in the City of Laguna Niguel have resulted in development that caused the disturbance or direct loss of riparian habitat and sensitive natural communities that support sensitive plant and wildlife species. In combination, these impacts resulted in the loss or disturbance of habitat communities so that areas of these communities are no longer able to support viable populations of sensitive or characteristic plant and wildlife species. Due to their importance to biodiversity in the region, a significant cumulative impact would occur from the loss of riparian habitat and other sensitive natural communities as a result of development of the cumulative projects.

As discussed above for project-level Impact 4.3-2, implementation of the proposed Specific Plan would result in direct impacts to native grassland, coastal sage scrub, riparian, and wetland habitat, which are considered sensitive communities by CDFG. Therefore, the proposed Specific Plan would result in a significant impact to these communities. However, with implementation of mitigation measures MM4.3-1 through MM4.3-6, the proposed Specific Plan's direct impacts would be reduced to a level below significant and the project's contribution to the regional impact would not be cumulatively considerable. Therefore, the cumulative impact of the proposed project would be ***less than significant***.

Threshold	Would the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
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Past and present cumulative projects in the City of Laguna Niguel have resulted in development that caused substantial adverse effect on wetlands, waters, or riparian resources under the jurisdiction of the USACE, RWQCB, and/or CDFG through direct removal, filling, hydrological interruption, or other means. In combination, these impacts resulted in the loss or disturbance of wetland resources so that these resources are no longer able to support viable populations of characteristic species or perform hydrological and biological functions, which are considered a significant cumulative impact.

As discussed above for project-level Impact 4.3-3, implementation of the proposed project could result in direct impacts to resources within Oso Creek and the Galivan Basin that are under the regulatory jurisdiction of the USACE, RWQCB, and/or CDFG. Additionally, indirect impacts to these resources could occur from construction and operation of the proposed project. Therefore, impacts to jurisdictional resources would be significant. However, with implementation of mitigation measures MM4.3-5 and MM4.3-6, the proposed project's direct and indirect impacts would be reduced to a level below significant and the project's contribution to the regional impact would not be cumulatively considerable. Therefore, the cumulative impact of the proposed project would be ***less than significant***.

Threshold	Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Similar to the proposed project, cumulative projects would be required to demonstrate compliance with the applicable General Plan and other local policies, such as the City's Hillside Protection Ordinance, as part of the CEQA process prior to project approval. Therefore, a significant cumulative impact would not occur.

As discussed for project-level Impact 4.3-4, any future hillside development within the Specific Plan would comply with the City's Hillside Protection Ordinance. Therefore, with respect to this ordinance, the project would not contribute to the cumulative impact. Similarly, future development must comply with the City's tree protection policies, and impacts would be reduced to a ***less-than-significant*** level such that the project would not contribute to a significant cumulative impact.

4.3.5 References

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4.4 CULTURAL RESOURCES

This section of the PEIR analyzes the potential environmental effects on cultural resources from implementation of the proposed Specific Plan. Cultural resources are defined as buildings, sites, districts, structures, or objects having historical, architectural, archaeological, or cultural importance. The potential for impacts on archaeological resources and human burials, as well as potential project effects on paleontological resources are also considered. This section briefly describes the prehistoric and historic setting of the Specific Plan project area and discusses known cultural resources within the project area and adjacent lands; provides the geologic setting of the project area; and identifies the cultural and paleontological resource sensitivity of the project area. Applicable federal, state, and local regulations are identified, followed by impact analysis and mitigation measures, where applicable, to reduce impacts on cultural and paleontological resources.

No comment letters addressing cultural resources were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from various sources, including a records search of the of the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC 2010); a search of the Native American Heritage Commission Sacred Lands File (NAHC 2010); a search of on line listings for the National Register of Historic Places (NRHP 2011); California State Historic Landmarks, California Register of Historical Resources, and California Points of Historical Interest (OHP 2011); The County of Orange General Plan Resources Element (2008); The City of Laguna Niguel General Plan Open Space/Parks/Conservation Element (1992); and resources to inform the environmental setting: Fulton (2009); Harper et al. (2009); Byrd and Raab (2007); Gust et al. (2007); and Bean and Shipek (1978). Full reference-list entries for all cited materials are provided in Section 4.4.5 (References).

4.4.1 Environmental Setting

The Gateway area has been highly disturbed by urban development, including the construction of Interstate 5 (I-5) in the 1960s and the completion of State Route 73 (SR-73), the San Joaquin Hills Transportation Corridor toll road in 1996. The Specific Plan area includes commercial, manufacturing light industrial, personal service, office, and open space areas. Laguna Niguel was developed starting in the 1960's as one of the first master planned communities in California (Gust et al. 2007, 12). The City of Laguna was incorporated in 1989.

Oso Creek runs through the project area, and Sulphur Creek is found just outside and to the west of the project area. Aliso Canyon is located over Niguel Hill, and to the west of the project area. The eastern boundary is comprised of the Amtrak/Metrolink Railway (formerly the Atchison, Topeka, and Santa Fe Railroad) and I-5. San Juan Capistrano is located to the south. Topographically, the Specific Plan area is located in a narrow valley surrounded by low mountain ridges of the Peninsular Range, which trend northeast to southwest. Vegetation in the project area is primarily ornamental, street landscaping with several mature trees and shrubs, and ruderal vegetation (Gust et al. 2007; Harper et al. 2009).

■ Prehistoric Setting

The Specific Plan area is located in the Southern Bight of California, a geographical locale extending from Point Conception to the Mexican border. The Southern Bight of California encompasses the counties of Orange and San Diego, western Riverside County, and the offshore islands of Santa Catalina, San Clemente, and San Nicolas (the Southern Channel Islands) (Byrd and Raab 2007, 215). This area has a human occupation record primarily dating to over 6,000 years ago.

The cultural chronology developed for the Specific Plan area primarily follows that presented in Gust et al. 2007 and Harper et al. 2009.

Milling Stone Period

The Milling Stone Period dates between 8,000 to 3,000 radiocarbon years before present (RYBP) (6,000 to 1,000 BC). It refers to a time period where the local archaeological record is dominated by the remains of milling equipment called manos and metates. The predominance of such stone tools indicates a generalized plant collecting economy supplemented by hunting and fishing. Gorges are used for fishing. Sites from this period appear to be part of an expansion of settlement of groups from the interior taking advantage of the new habitats and resources that became available once seal levels stabilized along the California coast between 6,000 to 5,000 years ago. Most sites in the Southern Bight dating to this time period are located along the coast.

Intermediate Period

The Intermediate Period dates from roughly 3,000 to 1,350 RYBP (1,000 BC to AD 1,000). Sites attributed to this time period indicate an increased reliance on coastal resources supplemented by the hunting and collecting of inland staples. The mortar and pestle replace the mano and metate as the primary milling equipment used for plant materials and circular fishhooks, which first appear during this period, are used for fishing. The bow and arrow also make their first appearance towards the end of this period. As with the Milling Stone Period, most sites dating to this period are located along the coast.

Late Prehistoric Period

This period dates from 1,350 to 150 RYBP (AD 600 to AD 1769) and is characterized by an increasing level of political-economic-social complexity. The number of sites dating to this period increase in the area and settlement expands into the hills and canyons inland from the coast. There also appears to be more intensive exploitation of local resources and a higher amount of trade is exhibited by exotic items present in grave lots. The use of the bow and arrow, introduced in the previous period, continues, as does a tendency to rely on mortar and pestles over manos and metates. More sites indicating specialized use, such as fishing and hunting camps, are also evident during this time. The period ends with the advent of permanent European occupancy in California, in 1769.

■ Ethnographic Setting

Ethnographic records indicate that the Juaneño (Acjachemem) were the most likely Native Americans were associated with the Specific Plan area (Harper et al. 2009). The term “Niguel,” in the City of Laguna Niguel, is derived from the word *Nigueli*, which was the name of a Juaneño village once located near

Aliso Creek. The Juaneño belong to the Takic subfamily of Uto-Aztecan language family and are associated with the San Juan Capistrano Mission. Juaneño territory is documented as extending from south Orange County, along Aliso Creek, into northern coastal San Diego County, along Las Pulgas Canyon (Bean and Shipek 1978, 551).

Juaneño villages were politically independent of each other typically consisting of 50 to 250 people headed by a female and male clan chief (Juaneño Band of Mission Indians 2010). These villages were generally located near sources of permanent water, such as creeks, rivers, and estuaries. Each village utilized a specific territory within a diverse ecotone for hunting, collecting, and fishing, which included satellite locations for seasonal food gathering (Bean and Shipek 1978, 551; Harper et al. 2009, 12). Artifacts associated with Juaneño occupation include a diverse array of chipped stone tools; marine shell beads; ear and nose ornaments made of bone; coiled basketry; wooden throwing sticks; elaborate stone bowls; and portable mortars, pestles, metates, and manos. Houses, called *ki-chas*, were domed shaped, partially subterranean, and constructed of available local vegetation such as willow or tule. Following the onset of European settlement, many of the Juaneño people were integrated into the Spanish mission system at Mission San Juan Capistrano and the subsequent Mexican rancho system. Today many of their descendants continue to live in Orange County practicing their heritage through language, ceremony, traditional songs, and history. The Juaneño Band is recognized by the state of California, but do not have Federal Recognition as an independent tribe. On March 15, 2011, the Department of the Interior issued a Final Determination that the Juaneño did not meet the seven mandatory criteria required for Federal Recognition, and the Department proposed not to acknowledge the group as an independent Indian tribe.

■ Historic Setting

The name Laguna Niguel is derived from the Spanish word *laguna*, which means lagoon, and the word *Nigueli*, which refers to the name of the Juaneño village once located near Aliso Creek (City of Laguna Niguel 2010). In 1821, California became Mexican territory and many rancheros were formed in Southern California, including Rancho Niguel in this area. During this period, Rancho Niguel was primarily used as a sheep ranch. The first private landowner of the area was Juan Avila, a resident of San Juan Capistrano, who obtained land through a Mexican land grant in 1842. Juan Avila was also successful in re-establishing his title to the land after California became US territory in 1848, and remained the owner of Rancho Niguel until 1865 (City of Laguna Niguel 2010).

In 1895, the Rancho Niguel land became part of the Moulton Company, a company that would eventually control over 19,000 acres of local ranch lands in the region. Railroad service through the area was started in the late 1880s by the Atchison Topeka and Santa Fe Railroad (now part of the Burlington Northern Santa Fe Railroad). The area largely remained as ranching and agriculture land until the 1960s.

The beginning of modern Laguna Niguel was the establishment of the Laguna Niguel Corporation in 1959 by Cabot, Cabot, and Forbes, making it one of the first master planned communities in California. The firm of Victor Gruen and Associates was retained to develop a detailed community plan for the approximately 7,100-acre site. Land sales started to occur in 1961 in the Monarch Bay and Laguna Terrace subdivisions. Avco Community Developer acquired the Laguna Niguel Plan in 1971 and initiated

development as set forth in the original Master Plan. On December 1, 1989, Laguna Niguel became the 29th city in Orange County (City of Laguna Niguel 2010).

■ Paleontological Setting

Geologically, the project area is mapped as young stream deposits with young landslide deposits to the west and outcrops of very old alluvium to the east (Gust et al. 2007). Both east and west of the proposed project are the Niguel Formation and the Capistrano Formation, with western borders of the Specific Plan area minimally intruding into the Capistrano Formation.

The younger stream deposits were accumulated by local stream channels during the Pleistocene and Holocene (125,000 years ago to the present). These unconsolidated deposits are usually gray and range from clay-rich to cobble-rich, depending on source material and distance downstream from the source (Gust et al. 2007). Only the deeper portions of these deposits and those that are older than 10,000 years are sensitive for fossils.

The Capistrano Formation is formed of marine shales and sands dating to the late Miocene and early Pliocene in age (White 1956). This formation has provided many highly significant fish and marine mammal fossils.

■ Research Findings

A records search was performed by an Atkins archaeologist at the South Central Coastal Information Center (SCCIC) for the Specific Plan area and a 1-mile radius (SCCIC 2010). The records search included a review of all cultural resource records, technical reports, and historic maps on file for the project area and the additional search radius. The search also includes a review of California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), and the California Historic Resources Inventory (HRI) as presented in the California Office of Historic Preservation (OHP) Historic Property Data File. The SCCIC records search indicated that no NRHP or CRHR listed or eligible resources and no locally listed cultural resources are present within the Specific Plan area. The records search also found that the project area and the adjacent lands have been subject to approximately 93 cultural resource studies during recent decades, including studies with intensive survey efforts.

The record search results indicated that one previously recorded archaeological resource, a prehistoric stone tool surface scatter, is located within the Specific Plan area (CA-Ora-375). This resource was subjected to a subsurface testing program with negative results for intact, subsurface deposits. Through this testing program, the site was found unlikely to yield additional information important in prehistory (Rice 1977). No other cultural resources were recorded within the project area or within 0.25 mile of the project area. Ten additional prehistoric archaeological resources were recorded within 0.50 mile to one mile of the Specific Plan area. The majority of these are concentrated to the south of the project area. These prehistoric archaeological resources largely consist of stone tool scatters, but also include shell-laden midden (darkened soil generated by human activity) and a village site which contained one human internment. No historic-age cultural resources have been previously recorded in the Specific Plan area or within one mile of the project area.

The Native American Heritage Commission (NAHC) was contacted by the City of Laguna Niguel pursuant to SB 18 guidelines in order to conduct a search of the Sacred Lands File (SLF) Database and to identify a list of individuals and organizations for formal, government-to-government consultation. The NAHC response indicated that no SLF-listed Native American cultural resources are found within the boundaries of the Specific Plan area, but that Native American cultural resources were known within close proximity to the project area (NAHC 2010). The NAHC also provided a list of individuals and organizations that might have further knowledge of Native American cultural resources in the area and suggested these people be contacted for additional information. The list of Native American individuals and organizations provided by the NAHC in response to the City's SB 18 request was also utilized by Atkins archaeologists in order to conduct informal data gathering concerning the presence of Native American resources within the project area. Table 4.4-1 (NAHC Information Scoping) summarizes the results of these efforts.

Table 4.4-1 NAHC Information Scoping

<i>Name and Affiliation</i>	<i>Method of Contact</i>	<i>Date of Correspondence</i>	<i>Response</i>
David Belardes Juaneño Band of Mission Indians Acjachemem Nation	Letter	March 2, 2011	Response received from Joyce Perry on behalf of David Belardes (see below).
Sam Dunlap Gabrielino Tongva Nation	Letter	March 2, 2011	None
Sonia Johnston Juaneño Band of Mission Indians	Letter	March 2, 2011	None
Anthony Morales Gabrielino/Tongva San Gabriel Band of Mission Indians	Letter	March 2, 2011	None
Joyce Perry Juaneño Band of Mission Indians Acjachemem Nation	Letter	March 2, 2011	None
Joyce Perry Juaneño Band of Mission Indians Acjachemem Nation	Telephone	March 24, 2011	Ms. Perry contacted Atkins on behalf of herself and Chairperson/Chief David Belardes. Ms Perry indicated that the Juaneño Band of Mission Indians was not aware of any Traditional Cultural Properties located within the boundaries of the proposed project. However, the Tribe does have knowledge of village locations within the immediate vicinity, and feels the project area is sensitive for Native American resources. She expressed that the project area was largely developed before the implementation of cultural resource management laws which caused many Native American resources, both present above and below the ground, to be undocumented and subject to unknown levels of disturbance. Thus, the tribe is very interested in knowing what lies beneath the surface of the project area. Further, the Tribe requested both a Native American and archaeological monitor be present for all ground-disturbing activities made below the level of any previous ground disturbance.
Anthony Rivera Juaneño Band of Mission Indians Acjachemem Nation	Letter	March 2, 2011	None

SOURCE: Atkins (2011).

Additional Sources Consulted

Several books and documents were also reviewed to supplement and contextualize the SCCIC records search results and listings of significant resources in the project area: the County of Orange General Plan Resources Element (2008), the City of Laguna Niguel General Plan Open Space/Parks/Conservation Element (1992), Harper et al. (2009), and Gust et al. (2007).

4.4.2 Regulatory Framework

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural resources that could be affected by actions that they undertake or regulate. The National Environmental Policy Act (NEPA), the National History Preservation Act of 1966 (NHPA), the Antiquities Act, and the California Environmental Quality Act (CEQA) are the principal federal and state laws governing preservation of historic and archaeological resources of national, regional, state, and local significance.

■ Federal

Federal regulations for cultural resources can be found within the National Environmental Policy Act (NEPA) of 1969, where federal agencies are directed to use all practicable means to preserve important historic, cultural, and natural aspects of our national heritage (Section 101(b) (4)). This applies to both cultural and paleontological resources, and is directly related to actions proposed on federal lands. For projects found on non-federal lands, regulations for cultural resources are primarily governed by Section 106 of the NHPA of 1966, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are listed or determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 Code of Federal Regulations (CFR) Part 60. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on Historic Properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 CFR Part 800. The NRHP criteria (36 CFR 60.4) are used to evaluate resources when complying with Section 106 of the NHPA. Those criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and any of the following:

- a. Are associated with events that have made a significant contribution to the broad patterns of our history
- b. Are associated with the lives of persons significant in our past
- c. Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction
- d. Have yielded or may be likely to yield, information important to history or prehistory

Eligible properties must meet at least one of the criteria and exhibit integrity. Historical integrity is measured by the degree to which the resource retains its historical attributes and conveys its historical

character, the degree to which the original fabric has been retained, and the reversibility of changes to the property.

Historic Districts derive their importance from being considered a unified entity, even though they are often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties. A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development. A district's significance and integrity should help determine the boundaries.

Within historic districts, resources are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archaeological values for which a district is significant because it was either present during the period of significance, relates to the significance of the district, and retains its physical integrity; or it independently meets the criterion for listing in the NRHP.

Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and records searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

The American Indian Religious Freedom Act, Title 42 United States Code (USC) Section 1996, protects Native American religious practices, ethnic heritage sites, and land uses.

Paleontological resources are considered under Section 106 of the NHPA primarily when found in a culturally related context (i.e., fossil shells included as mortuary offerings in a burial or a rock formation containing petrified wood used as a chipped stone quarry). In such instances, the material is considered a cultural resource and is treated in the manner prescribed for the site by Section 106.

The Antiquities Act of 1906 (Title 16 USC Sections 431-433) protects any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States from appropriation, excavation, injure or destruction without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which the antiquities are situated. The California Department of Transportation, the National Park Service, Bureau of Land Management, U.S. Forest Service, and other federal agencies have interpreted objects of antiquity to include fossils. The Antiquities Act provides for the issuance of permits to collect fossils on lands administered by federal agencies and requires projects involving federal lands to obtain permits for both paleontological resource evaluation and mitigation efforts.

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

■ State

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

Historical resource is a term with a defined statutory meaning (refer to PRC Section 21084.1 and CEQA Guidelines, Section 15064.5(a) and (b)). The term applies to any resource listed in or determined to be eligible for listing in the CRHR. The CRHR includes California resources listed in or formally determined eligible for listing in the NRHP, as well as certain CHLs and PHIs.

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

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project’s impacts to historical resources (PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a)(3)). In general, an historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

- (a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
- (b) Meets any of the following criteria:
 - 1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
 - 2) Is associated with the lives of persons important in our past;
 - 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - 4) Has yielded, or may be likely to yield, information important in prehistory or history.

(CEQA Guidelines, Section 15064.5(a)(3))

Archaeological resources can sometimes qualify as “historical resources” (CEQA Guidelines, Section 15064.5(c)(1)). In addition, PRC Section 5024 requires consultation with the OHP when a project may impact historical resources located on state-owned land.

For historic structures, CEQA Guidelines Section 15064.5(b)(3) indicate that a project that follows the Secretary of the Interior (SOI) Standards for the Treatment of Historic Properties with Guidelines for

Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the SOI Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. PRC Section 21083.2(g) states that 'unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

(PRC Section 21083.2(g))

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

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

CEQA affords protection to paleontological resources, as CEQA Guidelines indicate that a project would have a significant environmental impact if it would disturb or destroy a unique paleontological resource or site or unique geologic feature. Although CEQA does not specifically define a unique paleontological resource or site, the definition of a unique archaeological resource (Section 21083.2) can be applied to a unique paleontological resource or site and a paleontological resource could be considered a historical resource if it has yielded, or may be likely to yield, information important in prehistory or history under Section 15064.5 (a)(3)(D).

California Public Resources Code 5097.5

Section 5097.5 of the California PRC provides protection for cultural and paleontological resources, where PRC 5097.5(a) states, in part, that:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

California Health and Safety Code Sections 7050.5, 7051, and 7054

Section 7050.5(b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

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

California Public Resources Code Section 15064.5 (e)

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

Senate Bill 18

As of March 1, 2005, Senate Bill 18 (Government Code Sections 65352.3 and 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction.

Local

Laguna Niguel General Plan

The City of Laguna Niguel divides cultural resources into historic, archaeological, and paleontological resources, as well as prominent landforms. Although no historic resources are located within the City boundaries (City of Laguna Niguel 1992); archaeological sites are particularly abundant along coastal and creek areas. With reference to paleontological resources, the City of Laguna Niguel has identified two General Areas of Sensitivity, the Laguna Hills-Dana Point District, and the San Joaquin Hills District; and these areas appear comparable to the paleontological sensitive areas identified in the Orange County

General Plan. Prominent landforms include the Aliso Creek and Salt Creek corridors as well as several ridgelines including the Salt Creek and Colinas Bluff areas.

The following conservation component of the General Plan provides the following goals, policies, and actions to help ensure the conservation of the cultural resources located within its boundaries.

Open Space Element

- | | |
|---------------------|--|
| Goal 7 | Recognize significant cultural sites or features within the community |
| Intent | The intent is to ensure that these resources are conserved because they provide a link to a community's past, as well as a frame of reference for the future. These resources require conservation or they will be lost to future generations. |
| Policy 7.1 | Review the technical data on sensitive cultural resources for all new development proposals |
| Policy 7.2 | Required mitigation of impacts to significant areas of archaeological and paleontological resources |
| Policy 7.3 | Preserve uncovered resources in their natural state, as much as feasible to assure their preservation and availability for later study. Require that uncovered resources are documented and retained in an appropriate museum or institution. |
| Action 7.3.1 | Require effective mitigation measures where development may affect archaeological or paleontological resources. |
| Action 7.3.2 | Require the preparation of archaeological or paleontological reports in areas where there is potential to impact cultural resources. |
| Action 7.3.3 | Require that an archaeologist or paleontologist be retained to observe grading activities in areas where the probable presence of archaeological or paleontological resources are indicated. |

Consistency Analysis

The records search conducted at the South Central Coastal Information Center indicated that archaeological resources are present in the vicinity of the Specific Plan area. In addition, the NAHC indicated the presence of Native American cultural resources in the vicinity of the Specific Plan area and noted that the general area of the project was considered culturally sensitive. Finally, a Native American resource sensitivity of the Specific Plan area. Therefore, the project site is considered to be sensitive for the presence of archaeological resources and Native American resources, including human remains. The records search failed to find any historical resources within the Specific Plan boundary.

Mitigation measures included in this section would ensure that if cultural or paleontological materials are encountered during site development, these materials would be identified, assessed as to significance,

and, if necessary, appropriate action taken. Therefore the proposed project would not conflict with the goals and policies of the City's General Plan.

4.4.3 Project Impacts and Mitigation

■ Analytic Method

The following analysis considers the presence and absence of known cultural resources within the project area, as well as the potential for significant cultural resources to occur within the project area boundaries, against the potential impacts on such resources from implementation of the proposed project. To gather information on known cultural resources within the project area, a records search was conducted by an Atkins archaeologist at the SCCIC of the CHRIS at California State University, Fullerton. The search included a review of all recorded resources within the project area and a 1-mile radius. The search also included a review of PHI, the CHL the CRHR, the NRHP, and the California Historic Resources Inventory (HRI) as presented in the California OHP Historic Property Data File. Additional searches were conducted to supplement the SCCIC records search information, including an on line search for the NRHP (NRHP 2011). Several books and documents were also reviewed to supplement and contextualize listings of significant resources in the project area: the County of Orange General Plan Resources Element (2008), the City of Laguna Niguel General Plan Open Space/Parks/Conservation Element (1992), Fulton (2009), Harper et al. (2009), and Gust et al. (2007).

A search of the NAHC SLF requested by the City of Laguna Niguel determined no Native American cultural resources are located within the project area boundaries, but that there are resources present adjacent to the project area (NAHC 2010). In order to learn more about the potential for Native American cultural resources to be affected by the proposed project, an Atkins archaeologist contacted the individuals and organizations provided by the NAHC. Only two responses were received/No responses were received as a result of these data gathering efforts (refer to Table 4.4-1).

Paleontological resources in the project area were evaluated qualitatively based on general information about project area conditions, Master Environmental Assessment general sensitivity maps contained in the Orange County General Plan, and Gust et al. 2007. Gust et al (2007) addresses the majority of the linear portion of the project area adjacent to the Atchison Topeka and Santa Fe Railroad tracks.

The majority of the project area is composed of younger stream deposits. However, as indicated by the sensitivity maps in the County of Orange General Plan and as reiterated in the City of Laguna Niguel General Plan, the Specific Plan area is identified as incorporating two areas of overlapping paleontological sensitivity, the Laguna Hills-Dana Point and the San Juan Capistrano-San Clemente District (City of Laguna Niguel 1992; County of Orange 2008). The review of previous research by Gust et al. (2007) found that the portion of the Specific Plan area mapped as younger stream deposits are not sensitive for fossils, and no fossils have been recorded in the portion of the project area adjacent to the railroad tracks. Gust et al. (2007) based their determination on a review of geological and paleontological literature, a pedestrian survey, and a paleontological record search at the Orange County Repository Warehouse. However, minimal portions of the Specific Plan's western boundary do lie in the Capistrano Formation, which is considered highly sensitive for marine fish and mammal fossils.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on cultural resources if it would do any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
- Disturb any human remains, including those interred outside of formal cemeteries

■ Effects Found to Have No Impact

Threshold	Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?
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The SCCIC record search and additional background research indicated that no NRHP, CRHR, or locally listed or eligible resources are located within the project area. One previously recorded prehistoric archaeological resource is known within the project area boundaries (CA-ORA-375). This resource was subjected to a subsurface testing program with negative results for intact, subsurface deposits. Through this testing program, the site was found unlikely to yield additional information important in prehistory (Rice 1977). Therefore, this resource is considered ineligible for the CRHR, and is not considered a historical resource as defined in CEQA Guidelines Section 15064.5. Therefore, no known historical resources as defined in CEQA Guidelines Section 15064.5 are present within the Specific Plan project area boundaries, and the proposed project would result in *no impacts*.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?
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Impact 4.4-1 **Implementation of the proposed project would/could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a *less-than-significant* level.**

The SCCIC records search identified one prehistoric archaeological resource located within the project area (CA-Ora-375), and ten previously recorded resources are known within 1 mile of the project area. With the exception of CA-Ora-375, all of the known and previously recorded resources are located more than 0.25 mile from the project area, and will not be impacted by the proposed project. The NAHC response letter indicated that no Native American cultural resources have been recorded within the

project area; however, the NAHC noted that its files are not exhaustive and the results of the searches do not preclude the presence Native American resources. The presence of one prehistoric archaeological site within the project area, the proximity to two large creek channels, and the number and nature of recorded archaeological sites within one mile, one of which contains human burials, the project area is considered to have a moderate sensitivity for archaeological resources. This conclusion is supported by the fact that the project area is also identified as being sensitive for prehistoric archaeological resources by the County of Orange (as part of the Rancho Trabuco Area) and the City of Laguna Niguel General Plans.

Under CEQA, public agencies must consider the effects of their actions on “unique archaeological resources.” PRC Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources. PRC Section 21083.2(g) states that ““unique archaeological resource” means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; or has a special and 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.” There is potential that the proposed project could result in new development or ground disturbing activities in areas containing known or previously undetected archaeological resources. Therefore, the proposed project has the potential to cause a substantial adverse change in the significance of an archaeological resource through inadvertent damage or destruction. This is considered a potentially significant impact. However, implementation of mitigation measures MM4.4-1(a) and MM4.4-1(b) would reduce this impact to a **less-than-significant** level.

MM4.4-1(a) Prior to any earth-disturbing activities (e.g., excavation, trenching, grading) that could encounter previously undisturbed soils, the project applicant shall retain a City approved archaeologist to determine if the project could result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. The results of the investigation shall be documented in a technical report or memorandum that identifies and evaluates any archaeological resources within the development area and includes recommendations and methods for avoiding impacts on archaeological resources or reducing impacts to a less-than-significant level. The technical report or memorandum shall be submitted to the City of Laguna Niguel for approval. The project applicant shall be responsible for implementing methods for avoiding or reducing impacts on archaeological resources identified in the technical report or memorandum. Projects that would not encounter undisturbed soils and would therefore not be required to retain an archaeologist shall demonstrate non-disturbance to the City through the appropriate construction plans or geotechnical studies prior to any earth-disturbing activities. Projects that would include any earth disturbance (disturbed or undisturbed soils) shall comply with MM4.4-2(b).

MM4.4-1(b) If evidence of an archaeological site or other suspected historical resource as defined by CEQA Guidelines Section 15064.5, are discovered during any project-related earth-disturbing activities (including projects that would not encounter undisturbed soils), all earth-disturbing activity within 100 feet of the find shall be halted and the City of Laguna Niguel shall be notified. The project applicant shall retain a City approved archaeologist to assess the significance of the find. Impacts to

any significant resources shall be mitigated to a less-than-significant level through methods determined adequate by the archaeologist as approved by the Community Development Director.

Threshold	Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
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Impact 4.4-2 Implementation of the proposed project would/could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a *less-than-significant* level.

The entire project area is located in an area that has been designated as paleontologically sensitive by Orange County and the City of Laguna Niguel; the project area is located within two areas of overlapping sensitivity identified as the Laguna Hills-Dana Point and the San Juan Capistrano-San Clemente District. Further, minimal portions of the project's western boundary were found to lie within the Capistrano Formation, which is considered highly sensitive for marine fish and mammal fossils (Gust et al. 2007). Thus, the proposed project has the potential to cause a substantial adverse change in the significance of a paleontological resource through inadvertent damage or destruction. This is considered a potentially significant impact. However, implementation of mitigation measures MM4.4-2(a) and MM4.4-2(b) would reduce this impact to a ***less-than-significant*** level.

MM4.4-2(a) Prior to any earth-disturbing activities (e.g., excavation, trenching, grading) that could encounter undisturbed soils, the project applicant shall retain a professional paleontologist to determine if the project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The results of the investigation shall be documented in a technical report or memorandum that identifies the paleontological sensitivity of the development area and includes recommendations and methods for avoiding or reducing impacts to a less-than-significant level for paleontological resources or unique geologic features. The technical report or memorandum shall be submitted to the City for approval. The project applicant shall be responsible for implementing methods for avoiding or reducing impacts on paleontological resources or unique geologic features identified in the technical report or memorandum. Projects that would not encounter undisturbed soils and would therefore not be required to retain a paleontologist shall demonstrate non-disturbance to the City through the appropriate construction plans or geotechnical studies prior to any earth-disturbing activities. Projects that would include any earth disturbance (disturbed or undisturbed soils) shall comply with MM4.4-2(b).

MM4.4-2(b) Should paleontological resources (i.e., fossil remains) be identified at a particular site during project construction, the construction foreman shall cease construction within 100 feet of the find and the City of Laguna Niguel shall be notified. The project applicant shall retain a City approved paleontologist to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through methods determined adequate by the paleontologist, and as approved by the Community Development Director.

In considering any suggested mitigation proposed by the consulting paleontologist, the City of Laguna Niguel staff shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, applicable regulations, policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., monitoring and/or data recovery) shall be instituted.

Threshold	Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?
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Impact 4.4-3 **Implementation of the proposed project would/could disturb any human remains, including those interred outside of formal cemeteries. This would be a potentially significant impact. Compliance with standard regulations would render this impact *less-than-significant*.**

Although the potential to disturb any human remains interred outside of formal cemeteries within the project area is considered low; given the level of past human activity and the fact human remains have been discovered within one mile of the project area, it is possible that unknown human remains could be located with the project area and that future development could encounter these remains (if present within the subsurface). In the event of the inadvertent discovery or recognition of any human remains during future, project-related ground disturbance, Section 7050.5 of the California Health and Safety Code Section states that, if human remains are unearthed during construction, then no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to PRC Section 5097.98. Section 5097.98 outlines the Native American Heritage Commission (NAHC) notification process and the appropriate procedures if the County Coroner determines the human remains to be Native American. Compliance with this standard regulation would protect unknown and previously unidentified human remains, and impacts related to unknown human remains would be *less than significant*, and no mitigation would be required.

4.4.4 Cumulative Impacts

The cumulative analysis for impacts on cultural resources considers a broad regional system of which the resources are a part. The cumulative context for the cultural resources analysis is the Los Angeles Basin, including Los Angeles and Orange counties, where common patterns of prehistoric and historic development have occurred. The analysis accounts for anticipated cumulative growth within the Los Angeles Basin.

Threshold	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?
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Based on the archaeological sensitivity and history of the project area, there is always the possibility that ground-disturbing activities during construction may uncover previously unknown archeological artifacts, deposits, or features. Adherence to existing federal, state, and local regulations as well as the implementation of the mitigation measures MM4.4-1(a) and MM4.4-1(b) composed for the proposed project would ensure project impacts to archaeological resources are reduced to a less-than-significant level. Therefore, when considered in the context of regional present and reasonably foreseeable projects, the proposed project would not cause cumulative impacts to archaeological resources within the Los Angeles Basin.

Threshold	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
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Based on the geologic mapping and the paleontological sensitivity of the project area, there is always the possibility that ground-disturbing activities during construction may uncover previously unknown paleontological sites or unique geologic features. Adherence to existing federal, state, and local regulations as well as the implementation of the mitigation measures MM4.4-1(a) and MM4.4-1(b) composed for the proposed project would ensure project impacts to paleontological resources are reduced to a **less-than-significant** level. Therefore, when considered in the context of regional present and reasonably foreseeable projects, the proposed project would not cause cumulative impacts to paleontological resources within the Los Angeles Basin.

Threshold	Would the project disturb any human remains, including those interred outside of formal cemeteries?
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There is always the possibility that ground-disturbing activities during construction may uncover previously unknown buried human remains. Treatment of human remains is covered under standard regulatory requirements as set forth in CEQA Guidelines section 15064.5(e) and PRC Section 5097.98. Implementation of these regulations will ensure that any impacts to human remains from the proposed project will be reduced to a **less-than-significant** level and therefore not cause cumulative impacts to human remains within the Los Angeles Basin.

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4.5 GEOLOGY/SOILS

This PEIR section analyzes the potential for adverse impacts on existing geologic and soil conditions within the project site resulting from implementation of the proposed Specific Plan. Data used to prepare this section were taken from the Seismic and Public Safety Element of the City of Laguna Niguel (General Plan 1992), reports published by the California Geological Survey (CGS) and the United States Geological Survey (USGS); and other geotechnical or environmental investigations pertinent to the conditions within the Specific Plan area. Full bibliographic entries for all reference materials are provided in Section 4.5.6 (References) at the end of this section.

All comments received in response to the Notice of Preparation (NOP) circulated for the proposed project were taken into consideration during preparation of the PEIR, and if relevant, have been addressed in this section or others within this document.

4.5.1 Environmental Setting

■ Regional and Local Geology and Seismic Setting

Most of the City and all of the Specific Plan area is located within the San Juan Capistrano (SJC) USGS quadrangle, which lies at the southeastern most portion of the Los Angeles basin. The topography of the City is typical of the stream-cut marine terraces of coastal orientation that characterize the southern exposure of the San Joaquin Hills. The San Joaquin Hills range, located just west of the Specific Plan area, is typical of the northwest trending mountain ranges that comprise the Peninsular Range Province of Southern California. Streams, such as Oso Creek, which dissects the Specific Plan area, have cut hills, forming arroyos, gullies, and steep canyons. Intermittent rains have created eroded hillsides and formed broad valleys. The Specific Plan area is located along the eastern flank of the San Joaquin Hills.

■ Local Soil and Groundwater Conditions

A geotechnical investigation has not been performed for the entire Specific Plan area, however according to a Geotechnical Investigation prepared by URS in 2005 for a project located on Crown Valley Parkway, within the Specific Plan area, the bedrock underlying the site consists of late Miocene to early Pliocene age Capistrano Formation. The Capistrano Formation is a marine deposit that is typically composed of light to dark gray siltstone that is typically a weak, poorly to moderately consolidated rock formation that is prone to creek and slope instability even in areas of low relief. Based on the 2005 Geotechnical Report and the EIR prepared for the City of Laguna Niguel General Plan, quaternary alluvium of Oso Creek and its tributaries overlie bedrock within the Specific Plan area. Groundwater was not encountered during site exploration for the Crown Valley Parkway project (URS 2005).

According to a soil survey map of the Specific Plan area generated by the National Resources Conservation Service various soil units underlie the project area. The dominant soil unit is ALO Clay, which underlies roughly 50 percent of the Specific Plan area. Other soil units identified include various types of clay, loam, clay loam, sandy loam, loamy sand, cobbly sandy loam, and riverwash (NRCS 2010).

■ Regional and Local Faults

All of Southern California is seismically active. The region is crossed by a network of major regional faults and minor local faults. This faulting and seismicity is dominated by the San Andreas Fault System, which separates two of the major tectonic plates that represent part of Earth's continental and oceanic crust: the Pacific plate is west of the San Andreas Fault System; the North American plate is to the east.

There are numerous faults in Southern California that are categorized as active, potentially active, and inactive by the CGS. A fault is classified as active if it has either moved during the Holocene epoch (during the last 11,000 years) or is included in an Alquist-Priolo Earthquake Fault Zone (as established by CGS). A fault is classified as potentially active if it has experienced movement within the Quaternary period (during the last 1.6 million years). Faults that have not moved in the last 1.6 million years generally are considered inactive. Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts.

According to the Seismic and Public Safety Element of the City's General Plan, there are no active or potentially active surficial faults in the City. However, it is suggested by Grant and Others (1999) that the San Joaquin Hills are a late Quaternary uplift that is the result of movement along a southwest dipping, blind thrust fault that they name the "San Joaquin Hills Blind Thrust" (SJHBT) (URS 2005). The precise location of the SJHBT is not known, but based on the model presented by Grant and others (1999), the SJHBT is estimated to be about 4 kilometers beneath the Specific Plan area (URS 2005). The SJHBT has been adopted as an active seismic source by both CGS and USGS.

Although not located in the City, there are two active faults located within Orange County. The Newport-Inglewood Fault angles from offshore near Dana Point, and passes through the northwestern portion of the county. The Whittier Fault roughly parallels the Newport-Inglewood Fault across the northeasterly edge of the County. The Newport-Inglewood Fault, located southwest of the Specific Plan area, is capable of producing a maximum credible earthquake of 7.5 magnitude. The maximum credible earthquake estimated for the Whittier fault, located northeast of the Specific Plan area is 7.0 magnitude (City of Laguna Niguel 1992).

Earthquakes occurring on faults located outside of Orange County also have the potential to cause damage within the City. Active faults that have the potential to impact the City include San Andreas; San Jacinto, Malibu-Coast, Palos Verdes, San Gabriel, and Sierra Madre–Santa Susana–Cucamonga faults

Seismic Hazards

Earthquakes create two types of hazards: primary and secondary. Primary seismic hazards include ground shaking, ground displacement, and subsidence. These events can, in turn, produce secondary hazards including ground failure, liquefaction, seiching and dam failure.

Fault Rupture

There are no active or potentially active faults located in the City. Although there are speculations regarding the San Joaquin Blind Thrust described above, the existence of the thrust has not been confirmed, and its precise location is not known. Based on modeling, the San Joaquin Blind Thrust is

estimated to be about 4 kilometers beneath the Specific Plan area. However, the City is not included on a list of California cities affected by Alquist-Priolo Earthquake Fault Zones (CGS 2010). As such, the risk of damage due to ground rupture during an earthquake is minimal due to the absence of active surficial faults in the City.

Groundshaking

The major cause of structural damage from earthquakes is groundshaking. The intensity of ground motion expected at a particular site depends on the magnitude of the earthquake, the distance and direction to the epicenter, and the geology of the area between the epicenter and the affected site. Greater movement can be expected at sites on poorly consolidated material, such as loose alluvium, in proximity to the causative fault, or in response to an earthquake of great magnitude. The SJHBT seismic source has the potential to contribute to groundshaking in the City. Active faults that have the potential to cause groundshaking in the City include the Newport-Inglewood Fault and the Whittier Fault located in Orange County, and the San Andreas, San Jacinto, Malibu-Coast Raymond, Palos Verdes, San Gabriel, and Sierra Madre-Santa Susana-Cucamonga faults outside of Orange County.

Liquefaction

Liquefaction is the phenomenon in which uniformly sized, loosely deposited, saturated, granular soils with low clay contents undergo rapid loss of shear strength through the development of excess pore pressure during strong earthquake induced groundshaking of sufficient duration to cause the soil to behave as a fluid for a short period of time. Liquefaction generally occurs in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. If the liquefying layer is near the surface, the effect for any structure supported on it is much like that of quicksand, resulting in sinking or tilting.

Liquefaction Induced Hazards

Liquefaction can induce: (1) Flow slides or large translation site failures mobilized by existing static stresses (i.e. the site static factor of safety drops below unity due to low strengths of liquefied soil layers); (2) Limited lateral spreads on the order of feet or less triggered and sustained by the earthquake ground shaking; (3) Ground settlement due to the reconsolidation of liquefied soils; and, (4) Surface manifestation of underlying liquefaction such as sand boils, etc. that can directly effect structures. In addition to the above hazards which occur only to coarse-grained soils, earthquake-induced strength loss resulting in slope instability can also occur in fine-grained soils such as silts and clays. All of these hazards are evaluated in all site-specific development geotechnical reports.

Static Settlement

Settlement is caused by the reduction of soil volume. It can result from static loading (placement of an earth embankment, foundation load, etc.), the withdrawal of groundwater, the injection of groundwater (i.e. causing hydro-collapse), or the decomposition of organic material. Settlements must be considered in the design of any proposed development and would be addressed in all site-specific development geotechnical reports. Soils testing to identify settlement characteristics and appropriate remediation measures are required routinely by the City's Grading and Excavation Code. Specific treatments to

eliminate settlement of soils include, but are not limited to, recompaction (watering and compressing the soils) and replacement with a non-compressible material (excavation of unsuitable soil followed by filling with suitable material).

■ Landslides

Landslides are the downhill movement of masses of earth and rock caused by gravity acting on oversteepened slopes; vibrations from earthquakes, machinery, blasting, etc., or other lateral or horizontal loading. According to the Seismic Hazard Zones map for the San Juan Capistrano Quadrangle, a small portion of the Specific Plan area is identified as an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement such that mitigation as defined in Public Resource Code Section 2693(c) would be required. Further, the Seismic and Public Safety Element of the City's General Plan states that areas underlain by shale and siltstone are more prone to landslide when compared to other bedrock geology, and the Capistrano, Monterey, and Topanga Formations, prevalent through hillside areas in the City, are most prone to slow-developing, slump-type failure. Slope stability hazards in the City relate to undeveloped hillside areas, as grading activities and soil remediation techniques required by the City's Grading and Excavation Code are used to mitigate these hazards prior to development.

■ Expansive Soils

Expansive soils contain types of clays (principally montmorillonite, illite, and kaolinite) that can give up water (shrink) or take on water (swell) during changes in soil moisture content. The change in volume exerts stress on building foundations and other loads placed on these soils. The occurrence of these clays often is associated with geologic units of marginal stability. Slopes composed of expansive soils may be subject to slope creep and lateral fill extension. Expansive soils can be widely dispersed and are found in hillside areas as well as low-lying areas in alluvial basins. Soils testing to identify expansive characteristics and appropriate remediation measures are required by the City's Grading and Excavation Code.

■ Corrosive Soils

Bedrock materials as well as native and fill soils derived from bedrock materials may be corrosive to both ferrous metals and concrete. Soils testing to identify corrosive characteristics and appropriate remediation measures are required by the City's Grading and Excavation Code.

4.5.2 Regulatory Framework

■ Federal

Installation of any underground utility lines are required to comply with industry standards specific to the type of utility (e.g., National Clay Pipe Institute for sewers; American Water Works Association for water lines, etc.) and the discharge of contaminants is required to be controlled through the National Pollutant Discharge Elimination System (NPDES) permitting program for management of construction and municipal stormwater runoff, as described in Section 4.7 (Hydrology and Water Quality) of this PEIR.

These standards contain specifications for installation, design, and maintenance to reflect site-specific geotechnical conditions.

■ State

Alquist-Priolo Earthquake Fault Zoning Act

The state legislation protecting the population of California from the effects of fault-line ground-surface rupture is the Alquist-Priolo Earthquake Fault Zoning Act (California *Public Resources Code* [PRC] 1972, 1997). The Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults. The Act was passed in response to the 1971 Sylmar Earthquake (also known as the San Fernando Earthquake), which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. At the direction of the Act, in 1972 the State Geologist became responsible for delineating Earthquake Fault Zones (called Special Studies Zones prior to 1994) around active and potentially active fault traces to reduce fault-rupture risks to structures for human occupancy. The zones are revised periodically, and extend 200 to 500 feet on either side of identified active fault traces. The CGS has prepared nearly 600 maps delineating Earthquake Fault Zones. No Alquist-Priolo Fault zones are located in the City of Laguna Niguel.

Seismic Hazards Mapping Act

One of the state legislations protecting the public from geo-seismic hazards, other than surface faulting, is the Seismic Hazards Mapping Act (California 1991). The Act's regulations apply to public buildings intended for human occupancy and a large percentage of private buildings intended for human occupancy. The Act became effective in 1991 with the purpose of identifying and mapping seismically hazardous areas to assist cities and counties in preparing the safety elements of their general plans and to encourage land use management policies and regulations that reduce seismic hazards. Under the terms of the Act, cities and counties must require a geotechnical report defining and delineating any seismic hazard prior to the approval of a project in a state-identified seismic hazard zone. The local jurisdiction is required to submit one copy of the approved geotechnical report to the State Geologist within 30 days of approval of the report.

Seismic Hazard Zone Reports

The hazards recognized in the Act include strong groundshaking, liquefaction, landslides, and other ground failure. These effects account for approximately 95 percent of economic losses caused by earthquakes. At the direction of the Act, the State Geologist became responsible for preparing maps delineating Liquefaction Zones of Required Investigation and Earthquake-Induced Landslide Zones of Required Investigation in the Los Angeles Basin and San Francisco Bay areas. Evaluation and mapping have been completed for the San Juan Capistrano quadrangle, which includes the Specific Plan Area. According to the Seismic Hazard Zone map, portions of the Specific Plan area are identified as having the potential for liquefaction or earthquake induced landslides.

California Building Code

California Code of Regulations (CCR), Title 24, Part 2, the California Building Code (CBC), provides minimum standards for building design in the state. Until January 1, 2008, the CBC was based on the then current Uniform Building Code and contained Additions, Amendments and Repeals specific to building conditions and structural requirements in California. The 2010 CBC, effective January 1, 2011, is based on the current (2009) International Building Code (IBC) (CBSC 2011). Each jurisdiction in California may adopt its own building code based on the 2010 CBC. Local codes are permitted to be more stringent than the 2010 CBC, but, at a minimum, are required to meet all state standards and enforce the regulations of the 2010 CBC beginning January 1, 2011. Chapter 16 of the CBC deals with structural design requirements governing seismically resistant construction (Section 1604), including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design (Sections 1613.5 through 1613.7). Chapter 18 includes (but is not limited to) the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); allowable load-bearing values of soils (Section 1806); and the design of footings, foundations, and slope clearances (Sections 1808 and 1809), retaining walls (Section 1807), and pier, pile, driven, and cast-in-place foundation support systems (Section 1810). Chapter 33 includes (but is not limited to) requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304). Appendix J of the CBC includes (but is not limited to) grading requirements for the design of excavations and fills (Sections J106 and J107) and for erosion control (Sections J109 and J110). Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in Cal-OSHA regulations (CCR, Title 8).

The CBC is revised every three years. Effective January 2, 2011, California requires compliance with the 2010 CBC.

California Geological Survey Special Publications

The California Geological Survey produces a variety of on-line and hard copy publications that provide guidance for individuals and municipalities addressing issues related to geology and geologic hazards including fault rupture, seismic groundshaking, liquefaction, landsliding, settlement, etc. With the exception of Official Maps, such as Earthquake Fault Zones and Seismic Hazard Zones, these publications represent compendia of state legislation, professional judgment, and Best Management Practices recognized by the State of California as appropriate methods for investigating and mitigating geologic hazards. Although many of the guidelines have been adopted by the State for advisory purposes, none has the force of law in itself unless adopted specifically by a municipality as its “official” procedure. Most municipalities have not adopted any of these documents as official procedures, but expect their consultants to use them as intended – as the most practical and widely accepted guides for addressing issues arising from geologic conditions within the municipality’s jurisdiction. The City has not codified any of these guidelines in its Municipal Code.

General Groundwater Extraction Waste Discharge Permit

The General Groundwater Extraction Waste Discharge Permit would apply to all construction activities within the Specific Plan area that would require groundwater dewatering. Conformance with the noted

Groundwater Permit is required by the RWQCB prior to disposal of extracted groundwater (pursuant to Order No. R9-2008-0002, NPDES Permit No. CAG919002 for the Specific Plan area). This requirement is generally applicable to all groundwater discharge regardless of volume, with certain exceptions as noted in the permit text. Specific requirements for permit conformance include (1) submitting a Notice of Intent to the RWQCB; (2) implementing an appropriate sampling and analysis/monitoring program; (3) providing at least 30 days notification to the appropriate local agency prior to discharging to a municipal separate storm sewer system (MS4); (4) conforming with applicable water quality standards (e.g., through appropriate treatment best management practices [BMPs]), including, but not limited to, the Basin Plan, CWA, state Antidegradation and Implementation policies, Porter-Cologne Water Quality Control Act, and Ocean Plan; and (5) submittal of applicable monitoring reports. Because each future project would have site-specific geotechnical considerations, it is possible that future development under the proposed Specific Plan could require groundwater dewatering during construction and/or operation, which would be subject to the requirements of this General Groundwater Extraction Waste Discharge Permit.

■ Local

City of Laguna Niguel Grading and Excavation Code

Title 8, Article 8 (Grading and Excavation Code) of the City's Municipal Code sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments, site drainage and relevant water quality requirements, and established administrative requirements for issuance of permits and approvals of plans and inspection of grading construction in accordance with the requirements for grading and excavation as contained in the 2010 CBC then in effect as adopted and modified by city ordinance. All project's requiring a grading permit, shall be required to prepare a Soil Engineering and Engineering Geology Report that includes recommendations to be incorporated in the grading plans or specifications as a condition of project approval.

City of Laguna Niguel General Plan Seismic and Public Safety Element

Policy 1.1 Mitigate potential adverse impacts of geologic and seismic hazards

Action 1.1.1 Require site-specific geologic soil studies as part of the approval process for new development. This analysis must identify on-site geologic hazards, determine risk potential and provide mitigation measures for all pertinent geologic hazards.

Consistency Analysis

All future development within the Specific Plan area requiring a grading permit would be required by the City's Grading and Excavation Code to prepare a site-specific Soil Engineering and Engineering Geology Report that identifies on-site geologic hazards, determines risk potential and includes recommendations to be incorporated in the project's grading plans or specifications as a condition of project approval. As such, future development permitted under the proposed Specific Plan would not conflict with General Plan policies relating to geologic and seismic hazards.

4.5.3 Project Impacts and Mitigation

■ Analytic Method

Information regarding regional geology and seismically induced hazards was researched in various sources of the CGS and the USGS. Estimated earthquake magnitudes resulting from potential seismic activity on various active faults in the area were obtained from the General Plan Seismic and Public Safety Element. Where potential geological hazards are identified, such hazards would be expected to affect any proposed development in the hazard area.

The following analysis considers the potential effects of the proposed project described in Chapter 3 of this PEIR. Construction-related impacts are considered for the project as a whole. Operational-related impacts of the Specific Plan area are considered in the context of seismic and/or other geological hazards to residents, employees, and visitors.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2010 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on geology/soils if it would do any of the following:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - > Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
 - > Strong seismic groundshaking
 - > Seismic-related ground failure, including liquefaction
 - > Landslides
- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

Adverse impacts in any of the above categories would be considered unavoidable significant effects of the proposed project, if they could not be (a) reduced to a level of risk consistent with the standards established by the Laguna Niguel Building Code, (b) eliminated, or (c) avoided by using generally accepted geotechnical methods applied in California.

Adherence to design and construction standards, as required by state and City regulations and codes described previously, would ensure maximum practicable protection for users of the buildings and

associated infrastructure. All aspects of seismic-related hazards, other geotechnical hazards, and erosion and sedimentation issues are regulated by City of Laguna Niguel and/or the State of California. All potential geotechnical impacts are required by these codes and regulations to be rendered less-than-significant as part of proposed project designs.

■ Effects Found to Have No Impact

Threshold	<p>Would the proposed project Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> ■ Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?
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There are no active or potentially active surficial faults in the City. As such, the potential for damage caused by surface fault rupture is not considered an impact. There are no known active or potentially active surficial faults trending toward or through the proposed development area. Consequently, implementation of the proposed project would have ***no impact*** associated with the exposure of people or structures to a rupture of a known earthquake fault, and no further analysis is required in this PEIR.

Threshold	<p>Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?</p>
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The Specific Plan Area is currently provided sanitary sewer service by the Moulton Niguel Water District. The District would continue to provide these services to development in the Specific Plan area. No septic tanks or alternative wastewater systems are proposed. Therefore, ***no impact*** would occur and no further analysis of this issue is required.

■ Impacts and Mitigation Measures

Threshold	<p>Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking or seismic-related ground failure, including liquefaction?</p>
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Impact 4.5-1 **Future development under the proposed project could expose people and/or structures to potentially substantial adverse effects, including the risk of loss, injury, or death, strong seismic groundshaking and/or seismic-related ground failure, including liquefaction. Although seismic groundshaking would occur during major earthquakes, with compliance with applicable state and City regulations, this impact is considered *less than significant*.**

The Specific Plan is located in a seismically active region. During the design life of existing and future development, strong seismic groundshaking will occur throughout the project site. According to the Seismic and Public Safety Element of the City's General Plan, there are no active or potentially active faults in the City. However, the SJHBT has been adopted as an active seismic resource and has the potential to contribute to groundshaking in the City. In addition, there are two active faults located

within Orange County, the Newport-Inglewood Fault, and the Whittier Fault. Additionally, earthquakes occurring on faults located outside of Orange County also have the potential to cause damage within the City. Active faults that have the potential to impact the City include San Andreas; San Jacinto, Malibu-Coast, Palos Verdes, San Gabriel, and Sierra Madre-Santa Susana-Cucamonga faults.

The proposed Specific Plan is a navigational tool to guide development in the area; no specific development plans have been submitted. As required by the City's Grading and Excavation Code, all future development requiring a grading permit must prepare a site specific Soil Engineering and Engineering Geology Report which includes design and foundation recommendations to be incorporated into grading plans and specifications as a condition of project approval. Section 1613 (Earthquake Loads) of the 2010 CBC, adopted by Title 8 Article 2 of the City's Municipal Code, requires the seismic-resistant design for future buildings to factor in a design earthquake that would create average peak ground accelerations of at least 1.0g. Damage resulting from a design earthquake could include general damage to foundations, shifting of frame structures if not bolted in place, and breaking of underground pipes. In addition, active and potentially active regional faults are capable of producing seismic groundshaking throughout the Specific Plan area. It is anticipated that existing and future development in the Specific Plan area would experience ground acceleration periodically as a result of small and moderate magnitude earthquakes occurring on active nearby and distant faults. Future development and improvements could be adversely affected by seismic groundshaking if required design measures were not implemented.

According to Seismic Hazard Zones map for the San Juan Capistrano Quadrangle much of the Specific Plan area is identified as an area where historic occurrence of liquefaction or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined by Public Resources Code Section 2693(c) would be required (CDOC 2001).

Adherence to the 2010 CBC and the City's Grading and Excavation Code would ensure the maximum practicable protection available for all future development throughout the Specific Plan area. Design of all future development under the Specific Plan would be required to include the application of CBC seismic standards as the minimum seismic resistance. The applicable code requirements include seismic-resistant earthwork and construction design criteria, based on site-specific recommendations of the project's California-registered geotechnical and structural engineers; engineering analyses that demonstrate satisfactory performance of any unsupported cut or fill slopes, and of alluvium and/or fill where they form part or all of the support for structures, foundations and underground utilities; and analyses of soil expansion, collapse, and subsidence potential and appropriate remediation (compaction, removal-and-replacement, etc.) prior to using any soils for foundation support, as explained below.

Adherence to the seismic design and construction parameters of the CBC, as required by state law, would ensure protection of occupants and visitors within the project site. Compliance with the CBC includes the following procedures to ensure protection of structures and occupants from geo-seismic hazards:

- The 2010 design criteria for protection of structures and earthworks at the project site from groundshaking and ground failure would be review and updated, as necessary, by a California Certified Engineering Geologist, or California-licensed Civil Engineer (Geotechnical) to ensure compliance with the 2010 CBC standards of performance.
- During site preparation, a registered geotechnical professional must be on the site to supervise implementation of the recommended criteria.

- A California Certified Engineering Geologist, or California-licensed Civil Engineer (Geotechnical), for the Applicant must prepare an “as built” map/report to be filed with the City showing details of the site geology, the location and type of seismic-restraint facilities, and documenting the following requirements, as appropriate.
 - > Engineering analyses demonstrating satisfactory performance of compacted fill or natural unconsolidated sediments where either forms part or all of the support for any structures, especially where the possible occurrence of liquefiable, compressible, or expansive soils exists.
 - > Engineering analyses demonstrating accommodation of settlement or compaction estimates by the site-specific Geotechnical Report for access roads, foundations, and underground utilities in fill or alluvium.

Implementation of the Specific Plan would not result in specific projects in the area, rather the Specific Plan is a planning document which would guide future development and provide policy framework for development. As all future development would be built in compliance with the seismic safety requirements of the 2010 CBC and the City’s Grading and Excavation Code, and site-specific design recommendations contained in a Soil Engineering and Engineering Geology Report would be incorporated into grading plans and specifications as a condition of project approval, the proposed Specific Plan’s impact on exposure to seismically induced groundshaking and seismic-related ground failure would be *less than significant*.

Threshold	Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?
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Impact 4.5-2 **Future development under the proposed project could expose people or structures to risk of loss, injury, or death involving landslides. However, with compliance with soil stability standards required by the City of Laguna Niguel Grading and Excavation Code, this impact is considered *less than significant*.**

According to the Seismic Hazard Zones map for the San Juan Capistrano Quadrangle, a small portion of the Specific Plan area is identified as an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement such that mitigation as defined in Public Resource Code Section 2693(c) would be required. Further, the Seismic and Public Safety Element of the City’s General Plan states that areas underlain by shale and siltstone are more prone to landslide when compared to other bedrock geology, and the Capistrano, Monterey, and Topanga Formations, which are prevalent through hillside areas in the City, are most prone to slow-developing, slump-type failure. Slope stability hazards in the City relate to undeveloped hillside areas, as grading activities and soil remediation techniques required by the City’s Grading and Excavation Code are used to mitigate these hazards prior to development. Further, a site-specific Soil Engineering and Engineering Geology Report, which would be required for future development requiring a grading permit, would include design recommendations to reduce impacts associated with slope instability. As such, compliance with applicable regulations would ensure that future development results in a *less-than-significant* impact from landslides and no further analysis is required.

Threshold	Would the proposed project result in substantial soil erosion or the loss of topsoil?
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Impact 4.5-3 **Construction and operation of future development under the proposed project could result in substantial soil erosion, loss of top soil, changes in topography or unstable soil conditions. However, with compliance with slope stability, soil stability, and seismic-resistant design standards required by the 2010 CBC and The City of Laguna Niguel's Grading and Excavation Code, this impact is considered *less than significant*.**

For the purposes of this analysis, erosional effects consider whether implementation of projects under the Specific Plan would accelerate natural erosional processes. Future development under the proposed Specific Plan would result in ground-disrupting activities such as excavation and trenching for foundations and utilities; soil compaction and site grading; and the erection of new structures, all of which would temporarily disturb soils. The exposure of previously covered soils during these activities could lead to increased on-site erosion and off-site sediment transport because disturbed soils are susceptible to higher rates of erosion from wind, rain, and runoff of dewatering discharge or dust control water than undisturbed soils. The State Water Resources Control Board (SWRCB) and the City's Grading and Excavation Code require erosion and sediment controls for construction projects with land disturbance. CBC Appendix Section J110, Erosion Control, addresses the issue of soil loss for construction periods. The requirements include preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), with both construction-period and permanent erosion and sediment controls; preparation and implementation of an erosion and sediment control plan, describing both construction-period and permanent erosion and sediment controls; and construction site inspection by the City. Future development under the Specific Plan would be required to comply with these existing regulations. Adherence to these requirements would prevent substantial on-site erosion and would reduce impacts to a less-than-significant level from the perspective of soil loss at the construction site.

Off-site erosion and sedimentation could occur if increased stormwater runoff were conveyed over unstable off-site soil surfaces or to a susceptible creek or channel where the higher erosive forces associated with increased flow rates could contribute to off-site erosion, including streambed and bank erosion. Earth-disturbing activities associated with construction would be temporary. Specific erosion impacts would depend largely on the areas affected and the length of time soils are subject to conditions that would be affected by erosion processes. Any project sites 1 acre in size or larger are subject to the provisions of the General Construction Activity Stormwater Permit adopted by the SWRCB. Pursuant to the City's Local Implementation Plan (LIP) for its Jurisdictional Runoff Management Program (JRMP) in compliance with Order No. R9-2009-0002, NPDES Permit No. CAS0108740. (See Section 4.8.2 of this PEIR for details.) Applicants for specific development projects must submit a Notice of Intent (NOI) to the SWRCB for coverage under the Statewide General Construction Activity Stormwater Permit and must comply with all applicable requirements, including the preparation of a SWPPP, applicable NPDES Regulations, and BMPs. The SWPPP must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of sediment and erosion control measures, maintenance responsibilities, and stormwater management controls. Inspection of construction sites before and after storms would be required to identify stormwater discharge from the construction activity and to identify and implement controls

where necessary. Such compliance would ensure that erosion and other soil instability impacts resulting from future construction within the project site would be *less than significant*.

Threshold	Would the proposed project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
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Impact 4.5-4 **A portion of the Specific Plan area would be located on subsidence-prone and potentially liquefiable soils. However, with compliance with slope and soil stability standards required by the City of Laguna Niguel General Plan, Building Code, and Grading and Excavation Code, and implementation of code requirements and mitigation measures, this impact is considered *less than significant*.**

The potential for landslides are addressed under Impact 4.5-2 and liquefaction is addressed under Impact 4.5-1. As explained in Section 4.5.1 (Environmental Setting), subsidence could be caused by the weight of large earthmoving equipment used during the construction phases of future development. In addition, shallow groundwater table may affect the stability of the soils during construction and operation of the proposed project.

Future development would be designed, constructed, and operated in conformance with Section 1802.2.1 Questionable Soils, of the 2010 CBC and the City's Grading and Excavation Code. Therefore, potential risks to life and property from unstable soil conditions caused by settlement would be *less than significant*.

Subsidence

Subsidence could result in the settlement of in-place subgrade soils caused by loads generated by large earthmoving equipment. Subsidence that could potentially occur would depend on the types of earthmoving equipment used. Due to the timeframe of the proposed Specific Plan with buildout estimated in 2030, the potential extent of settlement that could occur during this time is currently unknown. However, future development would be designed, constructed, and operated in conformance to Section 1802.2.1 (Questionable Soils) of the 2010 CBC and the City's Grading and Excavation Code. Therefore, potential risks to life and property from unstable soil conditions caused by subsidence would be *less than significant*.

Shallow Groundwater

Depth of groundwater in the Specific Plan area is currently unknown. However, if shallow groundwater is encountered, dewatering activities in the Specific Plan area could be needed during construction of any subterranean levels, such as for parking. The removal of groundwater to create a dry construction pit could cause porous soils to collapse when the support provided by the water was withdrawn. Temporary shoring, dewatering wells, storage tanks, filters, and erosion control measures would be required to comply with the City's Grading and Excavation Code. Dewatering activities would be required to comply with the NPDES Permit for Groundwater Discharge from the San Diego Regional Water Quality Control Board. Impacts associated with dewatering as a result of construction and operation activities are addressed further in Impact 4.8-2 in Section 4.8 (Hydrology/Water Quality).

Because future structures would be designed, constructed and operated in conformance with Section 1802.2.1 Questionable Soils, of the 2010 CBC and the City’s Grading and Excavation Code., potential risks to life and property from unstable soils caused by groundwater saturation or withdrawal would be *less than significant*.

Threshold	Would the proposed project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
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Impact 4.5-5 **Future development in the Specific Plan area could be located on expansive soil. However, with compliance with soil stability standards required by the 2010 CBC and the City of Laguna Niguel’s Grading and Excavation Code, this impact is considered *less than significant*.**

It is unknown at this time if future development would be located on expansive soil, however if future development occurs on sites with underlying expansive soils, development would be subject to the above-mentioned treatments as required by the 2010 CBC and the City’s Grading and Excavation Code. Site-specific Soil Engineering Report, as required by the City’s Grading and Excavation Code, would identify expansive characteristics and recommend appropriate remediation measures to be incorporated into grading plans as a condition of approval. Because future structures would be designed, constructed and operated in conformance with the City’s Grading and Excavation Code potential risks to life and property associated with expansive soil would be reduced to a *less-than-significant* level.

4.5.4 Cumulative Impacts

The geographic context for the analysis of impacts resulting from geologic hazards generally is site-specific, rather than cumulative in nature. Each project site has unique geologic considerations that would be subject to uniform site-development policies and construction standards imposed by the City of Laguna Niguel. Restrictions on development would be applied in the event that geologic or soil conditions posed a risk to public safety. A regional context must be considered for the analysis of the cumulative effects of exposure of people or structures to seismic hazards other than surface rupture of a fault because the hazard generators (earthquakes) and the direct effects (groundshaking, ground failure) tend to be region wide in nature. Additionally, a watershed-wide context must be considered for the analysis of the cumulative effects of potential erosion and siltation because the direct effects (turbidity, reduction of water quality, channel-bed sedimentation) can affect all downstream reaches of a waterway system. Nonetheless, the potential for cumulative impacts to occur is limited.

Impacts associated with potential geologic hazards related to soil or other conditions occur at individual building sites. These effects are site-specific, and impacts would not be compounded by additional development. Buildings and facilities in the City of Laguna Niguel would be sited and designed in accordance with the geotechnical and seismic guidelines and recommendations of the City’s Grading and Excavation Code. Adherence to all relevant plans, codes, and regulations with respect to project design and construction would provide adequate levels of safety, and the cumulative impact would be less than significant. Adherence by the project to all relevant plans, codes, and regulations would ensure that the proposed project would not result in a cumulatively considerable contribution to cumulative impacts

regarding geologic hazards, and therefore, the cumulative impact of the project would be *less than significant*.

Impacts from erosion and loss of topsoil from site development and operation can be cumulative in effect within a watershed. The San Juan (Oso) Creek Watershed forms the geographic context of cumulative erosion impacts. Development throughout Orange County and the City of Laguna Niguel is subject to state and local runoff and erosion control requirements, including applicable provisions of the general construction permit, BMPs, and Phases I and II of the NPDES permit process, as well as implementation of fugitive dust control measures in accordance with SCAQMD Rule 403 (refer to Section 4.2 [Air Quality] of this PEIR). These measures are implemented as conditions of approval of project development and subject to continuing enforcement. As a result, it is anticipated that cumulative impacts on the San Juan Creek Watershed District caused by runoff and erosion from cumulative development activity would be less than significant. The project's contribution to cumulative impacts would not be cumulatively considerable and, therefore, also would be *less than significant*.

Implementation of the proposed project would result in the modification of site conditions to accommodate future development and to provide a stable and safe development. During construction, areas of soil could be exposed to erosion by wind or water. Development of other cumulative projects in the vicinity of the proposed project could expose soil surfaces, and further alter soil conditions, subjecting soils to erosional processes during construction. To minimize the potential for cumulative impacts that could cause erosion, the proposed project and cumulative projects in the adjacent area are required to be developed in conformance with the provisions of applicable federal, state, County, and City laws and ordinances. The City's Grading and Excavation Code implements the requirements of CBC Appendix Section J110 (Erosion Control) for construction periods. Adequate protection in the form of BMPs and erosion and sediment control plans must be incorporated into individual projects to address current legal requirements for control of erosion caused by stormwater discharges. Project sites of more than 1 acre in size would be required to comply with the provisions of the NPDES permitting process and local implementation strategies, which would minimize the potential for erosion during construction and operation of the facilities. Compliance with this permit process, in addition to the legal requirements related to erosion control practices, would minimize cumulative effects from erosion. Therefore, cumulative impacts on erosion would be less than significant. The project would not result in a cumulatively considerable contribution to this impact and, therefore, would be *less than significant*.

4.5.5 References

- California Building Standards Commission (CBSC). 2011. *2010 California Building Code. California Code of Regulations*, Title 24, Part 2, Volumes 1 and 2 (effective January 1, 2011). <http://publicecodes.citation.com/st/ca/st/b200v10/index.htm> (accessed by G.J. Burwasser, PG7151, January 16, 2011).
- California Department of Conservation (CDOC), Division of Mines and Geology. 2001. State of California Seismic Hazard Zones San Juan Capistrano Quadrangle, December 21.
- California Geological Survey (CGS). 2010. California Geological Survey—Alquist-Priolo Earthquake Fault Zones. Table 4 (Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of January 2010). <http://www.consrv.ca.gov/cgs/rghm/ap/Pages/affected.aspx> (accessed on December 1, 2010).

- Laguna Niguel, City of. 1992. *Laguna Niguel General Plan*. Seismic and Public Safety Element, August 4.
- . n.d. *Laguna Niguel Municipal Code*. Title 8, Division 1, Article 8 (Grading and Excavation Code).
- National Resource Conservation Service (NRCS). 2010. Soil Map-Orange County and Part of Riverside County, California (Laguna Niguel Gateway). Map Unit Legend, July 19.
- URS. 2005. *Preliminary Geotechnical Investigation, 25891 Crown Valley Parkway, Laguna Niguel, California*, September 20.

4.6 GREENHOUSE GAS EMISSIONS

This section of the PEIR analyzes the potential environmental effects on greenhouse gas (GHG) emissions and climate change from implementation of the proposed project. No comment letters addressing climate change were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

During buildout and operation of the Specific Plan Update, GHGs would be emitted as the result of construction activities and deliveries; new direct operational sources, such as operation of emergency generators, natural gas usage, and operation of fleet vehicles; and indirect operational sources, such as production of electricity, steamed and chilled water, transport of water, and decomposition of project-related wastes. Visitors and employees travelling to and from the Specific Plan area (referred to as the project site) would also cause emissions of GHGs. This PEIR section discusses how buildout of the proposed Specific Plan would contribute to emissions of GHGs.

California, through Assembly Bill (AB) 32 and Executive Order S-3-05, has set statewide targets for the reduction of GHG emissions (refer to Section 4.6.2 [Regulatory Setting]). The California Air Pollution Control Officers Association's (CAPCOA) technical report, *CEQA and Climate Change*, states: "The goal of AB 32 and S-3-05 is the significant reduction of future GHG emissions in a state that is expected to rapidly grow in both population and economic output" (CAPCOA 2008, 32). Accordingly, to achieve the state's goals, there will have to be a significant reduction in per capita GHG emissions. While CEQA focuses on emissions associated with new development, other regulatory means will need to be implemented to address reductions in existing emissions.

For this PEIR, emissions from sources such as construction, vehicles, energy consumption, solid waste generation, and water distribution are inventoried and discussed quantitatively and qualitatively. All emissions inventories are presented in metric tons unless otherwise indicated. Appendix C of this PEIR contains the GHG emissions worksheet that was used to calculate data for this section.

Data used to prepare this section were taken from various sources, including advice for preparing CEQA climate change analyses that was recently released by the California Office of Planning and Research (OPR) (OPR 2008) as well as approaches prepared by a number of professional associations and agencies that have published suggested approaches and strategies for complying with CEQA's environmental disclosure requirements. Such organizations include the California Attorney General's Office (AGO), the California Air Pollution Control Officers Association (CAPCOA), the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), and the Association of Environmental Professionals (AEP).

Data for this section were obtained from the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook (Chapter 3); Section 4.2 (Air Quality) and Section 4.15 (Utilities/Service Systems) of this PEIR; and, traffic data provided by the Traffic Study for the Laguna Niguel Gateway Specific Plan Update, prepared by Iteris, Inc. Full reference-list entries for all cited materials are provided in Section 4.6.4 (References).

4.6.1 Environmental Setting

The Specific Plan area is located within the South Coast Air Basin (Basin). The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Climate change within the Basin is influenced by a wide range of emission sources, such as utility usage, heavy vehicular traffic, industry, and meteorology.

■ Climate Change Background

Parts of the Earth's atmosphere act as an insulating blanket of the right thickness to trap sufficient solar energy and keep the global average temperature in a suitable range. The "blanket" is a collection of atmospheric gases called "greenhouse gases" based on the idea that these gases trap heat like the glass walls of a greenhouse. These gases, mainly water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and chlorofluorocarbons (CFCs), all act as effective global insulators, reflecting visible light and infrared radiation back to earth. Human activities, such as producing electricity and driving internal combustion vehicles, have contributed to the elevated concentration of these gases in the atmosphere. This in turn is causing the Earth's temperature to rise. A warmer Earth may lead to changes in rainfall patterns, smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

The relationships of water vapor and ozone as GHGs are poorly understood. It is unclear how much water vapor acts as a GHG. The uncertainty is due to the fact that water vapor can also produce cloud cover, which reflects sunlight away from Earth and can counteract its effect as a GHG. Also, water vapor tends to increase as Earth warms, so it is not well understood whether the increase in water vapor is contributing to or rather a result of climate change. Ozone tends to break down in the presence of solar radiation but is not understood well enough for evaluation. For these reasons, methodologies approved by the Intergovernmental Panel on Climate Change (IPCC), United States Environmental Protection Agency (USEPA), and the California Air Resources Board (California ARB) focus on carbon dioxide, nitrous oxide, methane, and chlorofluorocarbons. The following provides a brief description of each of these GHGs.

Carbon Dioxide

The natural production and absorption of carbon dioxide occurs through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. Globally, the largest source of CO₂ emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. A number of specialized industrial production processes and product uses, such as mineral or metal production, and the use of petroleum-based products, lead to CO₂ emissions.

CO₂ is removed from the atmosphere (or sequestered) when plants absorb it as part of the biological carbon cycle. Natural sources of CO₂ occur within the carbon cycle where billions of tons of atmospheric CO₂ are removed by oceans and growing plants and are emitted back into the atmosphere through natural processes. When in balance, total CO₂ emissions and removals from the entire carbon

cycle are roughly equal. Since the Industrial Revolution in the 1700s human activities, including burning of oil, coal, and gas and deforestation, increased CO₂ concentrations in the atmosphere by 35 percent as of 2005.

Methane

Methane is emitted from a variety of both human-related and natural sources. CH₄ is emitted during the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH₄ emissions are related to human activities. Natural sources of CH₄ include wetlands, gas hydrates³, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. CH₄ emission levels from a particular source can vary significantly from one country or region to another. These variances depend on many factors, such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes resulting in CH₄ emissions from both human and natural sources. Also, the implementation of technologies to capture and utilize CH₄ from sources such as landfills, coalmines, and manure management systems affects the emission levels from these sources.

Nitrous Oxide

Concentrations of nitrous oxide also began to rise at the beginning of the Industrial Revolution reaching 314 parts per billion (ppb) by 1998. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce nitrous oxide. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N₂O.

Chlorofluorocarbons

Chlorofluorocarbons have no natural source, but were synthesized for uses as refrigerants, aerosol propellants, and cleaning solvents. Since their creation in 1928, the concentrations of CFCs in the atmosphere have been rising. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken, and levels of the major CFCs are now remaining static or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years. Since they are also a GHG, along with such other long-lived synthesized gases as CF₄ (carbontetrafluoride) and SF₆ (sulfurhexafluoride), they are of concern. Another set of synthesized compounds called HFCs (hydrofluorocarbons) are also considered GHGs, though they are less stable in the atmosphere and therefore have a shorter lifetime and less of an impact. CFCs, CF₄, SF₆, and HFCs have been banned and are no longer available. Therefore, these GHGs are not included further in this analysis.

³ Gas hydrates are crystalline solids that consist of a gas molecule, usually methane, surrounded by a “cage” of water molecules. (USGS, 1992)

■ Potential Effects of Global Climate Change

Climate change could have a number of adverse effects. Although these effects would have global consequences, in most cases they would not disproportionately affect any one site or activity. In other words, many of the effects of climate change are not site-specific. Emission of GHGs would contribute to the changes in the global climate, which would in turn, have a number of physical and environmental effects. A number of general effects are discussed below.

Sea Level Rise and Flooding. The California Climate Change Center predicts that sea level in California would rise between 10.9 to 71.6 centimeters (cm) (0.36 to 2.3 feet) above existing mean sea level (MSL) by 2099 as a result of climate change (CCCC 2006a). Measurements taken in the City of Alameda indicate that the current rate of sea level rise is about 0.29 foot per century. Therefore, projected climate change effects on sea level would increase the existing rate of sea level rise by 0.07 to 1.94 feet per century (CCCC 2006b). When combined with astronomical tides, even a 1-foot increase in MSL would result in the 100-year event high tide peak occurring at the 10-year event frequency (CCCC 2006b). In other words, the frequency of a current 100-year high tide (about 9.5 feet above current MSL) would occur ten times more often if sea levels increase by 1 foot above current MSL.

In the future, precipitation events are predicted to vary in terms of timing, intensity, and volume according to many climate change models. Extreme storm events may occur with greater frequency. Changes in rainfall and runoff could affect flows in surface water bodies, causing increased flooding and runoff to the storm drain system.

Water Supply. California Health and Safety Code Section 38501(a) recognizes that climate change “poses a serious threat to the economic well-being, public health, natural resources, and the environment of California,” and notes, “the potential adverse impacts of [climate change] include ... reduction in the quality and supply of water to the state from the Sierra snowpack.” As most of the state, including the City of Laguna Niguel, depends on surface water supplies originating in the Sierra Nevada, this potential water supply reduction is a concern.

Most of the scientific models addressing climate change show that the primary effect on California’s climate would be a reduced snow pack and a shift in stream-flow seasonality. A higher percentage of the winter precipitation in the mountains would likely fall as rain rather than as snow in some locations, reducing the overall snowpack. Further, as temperatures rise, snowmelt is expected to occur earlier in the year. As a result, peak runoff would likely come a month or so earlier. The end result of this would be that the state may not have sufficient surface storage to capture the early runoff, and so, absent construction of additional water storage projects, a portion of the current supplies would flow to the oceans and be unavailable for use in the state’s water delivery systems.

Water Quality. Climate change could have adverse effects on water quality, which would in turn affect the beneficial uses (habitat, water supply, etc.) of surface water bodies and groundwater. The changes in precipitation discussed above could result in increased sedimentation, higher concentration of pollutants, higher dissolved oxygen levels, increased temperatures, and an increase in the amount of runoff constituents reaching surface water bodies. Sea level rise, discussed above, could result in the encroachment of saline water into freshwater bodies.

Ecosystems and Biodiversity. Climate change could have effects on diverse types of ecosystems, from alpine to deep-sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation would occur, which would potentially have an effect on the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that “20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels,” (IPCC 2007). Shifts in existing biomes⁴ could also make ecosystems vulnerable to invasive species encroachment. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change would put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Human Health Impacts. Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects—malaria, dengue fever, yellow fever, and encephalitis (USEPA 2008). While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency, and could adversely affect the elderly, children, and the homeless. Finally, the water supply impacts and seasonal temperature variations, which could occur as a result of climate change, could affect the viability of existing agricultural operations, making the food supply more vulnerable.

■ Potential Effects of Human Activity on Climate Change

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO₂ emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO₂ concentrations were found to have increased by nearly 30 percent above pre-industrial (c. 1760) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂ equivalents (CO₂e), and are often expressed in metric tons (MT CO₂e) or millions of metric tons of CO₂ equivalents (MMT CO₂e).

- **Global Emissions.** Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO₂e per year (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes) (United Nations, 2007).
- **U.S. Emissions.** In 2004, the United States emitted 7.1 billion tons of CO₂e. Of the four major sectors nationwide—residential, commercial, industrial, and transportation—transportation accounts for the highest percentage of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion. In 2008, the United States emitted 6.9 billion tons of CO₂e, with transportation accounting for the highest percentage of GHG emissions, approximately 32 percent (USEPA 2011).

⁴ A biome is a major ecological community classified by the predominant vegetation and hence animal inhabitants.

- **State of California Emissions.** In 2004, California emitted approximately 483 million tons of CO₂e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per-capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state’s GHG emissions rate of growth by more than half of what it would have been otherwise. Another factor that has reduced California’s fuel use and GHG emissions is its mild climate compared to that of many other states. In 2008, California’s GHG emissions were approximately 478 million metric tons CO₂e, generally attributed to the reduced travel and therefore transportation emissions (USEPA 2010).
- **The California Energy Commission** found that transportation is the source of approximately 41 percent of the state’s GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as “other,” which includes residential and commercial activities (CEC, 2007).

Various aspects of constructing, operating, and eventually discontinuing (demolition and disposal of waste) the use of industrial, commercial and residential development will result in GHG emissions. Operational GHG emissions result from energy use associated with heating, lighting, and powering buildings (typically through natural gas and electricity consumption), pumping and processing water (which consumes electricity), as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases in connection with the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, and other activities. However, it is noted that new development does not necessarily create entirely new GHG emissions. Occupants of new buildings are often relocating and shifting their operational-phase emissions from other locations.

4.6.2 Regulatory Framework

Global climate change is addressed through the efforts of various federal, state, regional, and local government agencies as well as national and international scientific and governmental conventions and programs. These agencies work jointly and individually to understand and regulate the effects of greenhouse gas emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs. The significant agencies, conventions, and programs focused on global climate change are discussed below.

■ Federal

U.S. Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

■ State

California Air Resources Board

The California ARB, a part of the California EPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, ARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. California ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. California ARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

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

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHGs in California. California ARB has determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO₂e. California ARB has adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit set by AB 32. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health.

Part of California's strategy for achieving GHG reductions under AB 32 are the early action greenhouse gas reduction measures, which include the following: a low carbon fuel standard; reduction of emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007).

Senate Bill 375

Senate Bill (SB) 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 and 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives.

Through the SB 375 process, MPOs, such as the Southern California Council of Governments (SCAG), which includes Orange County, will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. SCAG's reduction target for per capita vehicular emissions is 8 percent by 2020 and 13 percent by 2035 (California ARB 2010b). The MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule; to date, no region has adopted an SCS. The first of the RTP updates with SCS strategies are expected in 2012.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. In March 2010, the California Office of Administrative Law codified into law CEQA amendments that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. To streamline analysis, CEQA provides for analysis through compliance with a previously adopted plan or mitigation program under special circumstances.

Executive Order S-13-08

Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. The first result is the 2009 California Adaptation Strategy (CAS) report, which summarizes the best-known science on climate change impacts in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

California Code Of Regulations (CCR) Title 24

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24), was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2008 standards are the most recent version which went into effect in January 1, 2010.

CCR Title 24, Part 11 (California's Green Building Standard Code) (CALGreen), was adopted in 2010 and went into effect January 1, 2011. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The Mandatory provisions in CALGreen will reduce the use of VOC-emitting materials, strengthen water conservation, and require construction waste recycling.

■ Regional/Local

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin, which includes the counties of Los Angeles, Riverside, San Bernardino, and Orange. In order to provide GHG emission guidance to the local jurisdictions within the Basin, the SCAQMD has organized a Working Group to develop GHG emission analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

Air Quality Management Plan

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. Since 1979, a number of AQMPs have been prepared. The 1997 AQMP, updated in 1999 and replaced in 2003, was based on the 1994 AQMP, and ultimately the 1991 AQMP, and was designed to comply with state and federal requirements, reduce the high level of pollutant emissions in the Basin, and ensure clean air for the region through various control measures. To accomplish its task, the AQMP relies on a multilevel partnership of governmental agencies at the federal, state, regional, and local level. These agencies (i.e., the USEPA, the ARB, local governments, SCAG, and SCAQMD) are the cornerstones that implement the AQMP programs.

The 2003 AQMP, adopted in August 2003, updated the attainment demonstration for the federal standards for ozone and PM₁₀; replaced the 1997 attainment demonstration for the federal carbon monoxide (CO) standard and provided a basis for a maintenance plan for CO for the future; and updated the maintenance plan for the federal nitrogen dioxide (NO₂) standard that the Basin has met since 1992.

The most recent comprehensive plan is the 2007 AQMP adopted on July 13, 2007. The 2007 AQMP is designed to meet the state and Federal Clean Air Act planning requirements and focuses on ozone and PM_{2.5}. The 2007 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling.

Laguna Niguel General Plan

The Laguna Niguel General Plan was adopted in 1992 to set forth objectives, policies, standards, and programs for land use and new development, Circulation and Public access, and Service Systems for the Community as a whole. The following goals and policies are applicable to climate change:

Land Use Element

- Goal 1** A well-balanced mixture of land uses that meet the residential, commercial, open space, and public service needs of residents.
- Policy 1.1** Encourage the development of land uses that contribute to the goal of a well-balanced community.
- Action 1.1.1** Require comprehensive analysis of any proposed General Plan Amendment to ensure that the amendment will result in a desirable mixture of land uses meeting the social and fiscal needs of the City and its residents.
- Action 1.1.2** Promote commercial, office and industrial uses, as appropriate, within the three opportunity areas in order to improve the City's land use balance.
- Goal 2** A sufficient amount of commercial and industrial uses that provide jobs and revenue to the City without compromising environmental quality.
- Policy 2.1** Allow a wide range of uses in the City that will be beneficial in terms of employment and revenue generation, but without undue impacts on public services and facilities.
- Action 2.1.1** Continue the site plan review process to ensure that adequate public services and facilities are provided for in commercial and industrial development.
- Action 2.1.2** Work closely with organizations and interests involved with economic development to attract businesses that contribute positively to the City's economic growth and environmental well being.
- Policy 2.2** Enhance the quality and competitive advantage of commercial centers and business parks within the City.
- Action 2.2.1** Consider the adoption of commercial design standards to ensure that high-quality commercial centers and business parks are developed in the City.
- Action 2.2.2** Incorporate landscaping requirements for commercial development into community design guidelines.
- Goal 3** Compatible relationships between land uses in the community.
- Policy 3.2** Discourage the proliferation of strip commercial development along major streets that create negative impacts on adjoining residential areas.

	Action 3.2.1	Concentrate commercial development in clearly defined commercial centers.
	Action 3.3.4	Adopt site development standards that mitigate land use conflicts.
Policy 3.4		Ensure that residential densities are compatible with the surrounding land uses and buildings are in scale with the neighborhood character.
Goal 4		Urban design that provides community gathering areas and other pedestrian spaces.
Policy 4.1		Emphasize attractive and functional urban design in new development.
	Action 4.1.1	Prepare comprehensive design guidelines, to guide new development, especially in commercial and industrial areas.
Policy 4.2		Enhance the landscape theme throughout public rights-of-way and at major City entrance points.
	Action 4.2.1	Prepare a Master Landscape Concept Plan for Laguna Niguel that defines desired landscape improvements along City streets, major entrance points and at activity centers.
Policy 4.3		Require, where feasible, the development of open spaces and places for people to gather within commercial and office complexes.
Policy 4.4		Provide, where feasible, pedestrian walkways and linkages between residential, commercial, office, open space/recreation facilities, and other public places.
	Action 4.4.1	Prepare and implement pedestrian access design guidelines for implementation in the development review process.
Goal 8		Revitalization of Camino Capistrano/Cabot Road Business Area.
Policy 8.2		Enhance where feasible local and regional circulation in the area.
	Action 8.2.2	Coordinate with other jurisdictions on regional and local circulation improvements in the project area, particularly the City of Mission Viejo on circulation improvements to the north and east.
Policy 8.3		Allow for the redevelopment or reuse of existing commercial and industrial uses along with the phasing of adequate infrastructure and other needed public facilities.
Policy 8.4		Enhance riding, biking, and bikeway opportunities within the project area.

Action 8.4.1 Through the site plan approval process, ensure that pedestrian and bicycle linkages are provided from existing and future land uses to the Oso Creek Regional Riding and Hiking Trail.

Open Space Element

Goal 3 A trail system that meets the bicycling, hiking, and equestrian needs of residents.

Policy 3.1 Implement the Bikeway, and Hiking and Equestrian Plans.

Action 3.1.1 Require the dedication of right-of-way and construction of public trails to City standards as a condition of approval of development projects, where feasible.

Policy 3.2 Identify areas where trails can be located off street and separated from vehicular traffic wherever possible. Class I bike trails shall not be located on or in conjunction with sidewalks intended for pedestrian use.

Policy 3.3 Expand existing regional trail facilities where attractive opportunities exist or can be created.

Policy 3.4 Plan bicycle routes to facilitate access to open space areas and recreational facilities, as well as other uses such as schools, neighborhoods, and commercial centers.

Action 3.4.2 Locate bikeways along designated scenic corridors wherever environmentally, physically, and economically feasible.

Action 3.4.3 Provide bicycle trail information to the public.

Action 3.4.4 Encourage developers to provide local bicycle trails and rack facilities within their projects as conditions of development.

Goal 10 Effective utilization and Management of Water Resources.

Policy 10.1 Require appropriate water conservation and mitigation measures on all development projects.

Action 10.1.1 Require drought-tolerant landscaping and water conserving fixtures, where feasible.

Action 10.1.2 Where feasible, incorporate reclaimed water systems into landscape irrigation plans.

Circulation Element

Goal 3 A circulation system that maximizes efficiency through the use of transportation system management and demand management strategies.

- Policy 3.1** Encourage new development that facilitates transit services, provides for non-automobile circulation, and minimizes vehicle miles traveled.
- Policy 3.4** Encourage the implementation of employer Transportation Demand Management (TDM) requirements included in the City’s adopted TDM ordinance and in the Southern California Air Quality Management District’s Regulation XV Program.
- Policy 3.5** Support the development of additional regional public transportation facilities and services.
- Policy 3.6** Promote ridesharing through publicity and distribution of information to the public.
- Goal 4** An efficient public transportation system that provides mobility to all City residents, employees, and visitors.
- Policy 4.1** Support the efforts of the Orange County Transit Authority (OCTA) to provide additional local and express bus service to Laguna Niguel.
- Policy 4.3** Encourage employers to reduce vehicular trips by offering employee incentives.
- Policy 4.4** Promote new development that is designed in a manner that (1) facilitates provision or expansion of transit service, (2) provides on-site commercial and recreational facilities to discourage mid-day travel, and (3) provides non-automobile circulation within the development.
- Action 4.4.1** Require new development to fund transit facilities, such as bus shelters and turnouts.
- Policy 4.5** Encourage developers to work with agencies providing transit service with the objective of maximizing the potential for transit use by residents and/or visitors.
- Policy 4.6** Encourage the provision of safe, attractive, and clearly identifiable transit stops and related high-quality pedestrian facilities throughout the community.
- Goal 5** An efficient bicycle, equestrian and pedestrian circulation system that encourages these alternative forms of transportation.
- Policy 5.1** Require proposed developments, whenever feasible, to dedicate easements for Class I bikeways and to provide additional right-of-way for Class II bike lanes in the project vicinity on all major or primary roadways or other roadways where deemed appropriate.

- Goal 6** Ensure that development of Class II bike lanes provides for the safe and efficient travel of both bicycles and vehicular traffic.
- Goal 9** Support the location of a commuter rail system within the Galivan Basin that meets the needs of current and future residents.
- Goal 10** Provide public transportation for residents to airport facilities in the region.
 - Policy 10.1** Work with the Orange County Transit Authority (OCTA) and other appropriate agencies to provide express transportation to regional airports.

Public Facilities Element

- Goal 1** A water and wastewater infrastructure system that supports existing and future development in the City of Laguna Niguel.
 - Policy 1.1** Encourage water conservation practices.
 - Action 1.1.1** Require water conservation measures to be incorporated into all new development.
 - Action 1.1.3** Require drought tolerant landscaping in industrial, commercial, and residential development.
 - Action 1.1.4** Cooperate with Moulton Niguel Water District in their water conservation awareness program.
 - Policy 1.3** Coordinate with the Moulton Niguel Water District to make reclaimed water available within the City of Laguna Niguel.
- Goal 3** A solid waste management system that provides for the safe and efficient collection, transportation, recovery, and disposal of solid wastes.
 - Policy 3.1** Establish regulations to reduce the solid waste stream.
 - Action 3.1.1** Implement the City’s Source Reduction and Recycling Element.
 - Policy 3.4** Support development of a recyclable separation facility in South Orange County.
- Goal 8** Adequate electrical, natural gas, and telecommunication systems to meet the demand of new and existing development.
 - Policy 8.1** Encourage development that minimizes net energy use and consumption of natural resources.
 - Action 8.1.1** Support the use of solar energy to supplement conventional heating systems.
 - Policy 8.2** Promote public and private telecommunications to reduce motorized trips.

Consistency Analysis

The Specific Plan Update contains goals, objectives, policies, and programs which the City would promote during implementation of the Specific Plan. Goals are intended to promote and enhance infill, mixed-use, and transportation development within the Specific Plan area. The increase in density will aid in the reduction of climate change impacts from utility usage and vehicle miles traveled. The Specific Plan Update would be consistent with the policies set forth the City's General Plan document, and therefore, would be consistent with applicable guidelines and regulations.

City of Laguna Niguel Municipal Code

Laguna Niguel Construction and Demolition Debris Ordinance

Laguna Niguel Municipal Code Section 6-3-603 requires that construction, renovation, and demolition projects shall reuse, recycle, or divert from a landfill or a transformation facility at least 50 percent of the construction and demolition waste generated from the project.

Laguna Niguel Water Efficient Landscaping Ordinance

Laguna Niguel Municipal Code Section 6-3-603 ensures the protection and preservation of water resources within the city in accordance with the open space/parks/and conservation element of the city's General Plan. The landscaping ordinance ensures protection of water resources from excessive use for plant materials in commercial, industrial, public, and residential developments. The ordinance establishes review procedures to evaluate required reports, plans, and landscape information pertaining to proposed development projects.

4.6.3 Project Impacts and Mitigation

■ Analytic Method

The impact analysis for the Specific Plan is based on a GHG emissions analysis, which is presented in the Environmental Analysis, below. GHG emissions associated with the development and operation of proposed project were estimated using the URBEMIS 2007 software, trip generation data from the project traffic analysis (Iteris 2011), emissions factors from the California Climate Action Registry, and other sources. The methodology and assumptions used in this analysis are detailed below for construction and operation activities. Refer to Appendix C for model output and detailed calculations.

Because the impact that each GHG has on climate change varies, a common metric of carbon dioxide equivalents (CO₂e) is used to report a combined impact from all of the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions and its global warming potential, and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions in this analysis are measured in terms of metric tons of carbon dioxide equivalents (MT CO₂e).

Construction

Construction activities can alter the carbon cycle in different ways. Construction equipment typically utilizes fossil fuels, which generate GHGs such as carbon dioxide, methane, and nitrous oxide. Methane may also be emitted during the fueling of heavy equipment. The raw materials used to construct new buildings can sequester carbon; however, demolition of structures can result in the gradual release of the carbon stored in waste building materials as those materials decompose in landfills. Since the exact nature of the origin or make-up of the construction materials is unknown, construction related emissions are typically based on the operation of vehicles and equipment during construction.

Construction is a temporary source of emissions necessary to facilitate development in the Specific Plan area. Although these emissions are temporary, they must be accounted for, as the impact from the emissions of GHGs is cumulative. Based on current SCAQMD methodology, GHGs emitted during construction are amortized over an estimated 30-year project lifetime. The amortized emissions are then combined with the operational emissions to provide a cumulative annual estimate of annual GHG emissions for the project. Because the level of detail needed to model construction related impacts is not available, a qualitative analysis is used to project the potential significance of project implementation with regards to construction emissions.

Operation

The following activities are typically associated with the operation of residential, retail, and commercial land uses that will contribute to the generation of GHG emissions:

Vehicular trips. Vehicle trips generated by growth within the Specific Plan area would result in GHG emissions through combustion of fossil fuels. Carbon dioxide emissions were determined based on the trip rates provided in the traffic analysis (Iteris 2011) and average trip lengths in the URBEMIS 2007 model. Methane and nitrous oxide emissions were estimated using the total vehicle miles traveled as determined by URBEMIS and USEPA emission factors for on-road vehicles.

On-site use of natural gas and other fuels. Natural gas would be used by the Specific Plan area development for heating of residential, commercial, and retail space, resulting in a direct release of GHGs. The use of landscaping equipment would also result in on-site GHG emissions. Estimated emissions from the combustion of natural gas and other fuels is based on the number of dwelling units and square footage of non-residential buildings and is estimated based on the anticipated project consumption rates provided in Section 4.15 of this document. Estimates of emissions from the combustion of fossil fuels from landscaping activities was determined based on the number of residential dwelling units and square footage of non-residential land uses as presented in the URBEMIS 2007 modeling output.

GHG emissions associated with building envelope energy use vary based on the size of structures, the type and extent of energy-efficiency measures incorporated into structural designs, and the type and size of equipment installed. Complete building envelope details could not be incorporated into the project inventory, as such information was not available at the time of the analysis. Therefore, it was assumed that the building envelopes would comply with the current minimal standards for all business-as-usual (BAU) analysis and for new development in the Laguna Niguel Gateway Specific Plan area.

Electricity use. Electricity is generated by a combination of methods, which include combustion of fossil fuels. By using electricity, new development in the Specific Plan area would contribute to the indirect emissions associated with electricity production. Estimated emissions from the consumption of electricity is based on the number of dwelling units and square footage of non-residential building use and electrical consumption rates provided in Section 4.15 of this document.

Water use and wastewater generation. California's water conveyance system is energy-intensive, with electricity used to pump and treat water. Development in the Specific Plan would contribute to indirect emissions by consuming water and generating wastewater. Estimated emissions from the consumption of potable water and the generation of wastewater is based on the number of dwelling units and square footage of non-residential building and water consumption rates provided in the Section 4.15 of this document.

Solid waste. Disposal of organic waste in landfills can lead to the generation of methane, a potent greenhouse gas. By generating solid wastes, proposed development would contribute to the emission of fugitive methane from landfills, as well as CO₂, CH₄ and N₂O from the operation of trash collection vehicles. Estimated emissions from the generation of solid waste is based on the number of dwelling units and square footage of non-residential building use and waste generation rates provided in Section 4.15 of this document.

■ Thresholds of Significance

Implementation of the proposed project may have a significant adverse impact on climate change if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

Neither the SCAQMD nor the CEQA Guidelines provide quantitative or qualitative thresholds of significance for greenhouse gas emissions. The CEQA Guideline Amendments, adopted in December 2010, state that each local lead agency must develop its own significance criteria based on local conditions, data, and guidance from public agencies and other sources.

For the purposes of this analysis and based on full consideration of the available information, compliance with AB 32 is used in evaluating the project's incremental contribution to global warming impacts. AB 32, the California Global Warming Solutions Act of 2006, requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The 2020 reduction target equates to a decrease of approximately 29 percent below the current BAU emissions (the anticipated 2020 emissions based on 2005 consumption and generation rates as well as emission factors). BAU is defined for this analysis as the anticipated emissions from a project not accounting for anticipated laws or project features that will reduce construction or operational emissions from the project.

The proposed Specific Plan would provide for transit-oriented development in an established urban area. This, along with the implementation of state-mandated regulations and the identified mitigation, would

result in the reduction of GHG emissions. The following state and SCAQMD regulations were included in the calculation of emission reductions:⁵

- **SR-T1: Assembly Bill 1493: Pavley I and Pavley II**—Assembly Bill (AB) 1493 (Pavley) required the California Air Resources Board (California ARB) to adopt regulations that will reduce GHG from automobiles and light-duty trucks by 30 percent below 2002 levels by the year 2016, effective with 2009 models.
- **SR-T2: Executive Order S-1-07 (Low Carbon Fuel Standard)**—The Low Carbon Fuel Standard (LCFS) requires a reduction of at least ten (10) percent in the carbon intensity of California’s transportation fuels by 2020.
- **SR-T3: Tire Pressure Program**—The AB 32 early action measure involves actions to ensure that vehicle tire pressure is maintained to manufacturer specifications.
- **SR-T4: Low Rolling Resistance Tires**—This created an energy efficiency standard for automobile tires to reduce rolling resistance.
- **SR-T5: Low Friction Engine Oils**—This AB 32 early action measure would increase vehicle efficiency by mandating the use of engine oils that meet certain low friction specifications.
- **SR-T6: Cool Paints and Reflective Glazing**—This AB 32 early action measure is based on measures to reduce the solar heat gain in a vehicle parked in the sun.
- **SR-T7: Goods Movement Efficiency Measure**—This AB 32 early action measure targets system wide efficiency improvements in goods movement to achieve GHG reductions from reduced diesel combustion.
- **SR-T8: Heavy-Duty Vehicle Emission Reduction**—This AB 32 early action measure would increase heavy-duty vehicle (long-haul trucks) efficiency by requiring installation of best available technology and/or California ARB approved technology to reduce aerodynamic drag and rolling resistance.
- **SR-T9: Medium and Heavy Duty Vehicle Hybridization**—The implementation approach for this AB 32 measure is to adopt a regulation and/or incentive program that reduce the GHG emissions of new trucks (parcel delivery trucks and vans, utility trucks, garbage trucks, transit buses, and other vocational work trucks) sold in California by replacing them with hybrids.
- **SR-E1&2: AB 1109 Energy Efficiency Requirements for lighting**—Assembly Bill (AB 1109) mandated that the California Energy Commission (CEC) adopt energy efficiency standards for general purpose lighting. These regulations, combined with other state efforts, shall be structured to reduce statewide electricity and natural gas consumption.:
- **SR-E3: Electrical Energy Efficiencies**—This measure captures the emission reductions associated with electricity energy efficiency activities included in California ARB’s AB 32 Scoping Plan that are not attributed to other R1 or R2 reductions as described in this report. This measure includes energy efficiency measures that California ARB views as crucial to meeting the state-wide 2020 target, and will result in additional emissions reductions beyond those already accounted for in California’s Energy Efficiency Standards for Residential and Non-Residential Buildings (Title 24, Part 6 of the California Code of Regulations; hereinafter referred to as, “Title 24 Energy Efficiency Standards”), etc.
- **SR-E4: Natural Gas Energy Efficiencies**—This measure captures the emission reductions associated with natural gas energy efficiency activities included in California ARB’s AB 32 Scoping

⁵ SR = State Requirement; T = Transportation; E = Energy; AQ = Required by SCAQMD.

Plan that are not attributed to other R1 or R2 reductions, as described in this report. This measure includes energy efficiency measures that California ARB views as crucial to meeting the state-wide 2020 target, and will result in additional emissions reductions beyond those already accounted for in California’s Energy Efficiency Standards for Residential and Non-Residential Buildings (Title 24, Part 6 of the California Code of Regulations; hereinafter referred to as, “Title 24 Energy Efficiency Standards”) etc.

- **SR-W1: California Green Building Code**—Reduction of indoor water consumption beyond business-as-usual by 20 percent is mandatory for both non-residential and residential development.
- **AQ-O1: SCAQMD Rule 445** states that no permanent wood burning devices can be installed in new development and only clean burning devices can be sold for use in existing residences.

■ Effects Found to Have No Impact

No effects have been identified that would not have an impact with respect to GHG emissions and climate change.

■ Impacts and Mitigation

Threshold	Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
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Impact 4.6-1 **Implementation of the Laguna Niguel Gateway Specific Plan would have the potential to contribute substantial emissions of greenhouse gases. With the incorporation of mitigation, impacts from the project would be *less than significant*.**

Implementation of the Specific Plan Update would generate GHGs through the construction and operation of new residential and commercial uses. Greenhouse gas emissions from the proposed project would specifically arise from sources associated with project operation, including direct sources such as motor vehicles, and natural gas consumption, and indirect sources such as solid waste handling and treatment and electricity generation. Emissions from these operational sources are estimated and presented below.

Following the SCAQMD recommendations, construction emissions would be amortized over an anticipated 30-year structure lifetime and added to the operational emissions to provide a complete average annual emissions estimate. However, because the extent of equipment use and duration of individual construction projects are unknown, emissions of greenhouse gas emissions from construction activities cannot be determined.

Table 4.6-1 (Estimated Annual CO₂e Emissions) shows the estimated unmitigated annual GHG emissions with respect to the proposed project. Detailed assumptions and emission calculations are included in Appendix C.

Table 4.6-1 Estimated Annual CO₂e Emissions	
Emission Source	MT CO₂e
Amortized Construction	—
Vehicular Use	122,516
Electricity	15,487
Natural Gas & other fuels	12,405
Solid Waste	789
Water Use	840
Total	152,038

SOURCE: URBEMIS 2007 was used to determine mobile source emissions. Atkins calculation for operational emissions and URBEMIS output is included in Appendix C.

Mitigation measures MM4.2-11 through MM4.2-17, identified in Section 4.2 also reduce greenhouse gas emissions from operational activities. In addition, mitigation measure MM4.6-1 is incorporated to ensure the further reduction of greenhouse gas emissions by development within the Specific Plan area. Detailed reduction assumptions and calculations are included in Appendix C.

MM4.6-1 Each project constructed under the Specific Plan will be required to comply with specific efficiency and reduction goals as provided for in the 2010 Green Building Code (Title 24, Part 11), and as may be amended, including the following:

- *Project Applicant shall ensure that all residential and commercial developments increase electrical energy efficiency by 15 percent beyond 2008 standards.*
- *Project Applicant shall ensure that all residential and commercial developments increase natural gas efficiency by 15 percent beyond 2008 standards.*
- *Project Applicant shall ensure that all residential and commercial development reduce indoor water consumption beyond business-as-usual by a minimum of 20 percent.*
- *Project Applicants shall ensure that all construction projects divert 50 percent of all construction debris from landfills. In addition, for projects that require demolition the project shall re-use at least 50 percent of the salvageable materials in the existing buildings on-site. This can take the form of re-use of entire structures, re-use or repurposing of significant elements, such as beams or trusses, and recycling materials within the new project such as grinding paving and asphalt for use as base material at the project site.*

The emission of GHGs is considered a potentially significant impact. However, implementation of mitigation measures MM4.2-11 through MM4.2-17 and MM4.6-1 would reduce this impact to a **less-than-significant** level. Table 4.6-2 (Estimated Reduced Annual CO₂e Emissions) shows the annual emissions with the incorporation of the above measures. GHG emissions from the operations of the proposed Specific Plan would be reduced by 34.76 percent from business as usual levels and would meet the AB 32 reduction threshold.

Table 4.6-2 Estimated Reduced Annual CO₂e Emissions			
Emission Sources	Unmitigated MT CO₂e	Mitigated MT CO₂e	% Reduction
Amortized Construction	—	—	0.00%
Vehicular Use	122,516	75,764	38.16%
Electricity	15,487	11,501	25.73%
Natural Gas & other fuels	12,405	10,458	15.69%
Solid Waste	789	789	0.00%
Water Use	840	672	20.00%
Total	152,038	99,184	34.76%

SOURCE: URBEMIS 2007 was used to determine mobile source emissions. ATKINS calculation for operational emissions and URBEMIS output is included in Appendix C.

Threshold	Would the proposed project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
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Impact 4.6-2 Project emission of greenhouse gases would have the potential to conflict with the implementation of AB 32 and SB 375. With the incorporation of mitigation, impacts from the project will be *less than significant*.

As indicated in Impact 4.6-1, the proposed Specific Plan would result in a reduction of 34.76 from BAU levels. Implementation of the proposed Specific Plan Policies as identified in Chapter 3 of the Specific Plan, include incentives to use alternative transportation modes such as ridesharing, carpools, vanpools, public transit, bicycles, and walking. These policies, as well as incorporation of the identified mitigation measures (MM4.2-11 through MM4.2-17, and MM4.6-1), the proposed project would result in a less-than-significant impact on operational greenhouse gas emissions and would comply with the goals and policies established by AB 32.

In accordance with SB 375, MPOs, such as the SCAG, which includes Orange County, will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. The SCAG has developed the Compass Blueprint planning program to provide technical assistance to interested local governments for planning consistent with Compass principals. The Compass Blueprint represents a plan that will address the challenges facing land use and transportation and also provide for a sustainable community. Compass Blueprint projects are used to demonstrate the local benefits of planning that is consistent with regional goals and can create models which can be replicated throughout the region (SCAG 2011).

The Laguna Niguel Gateway Specific Plan is a Compass Blueprint project that accounts for a unique transit-oriented development of a suburban commuter-rail station (SCAG 2011). The project encourages dense mixed-use development surrounding transit hubs; enhances local neighborhood identity; and respects the community vision for the neighborhood. As a Compass Blueprint project the Laguna Niguel Gateway Specific Plan demonstrates its compliance with SB 375.

The Specific Plan's inclusion in the Compass Blueprint program as well as the reductions detailed in Impact 4.6-1 will ensure that impacts are consistent with the implementation of AB 32 and SB 375 and therefore is *less-than-significant*.

4.6.4 References

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section of the PEIR analyzes the potential environmental effects to human health and the environment due to exposure to hazardous materials or hazardous conditions arising from the accidental release of hazardous material from implementation of the Laguna Niguel Gateway Specific Plan Amendment (Specific Plan). A hazardous material is defined as any material that, due to its quantity, concentration, physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a business or local implementing agency has a reasonable basis for believing would be injurious to the health and safety of persons, or harmful to the environment if released. Earthquake and landslide hazards are addressed in Section 4.5 (Geology/Soils). Potential water quality effects from runoff that could contain hazardous or polluted materials during construction or operational activities are discussed in Section 4.8 (Hydrology/Water Quality). Impacts related to toxic air contaminants that could be emitted during construction and operation of the project are discussed in Section 4.3 (Air Quality).

One comment letter from the Department of Toxic Substances Control (DTSC) dated October 28, 2010, regarding hazards and hazardous materials was received in response to the September 25, 2010, Notice of Preparation circulated for the Specific Plan. Data for this section were taken from the City of Laguna Niguel General Plan (General Plan), the Laguna Niguel Gateway Specific Plan (Specific Plan), and other relevant documents related to hazards and hazardous materials. Full bibliographic entries for all reference materials are provided in Section 4.7.5 (References) of this section.

4.7.1 Environmental Setting

■ Definitions

Chapter 6.5 of the California Health and Safety Code sets forth definitions and regulations related to hazardous materials management and disposal. This PEIR uses the definition given in this chapter, which defines a hazardous material as:

Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or environment. “Hazardous Materials” include but are not limited to, hazardous substances, hazardous waste, and any material which the handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.

A “hazardous waste” for the purpose of this analysis, is any hazardous material that is abandoned, discarded, or recycled, as defined by Section 25124 of the California Health and Safety Code. The criteria that characterize a material as hazardous include ignitability, toxicity, corrosivity, reactivity, radioactivity, or bioactivity. Hazardous materials include, but are not necessarily limited to, solvents, mercury, lead, asbestos, fuels, oils, paints, cleansers, and pesticides that are used in activities such as construction activities or building or grounds maintenance.

Hazard versus Risk

Workers and general public health are potentially at risk whenever hazardous materials have been used or where there could be an exposure to such materials. Inherent in the setting and analyses presented in this section are the concepts of the “hazard” of these materials and the “risk” they pose to human health. Exposure to some chemical substances may harm internal organs or systems in the human body, ranging from temporary effects to permanent disability, or death. Hazardous materials that result in adverse effects are generally considered “toxic.” Other chemical materials, however, may be corrosive, or react with other substances to form other hazardous materials, but they are not considered toxic because organs or systems are not affected. Because toxic materials can result in adverse health effects, they are considered hazardous materials, but not all hazardous materials are necessarily “toxic.” For purposes of the information and analyses presented in this section, the terms hazardous substances or hazardous materials are used interchangeably and include materials that are considered toxic.

The risk to human health is determined by the probability of exposure to a hazardous material and the severity of harm such exposure would pose. That is to say, the likelihood and means of exposure, in addition to the inherent toxicity of a material, are used to determine the degree of risk to human health. For example, a high probability of exposure to a low toxicity chemical would not necessarily pose an unacceptable human health or ecological risk, whereas a low probability of exposure to a very high toxicity chemical might. Various regulatory agencies, such as the U.S. Environmental Protection Agency (USEPA), State Water Resources Control Board (SWRCB), the California DTSC, and state and federal Occupational Safety and Health Administrations (OSHA) are responsible for developing and/or enforcing risk-based standards to protect the public and the environment.

■ On-Site and Adjacent Uses

The 315-acre Specific Plan area is located in the northeastern corner of the City of Laguna Niguel with direct access available from the San Diego Freeway (Interstate 5 [I-5]) via Crown Valley Parkway and Avery Parkway. The 315-acre Specific Plan area is currently developed with variety of commercial services, light industrial, auto sales and services, retail and office uses. There are no residential uses located within the Specific Plan area. Approximately 63 acres (20 percent) of the project site remains undeveloped. Adjacent surrounding uses are as follows:

- **East**—I-5, some corporate office uses, Shops at Mission Viejo (an indoor mall), Saddleback College, Mission Viejo Mall, the Kaleidoscope Courtyards shopping complex, Mission Hospital Regional Medical Center, and several medical and other office buildings
- **North**—Mission Viejo Freeway Center, a big-box retail center
- **West**—Center at Rancho Niguel, a shopping center and residential homes
- **South**—Primarily undeveloped, aside from an extensive church/school/camp complex with several buildings, gardens, playing fields, and parking areas

■ Use, Transport, and Abatement of Hazardous Materials

Hazardous Materials Use

Hazardous materials in the Specific Plan area are routinely used, stored, and transported in the existing commercial services, light industrial, auto sales and services, retail and office uses. Current facilities within the Specific Plan area include hazardous materials users and waste generators. Federal, state, and local agency databases maintain comprehensive information on the locations of facilities using large quantities of hazardous materials, as well as facilities generating hazardous waste. Some of these facilities use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans to protect surrounding land uses.

Asbestos

Asbestos, a naturally occurring fibrous material, was used in many building materials for fireproofing and insulating properties before many of its most common construction-related uses were banned by the USEPA between the early 1970s and 1991 under the authority of the Clean Air Act (CAA) and the Toxic Substances Control Act (TSCA). Loose insulation, ceiling panels, and brittle plaster are potential sources of friable (easily crumbled) asbestos. Since inhalation of airborne asbestos fibers is the primary mode of asbestos entry into the body, friable asbestos presents the greatest health threat. Nonfriable asbestos is generally bound to other materials such that it does not become airborne under normal conditions. Any activity that involves cutting, grinding, or drilling during demolition (especially demolition of older (pre-1980 structures), or relocation of underground utilities, could result in the release of friable asbestos fibers unless proper precautions are taken. Asbestos-related health problems include lung cancer and asbestosis. Therefore, demolition of the existing structures could result in the release of friable asbestos within the Specific Plan area.

Lead

Lead is a naturally occurring metallic element. Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils around buildings and structures painted with lead-based paint. In 1978, the federal government required the reduction of lead in house paint to less than 0.06 percent (600 parts per million). Because of its toxic properties, lead is regulated as a hazardous material. Excessive exposure to lead can result in the accumulation of lead in the blood, soft tissues, and bones. Children are particularly susceptible to potential lead-related health problems because it is easily absorbed into developing systems and organs. Inspection, testing, and removal (abatement) of lead-containing building materials must be performed by state-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations. Buildings that have been constructed prior to 1978 and that contain lead-based paints could require abatement prior to construction activities for the proposed project. It is likely that structures constructed prior to 1978 used lead-based paint and abatement would be required.

Transportation of Hazardous Materials

The transport of hazardous materials through the City of Laguna Niguel is regulated by the California Department of Transportation (Caltrans) and California Highway Patrol (CHP). The San Joaquin Hills

Transportation Corridor (SR-73) and the I-5 are located on the eastern border of the Specific Plan boundaries. In addition, Burlington North and Santa Fe Railway Company (BNSF) freight trains pass through the Specific Plan area on a daily basis. There is a heightened risk of a hazardous material leak or spill in the Specific Plan area due to the volume of traffic and the nature of the materials that are routinely transported through the I-5, SR-73, and the BNSF freight trains.

■ Existing Hazardous Materials Sites

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) was developed to protect the water, air, and land resources from the risks created by past chemical disposal practices. This act is also referred to as the Superfund Act, and the sites listed under it are referred to as Superfund sites. Under CERCLA, the USEPA maintains a list, known as CERCLIS, of all contaminated sites in the nation that have in the past or are currently undergoing clean-up activities. CERCLIS contains information on current hazardous waste sites, potential hazardous waste sites, and remedial activities. CERCLIS includes sites which are on the National Priorities List (NPL) or are being considered for the NPL. No sites within the City or the Specific Plan area are currently listed in the CERCLIS database or the NPL (USEPA 2010).

Toxic Release Inventory

The Toxics Release Inventory (TRI) is an USEPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain industry groups as well as Federal facilities. TRI sites are known to release toxic chemicals into the air. The USEPA closely monitors the emissions from these facilities to ensure that their annual limits are not exceeded. TRI reports provide accurate information about potentially hazardous chemicals and their uses to the public in an attempt to give communities more power to hold companies accountable for their actions and to make informed decisions about how such chemicals should be managed. According to the USEPA records, there are no facilities in the Specific Plan area that are listed on the TRI for year 2008 (the most recently available data) (USEPA n.d.).

Hazardous Waste Generators

Many types of businesses can be producers of hazardous waste. Small businesses such as light industrial, auto sales and services are usually generators of small quantities of hazardous waste. Generally, small-quantity generators are facilities that produce between 100 and 1,000 kilograms (kg) of hazardous waste per month (approximately equivalent to between 220 and 2,200 pounds, or between 27 and 275 gallons).

Larger businesses such as chemical manufacturers, large electroplating facilities, and petroleum refineries, can generate large quantities of hazardous waste. The USEPA defines a large-quantity generator as a facility that produces over 1,000 kg (2,200 pounds or about 275 gallons) of hazardous waste per month. As discussed later in Section 4.7.2 (Regulatory Framework), large quantity generators are fully regulated under the Resources Conservation and Recovery Act (RCRA). According to the most recent USEPA and

City data available (2007), there are no large quantity generators or small quantity generators in the City or the Specific Plan area (USEPA 2008).

Leaking Underground Storage Tanks

Leaking underground storage tanks (LUSTs) are one of the greatest environmental concerns of the past several decades. According to data from the SWRCB, fourteen underground storage tank leaks have been reported in the Specific Plan area. Of these reports, thirteen sites have either been cleaned up or deemed to be of no environmental consequence. One case is still open and in remediation. The fourteen sites are shown in Table 4.7-1 (LUSTs Reported in the Specific Plan Area).

Site Name	Address	Status
Rancho Capistrano Community Church	29251 Camino Capistrano	Case Closed
Exxon	28692 Camino Capistrano	Case Closed
Shell Oil	28662 Camino Capistrano	Open—Remediation
Sepulveda Building Materials	28092 Forbes	Case Closed
GKN Rentals	28032 Forbes	Case Closed
Clark Foam Products	25887 Crown Valley	Case Closed
Crown Valley Car Wash	25991 Crown Valley	Case Closed
Mission Viejo Glass	27862 Camino Capistrano	Case Closed
Boukather & Assoc (Star Motors)	27762 Camino Capistrano	Case Closed
Penny Saver	27742 Forbes	Case Closed
Fluorocarbons	27931 Cabot	Case Closed
Action Moving	27637 Forbes	Case Closed
Pacific Bell	27422 Camino Capistrano	Case Closed
SBC	27472 Camino Capistrano	Case Closed

SOURCE: California State Water Resources Control Board, *Geotracker -Leaking Underground Tank (LUST) Cleanup Sites*. <https://geotracker.swrcb.ca.gov/> (accessed October 21, 2010).

Household Hazardous Waste

The USEPA defines household hazardous waste as “leftover products such as paints, cleaners, oils, batteries, and pesticides that contain potentially hazardous ingredients that could be corrosive, toxic, ignitable, or reactive.” According to the USEPA, Americans generate approximately 1.6 million tons of household hazardous waste per year, while the average home can accumulate as much as 100 pounds of household hazardous waste in the basement and garage or in storage closets. Methods of improper disposal of household hazardous wastes commonly include pouring them down the drain, on the ground, into storm sewers, or in some cases putting them out with the trash. Though the dangers of such disposal methods might not be immediately obvious, improper disposal of these wastes can pollute the environment and pose a threat to human health.

■ Fire Hazards

The Specific Plan area is susceptible to both urban and wildland fire hazards. Urban fires can result from a number of causes, including arson, carelessness, home or industrial accidents, or from ignorance of proper safety procedures. Both urban land uses with inappropriate building materials and the native vegetation that surround the Specific Plan are potential fire hazards. Wildland fires are also a major concern due to the topography, vegetation and development matters in Laguna Niguel. The City of Laguna Niguel has a number of measures to alleviate urban and wildland hazards. The Uniform Building Code regulates developments and requires certain built in fire protection devices when maximum allowable uses or heights are exceeded, or the building use presents a life or property protection problem. In addition, Orange County Fire Authority (OCFA) has guidelines to lessen the impacts of a fire hazards such as brush clearance and inspection programs.

■ Emergency Response

Any potential hazard in the Specific Plan area resulting from a manmade or natural disaster may result in the need for evacuation. Homeland Security has brought disaster awareness to the forefront of the minds of the community, safety officials, and City staff. The release of a hazardous material to the environment can result in adverse impacts to the environment, property, and/or human health. The significance of those impacts is dependent on the type, location, and quantity of the material released. Although hazardous material incidents can happen almost anywhere, uses such as industrial centers, where hazardous materials are used or stored, may be susceptible to a higher risk. The City's Public Safety Plan implements the goals and policies of the Seismic/Public Safety Element by establishing the framework for agency coordination in the event of a disaster. The plan is intended to supplement the City's Emergency Operation Plan (EOP). The EOP provides direction for City response to emergency situation stemming from natural disasters, technological incidents, and nuclear defense operations. The plan focuses on agency coordination and response procedures for large-scale disasters (City of Laguna Niguel 1992).

4.7.2 Regulatory Framework

■ Federal

Several federal agencies regulate hazardous materials. These include the USEPA, Department of Labor (federal OSHA), and the U.S. Department of Transportation (USDOT). Applicable federal regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). In particular, Title 49 of the CFR governs the manufacture of packaging and transport containers, packing and repacking, labeling, and the marking of hazardous material transport. Some of the major federal laws and issue areas include the following statutes (and regulations promulgated there under):

- Resources Conservation and Recovery Act (RCRA)—hazardous waste management
- Hazardous and Solid Waste Amendments Act (HSWA)—hazardous waste management
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)—cleanup of contamination
- Superfund Amendments and Reauthorization Act (SARA)—cleanup of contamination

- Emergency Planning and Community Right-to-Know (SARA Title III)—business inventories and emergency response planning
- Clean Air Act (CAA)—Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) rules
- Toxic Substances Control Act (TSCA)—Asbestos ban and phase-out rules
- Federal Regulation 49 CFR Title 14 Part 77—Establishes standards and notification requirements for objects affecting navigable airspace.

The USEPA is the primary federal agency responsible for implementation and enforcement of hazardous materials regulations. In most cases, enforcement of environmental laws and regulations established at the federal level is delegated to state and local environmental regulatory agencies. The US Consumer Product Safety Commission (CPSC) has also developed bans on the use of asbestos in certain consumer products such as textured paint and wall patching compounds.

■ State

Primary state agencies with jurisdiction over hazardous chemical materials management include DTSC and the Regional Water Quality Control Board (RWQCB). Other state agencies involved in hazardous materials management are the Department of Industrial Relations (state OSHA implementation), state Office of Emergency Services (OES—California Accidental Release Prevention implementation), California Department of Fish and Game (CDFG), Air Resources Board (ARB), Caltrans, state Office of Environmental Health Hazard Assessment (OEHHA—Proposition 65 implementation), and the California Integrated Waste Management Board (CIWMB). The enforcement agencies for hazardous materials transportation regulations are CHP and Caltrans. Hazardous materials waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations.

Hazardous chemical and biohazardous materials management laws in California include the following statutes (and regulations promulgated thereunder):

- Hazardous Materials Management Act—business plan reporting
- Hazardous Waste Control Act—hazardous waste management
- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)—release of and exposure to carcinogenic chemicals
- Hazardous Substances Act—cleanup of contamination
- Hazardous Waste Management Planning and Facility Siting (Tanner Act)—preparation of hazardous waste management plans and the siting of hazardous waste facilities
- Hazardous Materials Storage and Emergency Response—including response to hazardous materials incidents

State regulations and agencies pertaining to hazardous materials management and worker safety are described below.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) has broad jurisdiction over hazardous materials management in the state. Within Cal/EPA, DTSC has primary regulatory responsibility for

hazardous waste management and cleanup. Enforcement of state regulations has been delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. Along with the DTSC, the RWQCB, which operates under the jurisdiction of Cal/EPA, is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. RWQCB regulations are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Department of Toxic Substances Control

The DTSC regulates hazardous waste in California under the authority granted to it by the federal RCRA of 1976, and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. In addition, DTSC reviews and monitors relevant pending legislation to ensure that it reflects the goals of the DTSC. Once legislation is adopted, the DTSC's major program areas develop implementing regulations and consistent program policies and procedures. The implementing regulations spell out what hazardous waste handlers must do to comply with the law. Under the provisions of RCRA, DTSC has the authority to implement permitting, inspection, compliance, and corrective action programs to ensure that people who manage hazardous waste follow state and federal requirements.

California's Hazardous Waste Control Law (HWCL) was adopted in 1972 and provides the general framework for the regulation of hazardous wastes within the state. The DTSC is the state's lead agency charged with the responsibility for implementing the HWCL. The HWCL provides for state regulation of existing hazardous waste facilities, which include "any structure, other appurtenances, and improvements on the land, used for treatment, transfer, storage, resource recovery, disposal, or recycling of hazardous wastes," and requires permit for, and inspection of, facilities involved in the generation and/or treatment, storage and disposal of hazardous wastes.

Tanner Act

Although there are numerous state policies that deal with hazardous waste materials, the most comprehensive is the Tanner Act (AB 2948) adopted in 1986. The Tanner Act governs the preparation of hazardous waste management plans and the siting of hazardous waste facilities within the state of California. The act also mandates the adoption of a Hazardous Waste Management Plan by every county in the state, which must include provisions to define (1) the planning process for waste management, (2) the permit process for new and expanded facilities, and (3) the appeal process to the state available for certain local decision.

Hazardous Materials Management Plans

In January 1996, Cal/EPA adopted regulations implementing a "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program). The six program elements of the Unified Program are hazardous waste generators and hazardous waste on-site treatment, underground storage tanks, above-ground storage tanks, hazardous material release response plans and inventories, risk management and prevention program, and Uniform Fire Code hazardous materials

management plans and inventories. The program is implemented at the local level by a local agency—the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating the administration of the six program elements within its jurisdiction. The CUPA that has jurisdiction in the City of Agoura Hills is the Los Angeles County CUPA.

State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. California’s Hazardous Materials Release Response Plans and Inventory Law, sometimes called the “Business Plan Act,” aims to minimize the potential for accidents involving hazardous materials and to facilitate an appropriate response to possible hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored on site, to prepare an emergency response plan, and to train employees to use the materials safely.

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP) (CCR Title 19, Division 2, Chapter 4.5) covers certain businesses that store or handle more than a certain volume of specific regulated substances at their facilities. The CalARP program regulations became effective on January 1, 1997, and include the provisions of the federal Accidental Release Prevention program (Title 40, CFR Part 68) with certain additions specific to the state pursuant to Division 20, Chapter 6.95 of the California Health and Safety Code.

The list of regulated substances is found in Article 8, Section 2770.5 of the CalARP program regulations. The businesses which store or handle a regulated substance in quantities exceeding the regulatory threshold are required to implement an accidental release prevention program. In addition, some businesses may be required to complete a Risk Management Plan (RMP).

An RMP is a detailed engineering analysis of the potential accident factors present at a business site and the mitigation measures that can be implemented to reduce this accident potential. The purpose of a RMP is to decrease the risk of an off-site release of a regulated substance, which might harm the surrounding environment and community. An RMP includes the following components: safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigation. The RMP must consider the proximity of the site to sensitive populations located in schools, residential areas, general acute care hospitals, long-term health care facilities, and child day-care facilities, and must also consider the potential impact of external events such as seismic activity.

Worker and Workplace Hazardous Materials Safety

Federal and state Occupational Safety Standards are intended to enhance worker safety by reducing both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal/OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA obligates many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with

the materials they handle. Cal/OSHA rules require provision of Material Safety Data Sheets which must be available in the workplace, and the training of employee in the proper handling of materials.

Hazardous Materials Transportation

Federal Railroad Administration (FRA), CHP, and Caltrans enforce hazardous materials transportation regulations. Transporters of hazardous materials and waste are responsible for complying with all applicable packaging, labeling, and shipping regulations. The Office of Emergency Services (OES) also provides emergency response services involving hazardous materials incidents.

Investigation and Cleanup of Contaminated Sites

The oversight of hazardous materials release sites often involves several different agencies with often overlapping authority and jurisdiction. The DTSC and RWQCB are the two primary state agencies responsible for the regulation, investigation and cleanup of hazardous materials release sites. Air quality issues related to remediation and construction at contaminated sites are also subject to federal and state laws and regulations which are administered at the local level.

Investigation and remediation activities which have the potential for disturbing or releasing hazardous materials must comply with applicable federal, state, and local hazardous materials laws and regulations. DTSC has developed standards for the investigation of sites where hazardous materials contamination has either been identified or could exist based on current or past uses. The standards identify approaches to determine if a release of hazardous wastes/substances exists at a site and delineates the general extent of contamination; estimates the potential threat to public health and/or the environment from the release and provides an indicator of relative risk; determines if an expedited response action is required to reduce an existing or potential threat; and completes preliminary project scoping activities to determine data gaps and identifies possible remedial action strategies to form the basis for development of a site strategy.

Siting of Schools

The California Education Code (Sections 17210 et seq.) outlines the requirements of siting school facilities near or on known or suspected hazardous materials sites, or near facilities that emit hazardous air emissions, handle hazardous or acutely hazardous materials, substances, or waste. The code requires that, prior to commencing the acquisition of property for a new school site, an environmental site investigation be completed to determine the health and safety risks (if any) associated with a site. Recent legislation and changes to the Education Code identify DTSC's role in the assessment, investigation, and cleanup of proposed school sites. All proposed school sites that will receive state funding for acquisition and/or construction must go through a comprehensive investigation and cleanup process under DTSC oversight. DTSC is required to be involved in the environmental review process to ensure that selected properties are free of contamination, or if the property is contaminated, that it is cleaned up to a level that is protective of students and faculty who will occupy the new school. All proposed school sites must be suitable for residential land use, which is DTSC's most protective standard for children.

■ Regional

Orange County Certified Unified Program Agency

The Environmental Health Division was designated by the State Secretary for Environmental Protection on January 1, 1997, as the “CUPA” for the County of Orange. CUPA is the local administrative agency that coordinates six programs (Hazardous Waste, Underground Storage Tanks (UST), Aboveground Storage Tanks (AST), Hazardous Materials Disclosure (HMD), Business Plan and California Accidental Release Program (CalARP)) regulating hazardous materials and hazardous wastes in Orange County. County and City Fire Agencies within Orange County have joined the CUPA as Participating Agencies, administering one or more of the six CUPA programs in their jurisdictions. In most cities, Environmental Health administers the Hazardous Waste, Underground Storage Tank, and Aboveground Storage Tank programs while the Fire Agencies administer the other three elements listed above. Fire services for the City of Laguna Niguel are provided by the OCFA, in which the CUPA program is also provided by the OCFA.

■ Local

General Plan Seismic/Public Safety Element

The City of Laguna Niguel General Plan Seismic/Public Safety Element identifies various policies and programs for addressing and mitigating risks from hazardous materials and hazardous wastes. The development proposed under the Specific Plan would generate hazardous waste used by commercial services, light industrial, auto sales and services, retail, and office uses. Accordingly, the following goals and policies could apply to the proposed project:

- | | |
|-------------------|---|
| Goal 2 | Protection of the public and sensitive environmental resources from exposure to hazardous materials and waste. |
| Policy 2.1 | Reduce risks of exposure to hazardous materials and waste through careful land use and hazardous materials management planning. |
| Policy 2.2 | Reduce risks of exposure by improving the safety of hazardous materials/ waste transportation |
| Policy 2.3 | Encourage sound management practices for the handling and disposal of household hazardous waste. |
| Goal 3 | A safe and secure community free from the threat of personal injury and loss of property |
| Policy 3.1 | Provide fire protection to ensure the public’s health and safety. |
| Policy 3.2 | Reduce the risk of wildland fire through fuel modification programs. |
| Policy 3.3 | Maintain the integrity of environmentally significant areas that are subject to weed abatement activities. |

Consistency Analysis

Implementation of the proposed Specific Plan would permit commercial services, light industrial, auto sales and services, retail, and office uses. Development of such uses would not result in the use, storage, or transport of large quantities of hazardous materials. Any commonly used hazardous materials would be used and stored in accordance with applicable regulations. Demolition of existing structures is unlikely to result in a release of hazardous materials provided that all applicable regulations regarding removal of asbestos-containing materials and lead-based paint are followed. Implementation of the proposed project is not expected to include the use of hazardous materials or generate substantial quantities of hazardous waste, and would not create an unsafe or hazardous condition for adjacent uses. Hazardous materials associated with the proposed project would consist mostly of typical household-type cleaning products and maintenance products (e.g., paints, solvents, cleaning products) but could also include oils, lubricants and refrigerants associated with building mechanical and HVAC systems. However, future development under the proposed project would be required to comply with federal and state laws to eliminate or reduce the consequence of hazardous materials accidents. The proposed project would not conflict with the applicable goals and policies of the City of Laguna Niguel General Plan Seismic/Public Safety Element.

City of Laguna Niguel Municipal Code

The City of Laguna Niguel Municipal Code, Title 11 (Public Morals, Safety and Welfare), Division 15 (Emergency Preparedness) provides plans to protect people and property within this city in the event of an emergency. This portion of the municipal code provides the direction for the emergency organization; and the coordination of the emergency functions of the city with all other public agencies, corporations, organizations, and affected private persons.

4.7.3 Project Impacts and Mitigation

■ Analytic Method

Analysis in this section focuses on the use, disposal, transport, or management of hazardous or potentially hazardous materials resulting from development envisioned under the Specific Plan. Disposal options, the probability for risk of upset, and the severity of consequences to people or property associated with the increased use, handling, transport, and/or disposal of hazardous materials associated with implementation of the Specific Plan are also analyzed. This section also addresses short-term construction impacts resulting from demolition of existing (usually older) structures, as well as from disturbance of contaminated soils. Operational impacts would generally be associated with the type of uses proposed and the materials that operation of these uses would entail.

In determining the level of significance, the analysis assumes that any development under the Specific Plan would comply with relevant federal and state laws and regulations, as well as the Laguna Niguel Municipal Code.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For the purposes of this PEIR, implementation of the Specific Plan would have a significant impact if it would do any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
- If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area
- If within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

■ Effects Found to Have No Impact

Threshold	Would the proposed project, if located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area?
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The Specific Plan area is not located within airport land use plan or within two miles of a public use airport. Implementation of the Specific Plan would have *no impact*, and further analysis is not required in the PEIR.

Threshold	Would the proposed project, if within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?
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There are no existing private airstrips within the Specific Plan area. As a result, no safety hazard associated with location near a private airstrip would result from the Specific Plan. Consequently, implementation of the Specific Plan would have *no impact*, and no further analysis of this issue is required in this PEIR.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
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Impact 4.7-1 **Implementation of the Specific Plan could involve the routine use, transport, and disposal of hazardous materials, but no significant hazard to the public or the environment would occur. Compliance with local, state, and federal regulations would ensure that this impact would remain *less than significant*.**

Implementation of the proposed project would result in an increase in development that could result in a total of 2,994 dwelling units and up to 2,259,961 sf of nonresidential uses including retail, office space, hotel, and open space. Existing uses that would remain in the Specific Plan area also includes light manufacturing and auto sale land uses. Exposure of the public or the environment to hazardous materials could occur in the following manner: improper handling or use of hazardous materials or hazardous wastes particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; or fire, explosion or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

The types and amounts of hazardous materials that would be used within the Specific Plan area would vary according to the nature of the activity at individual development sites. In some cases, it is the type of hazardous material that is potentially hazardous; in others, it is the amount of hazardous material that could present a hazard. Whether a person exposed to a hazardous substance suffers adverse health effects as a result of that exposure depends upon a complex interaction of factors that determine the effects of exposure to hazardous materials: the exposure pathway (the route by which a hazardous material enters the body); the amount of material to which the person is exposed; the physical form of the hazardous material (e.g., liquid, vapor) and its characteristics (e.g., toxicity); the frequency and duration of exposure; and the individual's unique biological characteristics, such as age, gender, weight, and general health. Adverse health effects from exposure to hazardous materials may be short-term (acute) or long-term (chronic). Acute effects can include damage to organs or systems in the body and possibly death. Chronic effects, which may result from long-term exposure to a hazardous material, can also include organ or systemic damage, but chronic effects of particular concern include birth defects, genetic damage, and cancer.

Hazardous materials regulations were established at the state level to ensure compliance with federal regulations intended to reduce the risk to human health and the environment from the routine use of hazardous substances.

Hazardous Materials Use and Storage

Hazardous materials associated with the occupancy of future uses within the Specific Plan area would consist mostly of typical household cleaning products and light industrial related chemicals. The types of hazardous materials that could be present during operation of the retail, office, light industrial and

residential uses of the proposed project could also include other maintenance products (e.g., paints and solvents); oils, lubricants and refrigerants associated with building mechanical and HVAC systems; and grounds and landscape maintenance products formulated with hazardous substances, including fuels, cleaners and degreasers, solvents, paints, lubricants, adhesives, sealers, and pesticides/herbicides, and industrial related chemicals.

To ensure that workers and others at individual development sites within the Specific Plan area are not exposed to unacceptable levels of risk associated with the use and handling of hazardous materials, employers and businesses are required to implement existing hazardous materials regulations, with compliance monitored by state (e.g., OSHA in the workplace or DTSC for hazardous waste) and local jurisdictions (e.g., OCFA). Compliance with existing safety standards related to the handling, use, and storage of hazardous materials, and compliance with the safety procedures mandated by applicable federal, state, and local laws and regulations (RCRA, California Hazardous Waste Control Law, and principles prescribed by the California Department of Health Services, Centers for Disease Control and Prevention, and National Institutes of Health) would be required for those business.

Should the use and/or storage of hazardous materials at individual development sites rise to a level subject to regulation, those uses would be required to comply with federal and state laws to eliminate or reduce the consequence of hazardous materials accidents resulting from routine use, disposal and storage of hazardous materials on the project site during both the construction and operation phases of a project. Therefore, compliance with applicable regulations would reduce the risk of project-induced upset from hazardous materials to a *less-than-significant* level for future uses that could be developed under the Specific Plan.

Transportation of Hazardous Materials

The USDOT Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials, as described in CFR Titles 40, 42, 45, and 49 and implemented by CCR Titles 17, 19, and 27.

The transportation of hazardous materials can result in accidental spills, leaks, toxic releases, fire, or explosion. The types of hazardous materials that could be present during operation of the commercial, office, industrial and residential uses under the proposed project are expected to include household cleaning and maintenance products, pesticides and herbicides, paints, solvents and degreasers and industrial use related chemicals. Upon full build-out of the Specific Plan area, there would be a decrease of 479,045 sf compared to existing of 878,740 sf light manufacturing/business park from the existing light manufacturing land uses. Therefore, when compared to the current uses and levels of generation, it is unlikely that future light manufacturing uses developed under the Specific Plan would substantially increase the amount of hazardous materials and/or waste brought to, or generated by, the site. In addition, I-5, SR-73, and the BNSF freight rail line are major transportation corridor used for the transport of hazardous material generated from various areas in and outside of the City of Laguna Niguel. It is not expected that adoption of the Specific Plan would have any effect on the current use of I-5, SR-73 and the BNSF freight rail line for this purpose.

During construction of future development projects, hazardous materials in the form of paints, solvents, glues, roofing materials and other common construction materials containing toxic substances may be

transported to individual sites, and construction waste that possibly contains hazardous materials could be transported off the site for purposes of disposal. Appropriate documentation for all hazardous waste that is transported off site in connection with activities at individual sites would be provided as required to ensure compliance with the existing hazardous materials regulations described above. Adherence to these regulations, which requires compliance with all applicable federal and state laws related to the transportation of hazardous materials, would reduce the likelihood and severity of accidents which might occur during transit, reducing potential impacts to a level that is *less than significant*.

Disposal of Hazardous Waste

Operation of future development under the proposed project, including residential, retail, office space, hotel, and open space uses, would not require the handling of hazardous or other materials that would result in the production of large amounts of hazardous waste. During the construction of new development, future projects within the Specific Plan area may generate hazardous and/or toxic waste depending on the age of structures to be demolished or renovated, or other potential soil or groundwater contamination based on previous uses. Federal, state, and local regulations govern the disposal of wastes identified as hazardous which could be produced in the course of demolition and construction. Asbestos, lead, or other hazardous materials encountered during demolition or construction activities would be disposed of in compliance with all applicable regulations for the handling of such waste, reducing the potential impacts of disposal of site-generated hazardous wastes to a level that is *less than significant*.

Summary

Future development within the Specific Plan area would be required to comply with applicable laws and regulations that would reduce the risk of hazardous materials use, transportation, and disposal through the implementation of established safety practices, procedures, and reporting requirements. This impact is considered *less than significant*.

Threshold	Would the proposed project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
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Impact 4.7-2 **Implementation of the Specific Plan could create a potential significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. However, with compliance with existing regulations and implementation of mitigation measures MM4.7-1 and MM4.7-2, this impact is considered *less than significant*.**

Construction

Future development within the Specific Plan could result in 2,994 dwelling units where none exist today; a total of 2,259,961 sf of nonresidential where a total of 1,378,000 sf exist today, and; a total of 350 hotel rooms where 33 exist today. Existing structures may need to be demolished prior to the construction of new buildings. Demolition of existing structures could result in exposure of construction personnel and the public to hazardous substances such as asbestos or lead-based paints, depending on the age of the structure. In addition, the disturbance of soils could result in the exposure of construction workers or

nearby employees to health or safety risks if previously unidentified contaminated soils are encountered during construction activities. Exposure to contaminated structures or soil could occur from asbestos or lead in older buildings, unknown contaminants that have not been previously identified, or existing contamination present at locations identified in the site records search.

Exposure to hazardous materials during construction activities could occur as a result of any of the following:

- Direct dermal contact with hazardous materials
- Incidental ingestion of hazardous materials (usually due to improper hygiene, when workers fail to wash their hands before eating, drinking, or smoking)
- Inhalation of airborne dust released from dried hazardous materials

Demolition Activities

An overall development schedule of specific future projects is not associated with approval of the proposed Specific Plan. However, implementation of the proposed project assumes that older buildings could be demolished as development occurs according to the new land uses and densities that are permitted in the Specific Plan. Construction workers as well as employees of existing or future business and/or future residents could potentially be exposed to airborne lead-based paint, dust, asbestos fibers, mold, and/or other building contaminants during demolition activities associated with future development. In addition, there is the possibility that future development may also uncover previously unidentified soil contamination. This could result in a potentially significant impact.

Lead and Asbestos

Federal and state regulations govern the renovation and demolition of structures where materials containing lead and asbestos are present. These requirements include SCAQMD Rules and Regulations pertaining to asbestos abatement (including Rule 1403); Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from CCR Title 8; CFR Title 40, Part 61, Subpart M (pertaining to asbestos); and lead exposure guidelines provided by the U.S. Department of Housing and Urban Development (HUD). Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services. In addition, Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards. Adherence to existing regulations would require appropriate testing and abatement actions for hazardous materials.

Soil and Groundwater Contamination

Unknown Contaminated Sites

Aside from the potential release of hazardous materials from demolition of existing structures within the Specific Plan area, grading and excavation of sites for future development resulting from implementation

of the proposed project may also expose construction workers and the public to potentially unknown hazardous substances present in the soil or groundwater. If any unidentified sources of contamination are encountered during grading or excavation, the removal activities required could pose health and safety risks such as the exposure of workers, materials handling personnel, and the public to hazardous materials or vapors. Such contamination could cause various short-term or long-term adverse health effects in persons exposed to the hazardous substances. In addition, exposure to contaminants could occur if the contaminants migrated from the contaminated zone to surrounding areas either before or after the surrounding areas were developed, or if contaminated zones were disturbed by future development at the contaminated location. If exposed to hazardous substances, this would result in a significant hazard to the public.

It is also possible that old underground storage tanks (USTs) that were in use prior to existing permitting and record keeping requirements may be present within the Specific Plan area. If an unidentified UST were uncovered or disturbed during construction activities, it would be closed in place or removed. Removal activities could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Potential risks, if any, posed by USTs would be minimized by managing the tank according to existing Orange County standards as enforced and monitored by the Department of Environmental Health. The extent to which groundwater may be affected, if at all, depends on the type of contaminant, the amount released, and depth to groundwater at the time of the release. If groundwater contamination is identified, remediation activities would be required by the San Diego Regional Water Quality Control Board (SDRWQCB) prior to the commencement of any new construction activities.

Existing Contaminated Sites

Another potential hazard to construction workers and the public could involve construction activities on existing sites that may potentially be contaminated. Existing sites that may potentially contain hazardous materials in the project site include the sites that are identified in Table 4.7-1 which includes a range of sites with a variety of potential sources of contamination, including various forms of chemical waste, cleaners, auto-repair facilities, and gas stations. However, any new development occurring on these documented hazardous materials sites would have to be preceded by remediation and cleanup under the supervision of the DTSC before construction activities could begin, if such actions have not already occurred.

In order to address the potential for encountering contamination within the project site, mitigation measures MM4.7-1 and MM4.7-2 would minimize the potential risk of contamination by implementing investigation and remediation efforts at future development sites. As such, the potential impacts associated with unknown contamination would be reduced to a ***less-than-significant*** level.

MM4.7-1 Prior to the issuance of grading permits on any project site, the site developer(s) shall:

- *Investigate the project site to determine whether it or immediately adjacent areas have a record of hazardous material contamination via the preparation of a preliminary environmental site assessment (ESA), which shall be submitted to the City for review. If contamination is found the report shall characterize the site according to the nature and extent of contamination that is present before development activities precede at that site.*

- *If contamination is determined to be on site, the City, in accordance with appropriate regulatory agencies, such as OCFA, County Division of Public Health Services, or County Division of Waste and Recycling, shall determine the need for further investigation and/or remediation of the soils conditions on the contaminated site. If further investigation or remediation is required, it shall be the responsibility of the site developer(s) to complete such investigation and/or remediation prior to construction of the project.*
- *If remediation is required as identified by the local oversight agency, it shall be accomplished in a manner that reduces risk to below applicable standards and shall be completed prior to issuance of any occupancy permits.*
- *Closure reports or other reports acceptable to the appropriate regulatory agencies, such as OCFA, County Division of Public Health Services, or County Division of Waste and Recycling, that document the successful completion of required remediation activities, if any, for contaminated soils shall be submitted and approved by the appropriate regulatory agencies prior to the issuance of grading permits for site development. No construction shall occur in the affected area until reports have been accepted by the City.*

MM4.7-2

In the event that previously unknown or unidentified soil and/or groundwater contamination that could present a threat to human health or the environment is encountered during construction of the proposed project, construction activities in the immediate vicinity of the contamination shall cease immediately. If contamination is encountered, a Risk Management Plan shall be prepared and implemented that (1) identifies the contaminants of concern and the potential risk each contaminant would pose to human health and the environment during construction and post-development and (2) describes measures to be taken to protect workers, and the public from exposure to potential site hazards. Such measures could include a range of options, including, but not limited to, physical site controls during construction, remediation, long-term monitoring, post-development maintenance or access limitations, or some combination thereof. Depending on the nature of contamination, if any, appropriate agencies shall be notified (e.g., OCFA). If needed, a Site Health and Safety Plan that meets Occupational Safety and Health Administration requirements shall be prepared and in place prior to commencement of work in any contaminated area.

Compliance with existing regulations and implementation of mitigation measures MM4.7-1 and MM4.7-2 would ensure that construction workers and the general public would not be exposed to any unusual or excessive risks related to hazardous materials during construction activities. As such, impacts associated with the exposure of construction workers and the public to hazardous materials during construction activities would be ***less than significant***.

Operational Effects

The precise potential future increase in the amount of hazardous materials utilized in the Specific Plan area as a result of implementation of the proposed Specific Plan cannot be predicted because individual development projects are not identified in the Specific Plan. The following discussion focuses on the potential nature and magnitude of risks associated with the accidental release of hazardous materials often used during operation of typical residential, commercial, light industrial, and office mixed-use development projects.

Development under the proposed project involving residential, commercial industrial and office mixed-use would include the use of and storage of common hazardous materials such as paints, solvents, and

cleaning products and industrial related chemicals. Additionally, building mechanical systems and grounds and landscape maintenance could also use a variety of products formulated with hazardous materials, including fuels, cleaners, lubricants, adhesives, sealers, and pesticides/herbicides. The properties and health effects of different chemicals are unique to each chemical and depend on the extent to which an individual is exposed. The extent and exposure of individuals to hazardous materials would be limited by the relatively small quantities of these materials that would be stored and used on individual project sites throughout the Specific Plan area. In particular, Chapter 6.95 of the California Health and Safety Code requires businesses that handle more than a specified amount of hazardous materials on-site to submit a Hazardous Materials Business Plan. Such businesses are required to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. As maintenance products and chemicals would be consumed by use, and adherence to warning labels and storage recommendations from the individual manufacturers, these hazardous materials would not pose any greater risk compared to other similar development or to existing conditions.

Through future development under the proposed Specific Plan, hazardous materials could be stored within the Specific Plan area but the materials would generally be in the form of routinely used common chemicals. In addition, operation of light industrial uses could include the use of hazardous materials or generate quantities of hazardous waste that could create an unsafe or hazardous condition for adjacent uses. However, hazardous materials would be used and stored in accordance with applicable regulations and such uses would be required to comply with federal and state laws to eliminate or reduce the consequences of hazardous materials accidents. Therefore, the probability of a hazardous materials incident would be remote and the impact would be *less than significant*.

Threshold	Would the proposed project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?
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Impact 4.7-3 Implementation of the proposed project could result in the handling of acutely hazardous materials, substances, or waste within 0.25 mile of a proposed school, but would not create a risk to human health from such activities. With compliance with existing regulations, this impact is considered *less than significant*.

There are four schools within 0.25 mile of the Specific Plan boundaries. Table 4.7-2 (Schools within 0.25 Mile of Specific Plan Area) and Figure 4.7-1 (Schools within 0.25 Mile of Specific Plan Area) identify and depict the location of the schools located within 0.25 mile of the Specific Plan boundaries.

Similar to existing conditions in the Specific Plan area, common hazardous materials could be used in the construction and operation of new development in the Specific Plan, including the use of standard construction materials (e.g., paints, solvents, and fuels), cleaning and other maintenance products, diesel and other fuels (used in construction and maintenance equipment and vehicles), and the limited application of pesticides associated with landscaping around new developments. None of these materials would result in hazardous emissions or are considered acutely hazardous.

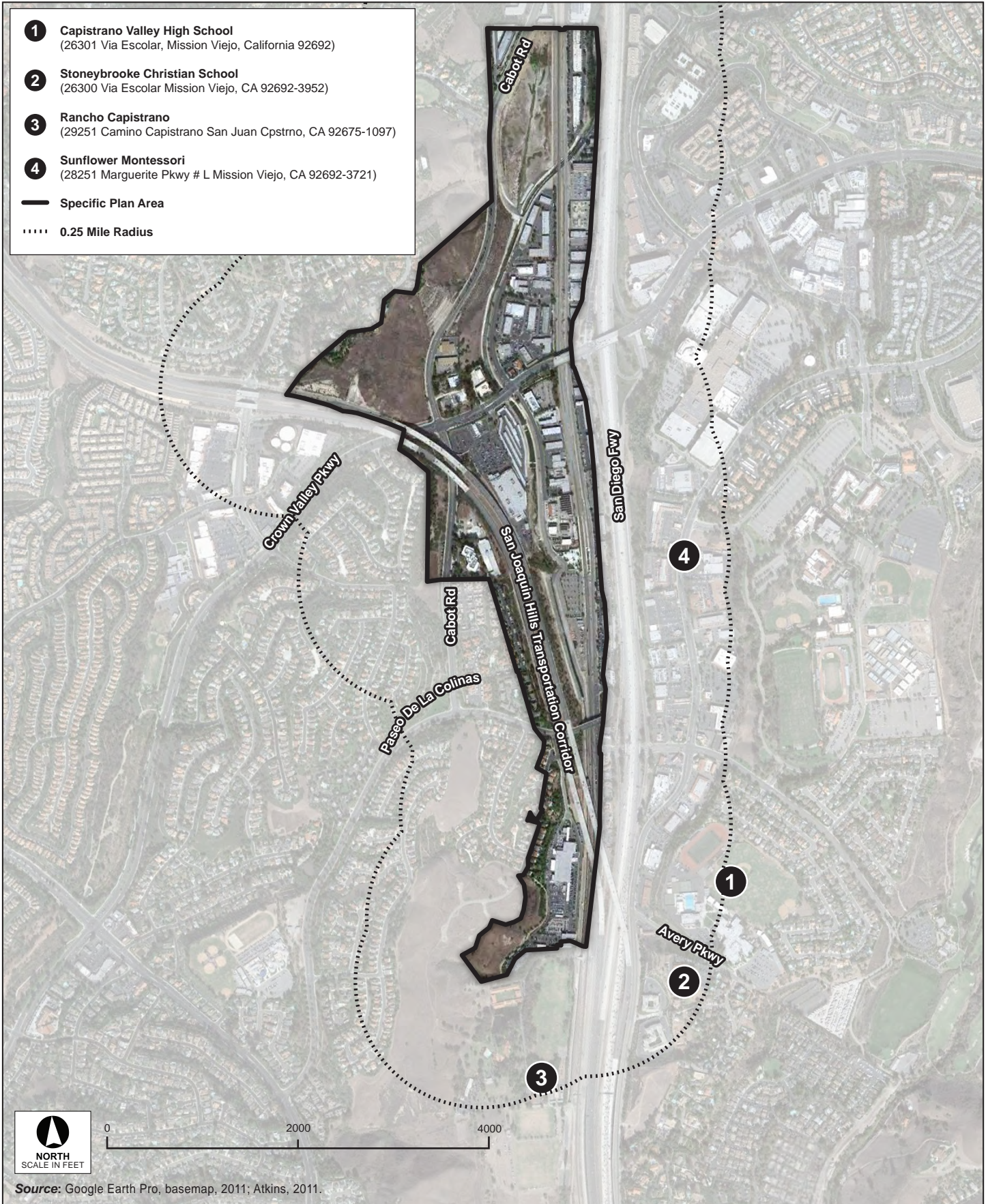


Figure 4.7-1
Schools within 0.25 Mile of Specific Plan Area

Table 4.7-2 Schools within 0.25 Mile of Specific Plan Area

School Name	Address	Approx. Distance from Project Area
Capistrano Valley High School	26301 Via Escolar, Mission Viejo, California 92692	0.10 mile East
Rancho Capistrano Preschool	29251 Camino Capistrano, San Juan Capistrano, CA 92675-1097	0.20 mile South
Stoneybrooke Christian School	26300 Via Escolar Mission Viejo, CA 92692-3952	0.09 mile West
Sunflower Montessori	28251 Marguerite Pkwy # L Mission Viejo, CA 92692	0.06 mile East

SOURCE: Atkins (2010).

Although hazardous materials and waste generated from future development may pose a health risk to nearby schools, all businesses that handle or transport hazardous materials would be required to comply with the provisions of the local, state, and federal regulations for hazardous wastes.

The intent of the hazardous materials disclosure is to assist in mitigating a release or threatened release of a hazardous material and to minimize any potential harm or damage to human health or the environment. Emergency responders use the information provided in planning for and handling emergencies involving hazardous materials.

The routine use, transport, and disposal of hazardous materials in the project site would be subject to a wide range of laws and regulations intended to minimize potential health risks associated with their use or the accidental release of such substances. Compliance with existing regulations would minimize the risks associated with the exposure of sensitive receptors, including schools, to hazardous materials. Therefore, future development under the proposed project would result in a *less-than-significant* impact related to the emissions or handling of hazardous materials within the vicinity of schools.

Threshold	Would the proposed project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
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Impact 4.7-4 Individual sites within the Specific Plan area are included on a list of hazardous materials sites and as a result could create a significant hazard to the public or environment. However, with implementation of mitigation measures, this impact is considered *less than significant*.

According to data from the SWRCB, fourteen underground storage tank leaks have been reported in the Specific Plan area. Of these reports, thirteen sites have either been cleaned up or deemed to be of no environmental consequence. One case is still open and in remediation. In addition, there are no properties within the Specific Plan area and/or its immediate surroundings that have been identified on any other regulatory databases as being contaminated from the release of hazardous substances in the soil or groundwater. As discussed under Impact 4.7-2, development of the identified sites would be required to undergo remediation and cleanup before construction activities can begin. If contamination at any specific project site were to exceed regulatory action levels, the project Applicant and/or the project contractor would be required to undertake remediation procedures prior to grading and development

under the supervision of appropriate regulatory oversight agencies (e.g., OCFA, Orange County Environmental Health Division, DTSC, or SDRWQCB), depending on the nature of any identified contamination. Thus, implementation of mitigation measures MM4.7-1 and MM4.7-2, above, would ensure that contaminated sites undergo remediation activities prior to development activities. Consequently, if future development within the Specific Plan area is located on a site that is included on a list of hazardous materials sites, remediation would ensure that this impact would be reduced to a *less-than-significant* level.

Threshold	Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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Impact 4.7-5 **Implementation of the Specific Plan could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. However, with implementation of mitigation measure MM4.7-3 this impact is considered *less than significant*.**

Construction and operation associated with the related projects and other future development in the City and surrounding area would not interfere with adopted emergency response or evacuation plans. It is anticipated that future development projects would be required to implement measures necessary to mitigate potential impacts.

The Public Safety Plan implements the goals and policies of the General Plan Seismic/Public Safety Element by establishing the framework for agency coordination in the event of a disaster. The plan is intended to supplement the City's EOP. The EOP provides direction for City response to emergency situation stemming from natural disasters, technological incidents, and nuclear defense operations. The plan focuses on agency coordination and response procedures for large-scale disasters (City of Laguna Niguel 1992). The plan addresses procedures for large-scale emergency situations, such as natural disasters and technological incidents and not normal day-to-day emergencies. This is an emergency preparedness document for large-scale emergencies situations such as earthquakes or a major air crash that would be applicable to the entire City, including the Specific Plan area. Because the City has prepared for such emergencies and as part of standard development procedures plans would be submitted to the City for review and approval to ensure that all new development contemplated under the Specific Plan would have adequate emergency access, including turning radius for emergency response vehicles, in compliance with existing City regulations.

As required by law, and as discussed in Section 4.14 (Transportation/Traffic) of this PEIR, future projects within the Specific Plan would be required to provide adequate access for emergency vehicles. Additionally, future development would be required to regulate the storage of flammable and explosive materials and their transport within the project site, and would comply with applicable Uniform Fire Code regulations for issues including fire protection systems and equipment, general safety precautions, and distances of structures to fire hydrants.

Similar to existing conditions, construction of future development under the Specific Plan could result in short-term temporary impacts on street traffic adjacent to the proposed sites due to roadway and infrastructure improvements and the potential extension of construction activities into the right-of-way. This could result in a reduction of the number of lanes or temporary closure of certain street segments.

Any such impacts would be limited to the construction period of individual projects and would affect only adjacent streets or intersections. However, mitigation measure MM4.7-3 would ensure that emergency response teams for the City of Laguna Niguel, including the Orange County Fire Authority and Sheriff's Department (OCFA and OCSD, respectively), would be notified of any lane closures during construction activities in the project site and that a minimum one lane would remain open at all times to provide adequate emergency access to the site and surrounding neighborhoods.

MM4.7-3 To ensure adequate access for emergency vehicles when construction activities would result in temporary lane or roadway closures, the developer shall consult with the City of Laguna Niguel Public Works Department, and Orange County Fire Authority and Sheriff's Department, as deemed necessary by the Public Works Director, to disclose temporary lane or roadway closures and alternative travel routes. The developer shall be required to keep a minimum of one lane in each direction free from encumbrances at all times on perimeter streets accessing the project site. At any time only a single lane is available, the developer shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls, as deemed appropriate by the Public Works Director, to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the developer shall designate proper detour routes and signage indicating alternative routes, to the satisfaction of the Public Works Director.

Implementation of mitigation measure MM4.7-3 would ensure that future development under the Specific Plan would provide adequate access for emergency vehicles. In addition, existing regulations regulate the storage of flammable and explosive materials and their transport within the project site.

Construction and operation activities under the proposed project with respect to emergency response or evacuation plans due to temporary construction barricades or other obstructions that could impede emergency access would be subject to the City's permitting process, which coordinates with the OCFA and the OCSD to ensure that emergency access is maintained at all times. Furthermore, the potential for any increased delays along evacuation routes from the incremental increase in new workers and patrons resulting from implementation of the proposed project would be considered less than significant. As a result, this impact would be ***less than significant***.

Threshold	Would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
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Impact 4.7-6 Implementation of the Specific Plan could expose people or structures to the risk of loss, injury, or death involving wildland fires; however, with compliance with applicable federal, state, and local regulations governing hazardous materials, the potential risks associated with wildland fire would be *less than significant*.

Implementation of the Specific Plan would lead to an increase in development projects. The Specific Plan area is susceptible to both urban and wildland fire hazards. Due to the project area being in areas susceptible to urban and wildland fires, land development is governed by a number of measures to alleviate these potential hazards. The 2010 CBC regulates developments and requires certain built in fire protection devices when maximum allowable uses or heights are exceeded, or the building use presents a life or property protection problem. In addition, OCFA has guidelines to lessen the impacts of a fire

hazards such as brush clearance and inspection programs. Compliance with applicable federal, state, and local regulations governing hazardous materials, the potential risks associated with the risk of loss, injury, or death involving wildland fires would be *less than significant*.

4.7.4 Cumulative Impacts

A cumulative impact analysis is only provided for those thresholds that result in a less-than-significant or significant and unavoidable impacts. A cumulative impact analysis is not provided for Effects Found Not to Be Significant, which result in no project-related impacts.

The geographic context for the cumulative analysis of hazards and hazardous materials is Orange County, based on the geographic area that could be affected by accidental release into the environment. The cumulative context for the hazards analysis includes future development under the proposed project in combination with the development projects listed in Table 3-3 (Cumulative Projects) in Chapter 3 (Project Description) of this PEIR.

Threshold	Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
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Cumulative development within City of Laguna Niguel and Orange County would include some land uses, which could involve the use of greater quantities and variety of hazardous products. Residential, hotel, office, retail, and residential development would also increase the use of household-type hazardous materials within the area. Hazardous materials use, storage, disposal, and transport could result in a foreseeable number of spills and accidents. New development in the County would be subject to hazardous materials regulations codified in Titles 8, 22, and 26 of the CCR. Furthermore, all construction and demolition activities in the county would be subject to Cal/OSHA, SCAQMD, and Cal/EPA regulations concerning the release of hazardous materials. Compliance with all state, federal and local regulations during the construction and operation of new developments in the county would ensure that cumulative impacts from the routine transportation, use, disposal, or release of hazardous materials would be less than significant. Additionally, because the proposed project would also be required to comply with applicable statutes and regulations, which would ensure that future development under the project would not result in significant public hazards through the routine transport, use, or disposal of hazardous materials, the project's contribution would not be cumulatively considerable and the cumulative impact of the project would be *less than significant*.

Threshold	Would the proposed project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
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Cumulative projects in the City and surrounding area could result in construction and operational activities that could potentially involve the release of hazardous materials into the environment. In particular, cumulative development could occur on properties listed on hazardous materials sites or that were previously used for oil production activities, and/or the demolition of existing structures, which may contain hazardous materials. However, the individual workers potentially affected would vary from

project to project. For example, if demolition of existing buildings is required, short-term increases in hazardous materials generation, due to the potential presence of lead-based paints and asbestos-containing materials in existing facilities could occur. However, projects would be required to comply with applicable federal, state, and local regulations. Adherence to applicable regulations and guidelines pertaining to abatement of, and protection from, exposure to oil, pesticides, asbestos, lead, and other hazardous materials would ensure that cumulative impacts from those activities would be less than significant. Site-specific investigations would be conducted at sites where contaminated soils could occur to minimize the exposure of workers to hazardous substances. Additionally, because the proposed project would also be required to comply with applicable statutes and regulations, which would ensure that the project would not result in significant public hazards as a result of the accidental release of hazardous materials, the project’s contribution would not be cumulatively considerable and the cumulative impact of the project would be *less than significant*.

Threshold	Would the proposed project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?
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Implementation of cumulative development could expose schools to hazardous emissions, depending on the specific location and type of use proposed. Various regulations and guidelines pertaining to abatement of, and protection from, exposure to asbestos and lead have been adopted for demolition activities and would apply to all new development in the county. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards. In addition, all businesses that handle or transport hazardous materials would be required to comply with the provisions of the local, state, and federal regulations for hazardous wastes. Businesses that handle more than a specified amount of hazardous materials on-site are required to submit a Hazardous Materials Business Plan. Compliance with existing regulations would ensure that schools and the general public would not be exposed to any unusual or excessive risks related to hazardous materials during construction and operational activities. Therefore, the cumulative impacts associated with the exposure of schools to hazardous emissions would be less than significant. Compliance with existing regulations would similarly ensure that future development under the Specific Plan would have a less-than-significant impact associated with the handling of hazardous materials within proximity to school sites. Therefore, the proposed project would not make a cumulatively considerable contribution to this effect and cumulative impacts would be *less than significant*.

Threshold	Would the proposed project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
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Future projects in the City and county would be regulated to ensure that either new development would not occur on hazardous materials sites, or for project sites that are listed, impacts would be required to be mitigated by appropriate remediation prior to development. As all contaminated sites are required to be remediated prior to development, this cumulative impact would be less than significant. As the proposed project similarly requires appropriate site investigation and remediation activities prior to development, implementation of the Specific Plan would not make a cumulatively considerable

contribution to impacts resulting from development on hazardous materials sites. This cumulative impact would be *less than significant*.

Threshold	Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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Construction and operation associated with cumulative development could result in activities that could interfere with adopted emergency response or evacuation plans, primarily by temporary construction barricades or other obstructions that could impede emergency access. It is anticipated that future development projects would undergo CEQA review of potential impacts on adopted emergency response or evacuation plans, and would be required to implement measures necessary to mitigate potential impacts. As a result, cumulative development relating to interference with adopted emergency plans would be less than significant. Because the proposed project would be required to implement a mitigation measure to ensure that temporary street closures would not affect emergency access in the vicinity of future development, the proposed Specific Plan would not have a cumulatively considerable contribution to this effect. Therefore, this cumulative impact would be *less than significant*.

Threshold	Would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
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The City of Laguna Niguel is an area that is susceptible to wildland fires. Due to the City being in susceptible areas, land development is governed by special state and local codes, and any future development property would be required to follow maintenance guidelines aimed at reducing spreading of wildland fire. With adherence to applicable federal, state, and local regulations governing hazardous materials, the potential risks associated with wildland fire would not be cumulatively considerable; as such, cumulative impacts to hazardous materials would be *less than significant*. No mitigation measures are required.

4.7.5 References

- Laguna Niguel, City of. 1992. *City of Laguna Niguel General Plan*. Chapter 7 (Seismic/Public Safety), August 4.
- State Water Resources Control Board (SWRCB). n.d. Geotracker—Leaking Underground Tank (LUST) Cleanup Sites. <https://geotracker.swrcb.ca.gov/> (accessed October 21, 2010).
- U.S. Environmental Protection Agency (USEPA). 2008. *List of Reported RCRA Sites in the United States: The National Biennial RCRA Hazardous Waste Report (Based on 2007 Data)*, November. <http://www.epa.gov/osw/inforesources/data/br07/list07.pdf> (accessed October 21, 2010).
- . 2010. Superfund—Search Superfund Site Information. <http://cfpub.epa.gov/supercpad/cursites/srchrslt.cfm?start=1&CFID=33519458&CFTOKEN=40884194&jsessionid=5a306abd77c08e6001197262675c4a214746> (accessed October 21, 2010).
- . n.d. Toxic Release Inventory (TRI) Program. <http://www.epa.gov/tri/> (accessed October 21, 2010).

4.8 HYDROLOGY/WATER QUALITY

This section of the PEIR analyzes the potential environmental effects on hydrology/water quality from implementation of the Laguna Niguel Gateway Specific Plan (Specific Plan). It addresses runoff and urban pollutants, flooding, drainage, and groundwater resources. A regulatory framework is also provided in this section, describing applicable agencies and regulations related to hydrology/water quality. The evaluation of the proposed project's effects on water supplies is included in Section 4.15 (Utilities/Service Systems).

No comment letters addressing hydrology/water quality were received in response to the Notice of Preparation circulated for the Specific Plan.

Data for this section were obtained from California Department of Water Resources, Federal Emergency Management Agency (FEMA) floodplain mapping, the City of Laguna Niguel General Plan, the City of Laguna Niguel General Plan Environmental Impact Report (EIR), the City of Laguna Niguel Municipal Code, and other published materials. Full reference-list entries for all cited materials are provided in Section 4.8.5 (References).

4.8.1 Environmental Setting

■ Climate and Physiography

The 315-acre Specific Plan area is located in the northeastern corner of the City of Laguna Niguel, in south Orange County, California. Climate is characterized by warm summers and mild winters. Annual average high temperature in Laguna Niguel is 72.0°F and annual average low temperature is 51°F (WRCC n.d.). Average high temperatures range from approximately 67.3°F in winter to 75.1°F in the summer (WRCC n.d.). Nearly all annual rainfall occurs in only a few storm events between October and April. During periods of drought, years may pass between seasons of “average” rainfall. Winter storm clusters are common, with the heavy rainfall of a second or third storm creating the most severe flood conditions (City of Laguna Niguel 2010). On average, Laguna Niguel only receives about 12.6 inches of rain per year (WRCC n.d.). On average, July receives the least amount of rainfall and February receives the most with 91 percent of precipitation occurring from November through April (WRCC n.d.).

The topography of the City is typical of the stream-cut marine terraces of coastal orientation that characterize the southern exposure of the San Joaquin Hills. The San Joaquin Hills range, located just west of the Specific Plan area, is typical of the northwest trending mountain ranges that comprise the Peninsular Range Province of Southern California. Streams, such as Oso Creek, which dissects the Specific Plan area, have cut hills, forming arroyos, gullies, and steep canyons. Intermittent rains have created eroded hillsides and formed broad valleys. The Specific Plan area is located along the eastern flank of the San Joaquin Hills (see Section 4.5 [Geology/Soils] for additional information).

■ Surface Water Resources

Surface Water Features and Watersheds

The City of Laguna Niguel is bounded by natural ridgelines that clearly form major drainage boundaries. Runoff drains into three major watersheds within the South Watershed Management Area. Sulphur Creek, located in the northern part of the City, is a tributary to Aliso Creek and is considered part of the Aliso Watershed Management Area established by the San Diego Regional Water Quality Board (SDRWQCB). Salt Creek, located in the southern part of the City, is within the SDRWQCB's Dana Point Coastal Streams Watershed Management Area. Oso Creek is located in the eastern part of the City, which is tributary to San Juan Creek and is part of the SDRWQCB's San Juan Watershed Management Area (City of Laguna Niguel 2010). The watersheds are shown in Figure 4.8-1 (Watershed for the Specific Plan Area). The Specific Plan drains into the Oso Creek watershed.

Oso Creek is mostly a lined channel and comprises about 18 percent of the 133-square-mile San Juan Creek watershed. Water quality in the watersheds is influenced by a number of factors including climate, circulation, biological activity, surface runoff (both stormwater and nonstormwater⁶), effluent discharges, and accidental discharges of pollutants. The City of Laguna Niguel implements a comprehensive water quality monitoring program for the watersheds (City of Laguna Niguel 2010).

Specific Plan Area Drainage

The Specific Plan area is located within the San Juan Creek Watershed and drains into Oso Creek, which runs north to south through the area. The Oso Creek drainage channel parallels Forbes Road and crosses underneath Crown Valley Parkway. Oso Creek ultimately discharges to Arroyo Trabuco Creek, to the San Juan Creek, which outlets to the Pacific Ocean. The Galivan Basin is an off-line retarding basin located alongside Oso Creek in the northern portion of the Specific Plan area between Cabot Road and Camino Capistrano. The Galivan Basin is designed to provide temporary flow storage and reduce the peak flood flows within Oso Creek to accommodate flooding associated with the 100-year storm event flows from upstream areas.

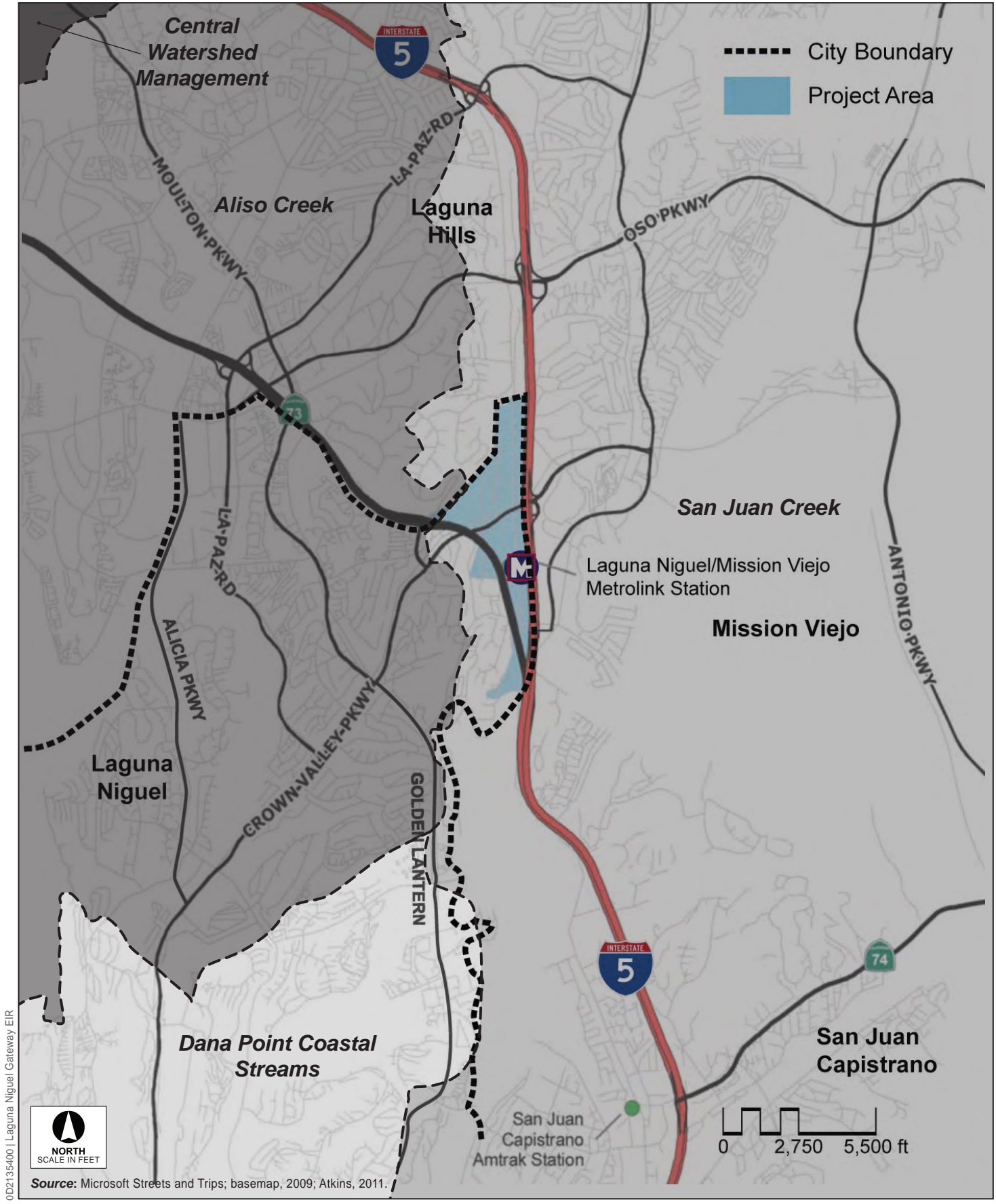
The Oso Creek drainage channel is owned and maintained by the Orange County Flood Control District (OCFCD). Local drainage facilities consist of street gutters, open ditches, drain inlets, and underground closed conduits typical of those located in developed areas of the City. The Specific Plan area is within the jurisdictional area of the South Orange County Municipal National Pollutant Discharge Elimination System (NPDES) permit for municipal storm drainage systems, issued by the SDRWQCB.

■ Flood Hazards

100-Year Flood

Portions of the Specific Plan area are within FEMA Flood Zone Designation Zone X, Zone A, and Zone AE (FEMA 2009a). Zones A and AE areas are inundated by 100-year flood event, with a 1 percent

⁶ Examples of nonstormwater runoff include car wash water, irrigation runoff, fire hydrant testing and maintenance discharges, and other sources that may contribute runoff to the storm drain system.



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Source: Microsoft Streets and Trips; basemap, 2009; Atkins, 2011.

Figure 4.8-1
Watershed for the Specific Plan Area

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annual chance of flooding and a 26 percent chance of flooding, respectively, over the life of a 30-year mortgage (FEMA 2011). Portions of the Specific Plan area located within Zone AE (100-year flood hazard areas where a flood elevation has been determined) include the Galivan Basin and the Oso Creek channel until just north of Portofino Road where flooding overtops the channel. Portions of the Specific Plan area located within Zone A include a drainage channel adjacent to the south side of Crown Valley Parkway and area adjacent to the west side of Camino Capistrano from the north portion of the Specific Plan Area to Crown Valley Parkway. There are no regulatory floodways⁷ within the Specific Plan Area. Zones A and AE are considered Special Flood Hazard Areas (SFHAs). Zone X areas are of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods (FEMA 2011). These areas have been identified in the FEMA flood insurance study as areas of moderate or minimal hazard from the principal source of flood in the area (FEMA 2011). However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Figure 4.8-2 (FEMA Flood Zones within the Specific Plan Area) illustrates the location of these flood zones in the Specific Plan area.

Substantial off-site downstream 100-year flood event inundation also occurs along Oso Creek and Arroyo Trabuco Creek (FEMA 2009b).

Tsunami, Seiche, or Mudflow

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. The Specific Plan area is not located in an area subject to tsunami hazards (CEMA/CGS/USC 2009). Seiches are changes or oscillations of water levels (i.e., standing waves) within a confined or semi-confined body of water due to fluctuations in the atmosphere, tidal currents, or earthquakes. The project site is not located next to an enclosed or semi-enclosed body of water. Potential risks from mudflow (i.e., mudslide, debris flow) are also prevalent, as steep slopes exist throughout the City. As noted in Section 4.5, the Specific Plan area includes diverse topography, including slopes associated with the Oso Creek drainage channel that traverses the area in a north/south direction along the westerly side of Forbes Road. Prolonged rainfall during certain storm events could saturate hillsides and could eventually loosen soil, resulting in slope failure and mudflows.

Dam or Levee Failure Inundation

There are numerous dams and flood control facilities in the City of Laguna Niguel, including the Oso Creek Flood Control Channel and the Galivan Basin. Additionally, the major watercourses within the City are controlled by dams located up-stream of the Specific Plan area, such as the Sulphur Creek Dam and Upper Oso Dam. However, none of the Specific Plan area is within a dam inundation area (OCEMB

⁷ A “Regulatory Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations. For streams and other watercourses where FEMA has provided Base Flood Elevations (BFEs), but no floodway has been designated, the community must review floodplain development on a case-by-case basis to ensure that increases in water surface elevations do not occur, or identify the need to adopt a floodway if adequate information is available.

n.d.). The Specific Plan area is also not located in an area protected by levees; the Oso Creek channel is located below ground surface throughout the Specific Plan area.

■ Groundwater Resources

The Specific Plan area is located just north of the San Juan Valley Groundwater Basin (DWR Groundwater Basin number 9-01) in southern Orange County within the San Juan Creek Watershed. The basin is comprised of four subbasins: Upper San Juan, Middle San Juan, Lower San Juan, and Lower Trabuco. The San Juan Basin is within the service area of Metropolitan member agency Municipal Water District of Orange County (MWDOC) and underlies portions of the communities of Mission Viejo, San Juan Capistrano, Dana Point, and unincorporated areas of southern Orange County. As shown in Figure 4.8-3 (Groundwater Basin), the Specific Plan area is located adjacent to the Lower Trabuco subbasin but does not directly overlay any portion of the San Juan Valley Groundwater Basin.

The State Water Resources Control Board (SWRCB) has determined that the San Juan Creek watershed is not a groundwater basin, but a surface and underground flowing stream and, therefore, it is subject to SWRCB jurisdiction and its processes with respect to the appropriation and use of waters within the watershed. The San Juan Basin Authority (SJBA) is a joint powers agency, formed in 1971 to manage the watershed. Member agencies include the City of San Juan Capistrano, Moulton Niguel Water District, Santa Margarita Water District, and South Coast Water District.

Groundwater generally flows in a southwesterly direction to the Pacific Ocean. Recharge of the basin is from flow in San Juan Creek, Oso Creek, and Arroyo Trabuco and precipitation to the valley floor (DWR 2004). Water from springs flows directly from Hot Spring Canyon into San Juan Creek, adding to recharge. Groundwater mineral content is variable in this basin (DWR 2004). Groundwater in the basin typically has calcium bicarbonate or bicarbonate-sulfate character below the upper reaches of the valleys, and calcium-sodium sulfate or sulfate-chloride near the coast (DWR 2004). In general, total dissolved solids (TDS)⁸ content in groundwater increases from below 500 milligrams per liter (mg/L) in the upper reaches of the valleys to near 2,000 mg/L near the coast (DWR 2004). TDS content of water from three public supply wells averages 760 mg/L and ranges from 430 mg/L to 1,250 mg/L (DWR 2004). Groundwater in the western part of the basin has high TDS content, and water coming from springs in Thermal Canyon has high fluorine content (DWR 2004). The average annual precipitation in the lower portion of the basin ranges from 11 to 15 inches (MWDSC 2007).

4.8.2 Regulatory Framework

■ Federal

Clean Water Act of 1972

The federal Clean Water Act (CWA) is the primary Federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The primary principle is that any discharge of pollutants into the nation's waters is prohibited unless specifically authorized by a permit; permit review

⁸ TDS is a measure of salinity.

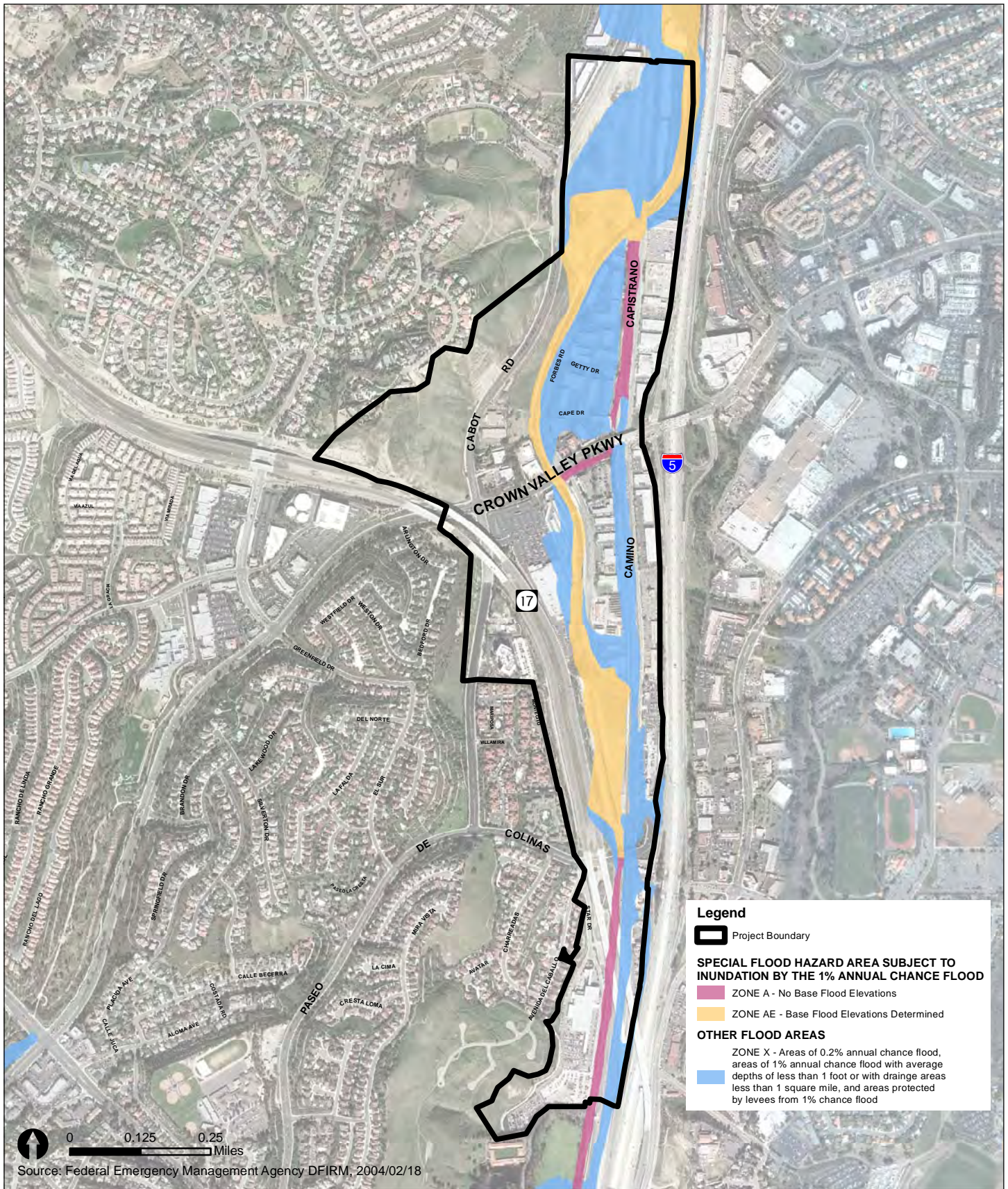
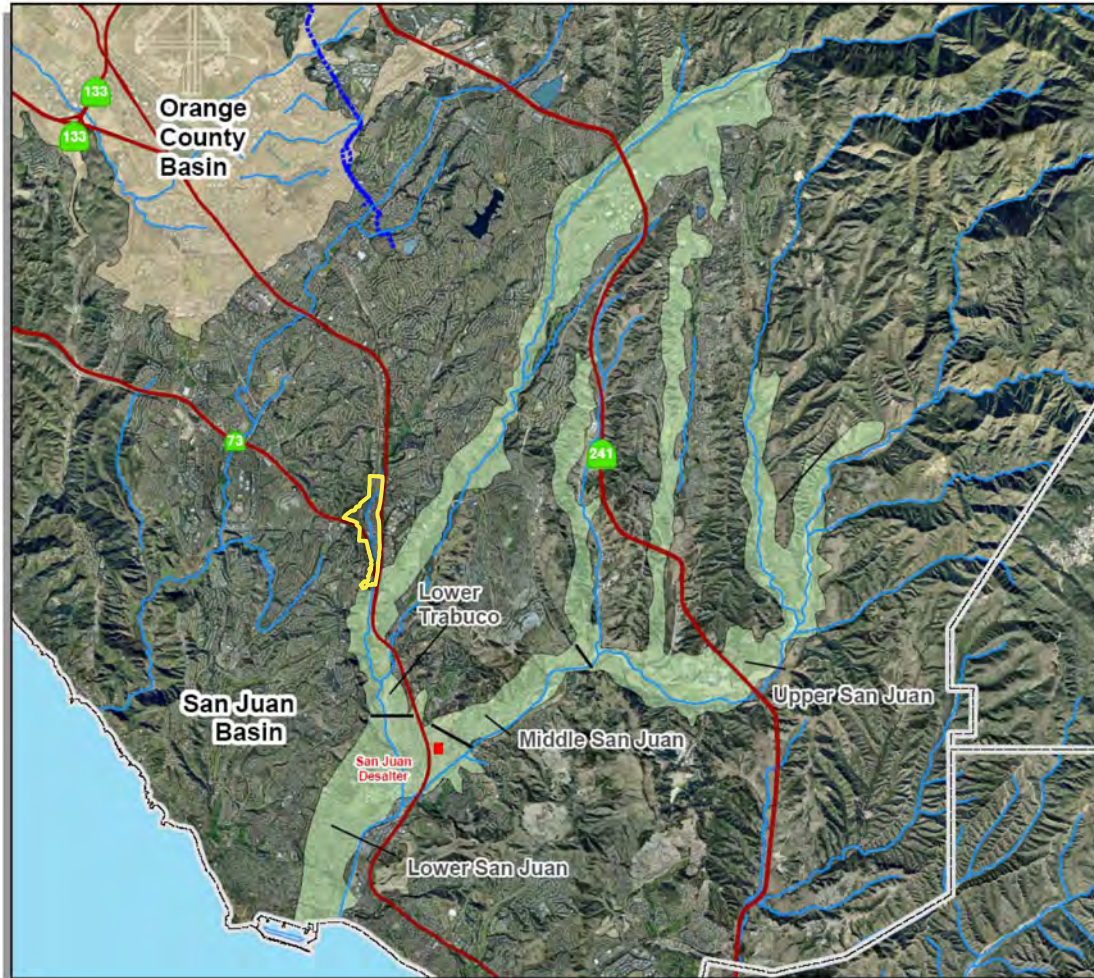


Figure 4.8-2
FEMA Flood Zones within the Specific Plan Area

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- Specific Plan Area
- Freeways
- County
- - - MWD Pipeline
- Desalter
- Stream
- San Juan Basin
- Water Body
- Adjacent Basin

1 0.5 0 1 Miles



Source: Groundwater Basin Reports, Orange County Basins, 2007.

Figure 4.8-3
Groundwater Basin

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is the CWA's primary regulatory tool. The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. The U.S. Environmental Protection Agency (USEPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs in California to the SWRCB and nine Regional Water Quality Control Boards (RWQCBs). The applicable sections of the CWA include:

- Section 303(d), which requires each state to provide a list of impaired waters that do not meet or are expected not to meet state water quality standards as defined by Section 303(d), and to develop total maximum daily loads (TMDLs)⁹ for all pollution sources for such impaired water bodies.
- Section 401 requires that an applicant for a federal license or permit allowing activities that would result in a discharge to waters of the United States obtain a state certification that the discharge complies with other provisions of the CWA.
- Section 402 establishes a permitting system for the discharge of any pollutant (except dredge or fill material) into waters of the United States. A National Pollutant Discharge Elimination System (NPDES) permit is required for discharges subject to Section 402 of the CWA and includes any point source discharger, including those discharges that convey diffuse sources of pollution through a discrete pipe or channel that discharges at a discrete location or outlet (e.g., municipal storm drains, agricultural ditches, and construction sites).
- Section 404 establishes a permit program administered by the United States Army Corps of Engineers (USACE), which regulates the discharge of dredged or fill material into waters of the United States (including wetlands).

National Flood Insurance Program

In response to Executive Order 11988 (Flood Plain Management), Congress acted to reduce the costs of disaster relief by passing two acts that resulted in the National Flood Insurance Program (NFIP), which is administered by the FEMA. FEMA issues Federal Insurance Rate Maps (FIRMs), which delineate flood hazard zones in communities participating in the NFIP. There are portions of the Specific Plan area where a 100-year flood hazard zone has been delineated by FEMA, and, because the City of Laguna Niguel is a participating member of the NFIP, flood insurance is available to affected property owners in the Specific Plan area.

■ State

Porter-Cologne Water Quality Protection Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) requires projects that are discharging or proposing to discharge wastes that could affect the quality of the state's water to file a Report of Waste Discharge (ROWD) with the appropriate RWQCB. The Porter-Cologne Act also authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface water and groundwater) and directs the RWQCBs to develop regional Basin Plans. Basin Plans designate beneficial uses of California's major rivers and groundwater basins and establish water quality

⁹ A TMDL is the amount of a particular pollutant that a stream, lake, estuary, or other water body can assimilate without violating state water quality standards.

objectives for those waters. Designated beneficial uses, together with water quality objectives for the beneficial uses, comprise the relevant water quality standards. Basin Plans are primarily implemented by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met.

Statewide NPDES General Construction Activity Stormwater Permit (Construction General NPDES Permit)

Pursuant to the CWA Section 402(p) and as related to the goals of the Porter-Cologne Act, the SWRCB has issued a statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009-0009-DWQ [adopted September 2, 2009] as amended by 2010-0014-DWQ [modified November 16, 2010], NPDES No. CAS000002) (SWRCB 2010), hereinafter referred to as the Construction General NPDES Permit. Every construction project that could be facilitated by implementing the Specific Plan and that disturbs 1 acre or more of land surface or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface would require coverage under the Construction General NPDES Permit. Construction activities subject to the Construction General NPDES Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of total land area. Among other permit requirements, implementing a site-specific Stormwater Pollution Prevention Plan (SWPPP) is the primary mechanism that is relied upon for controlling erosion and pollutants in stormwater runoff from a construction site. In addition, there are other requirements that are imposed by the City (see below). Furthermore, discharges of nonstormwater runoff are prohibited, except for authorized discharges such as clean groundwater dewatering, dechlorinated potable water, and others that meet the conditions of Provision III.C.

Industrial General NPDES Permit

The SWRCB and RWQCBs regulate all specified industrial activities under the WDR for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (SWRCB Order No. 97-03-DQ, NPDES General Permit No. CAS000001). Regulated industrial facility operators must comply with all of the conditions of the Industrial General NPDES Permit, including preparation of a Stormwater Pollution Prevention Plan (SWPPP) and reporting and monitoring requirements. Noncompliance constitutes a violation of the CWA and Porter-Cologne Act, and is grounds for (a) enforcement action; (b) Industrial General NPDES Permit termination, revocation and reissuance, or modification; or (c) denial of an Industrial General NPDES Permit renewal application. On January 28 2011, a new draft Industrial General Permit was prepared that includes required specific minimum BMPs in SWPPPs. Any regulated industrial activities (e.g., certain types of light industrial activities) implemented in the Specific Plan area would be required to obtain coverage under the Industrial General NPDES Permit requirements in effect at the time.

Cobey-Alquist Flood Plain Management Act

California Water Code Sections 8400 et seq. document the state's intent to support local governments in their use of land use regulations to accomplish floodplain management and to provide assistance and guidance as appropriate.

■ Regional

Basin Plan

Water quality standards for the City of Laguna Niguel are set forth in the Water Quality Control Plan for the San Diego Region (Basin Plan), which is administered by the SDRWQCB. Designated beneficial uses for Oso Creek and Trabuco Creek (Specific Plan area receiving waters) include agriculture; industrial service supply, water contact and noncontact water recreation; warm and cold freshwater habitat; and, wildlife habitat. These waters are exempted from municipal and domestic water supply beneficial uses. Trabuco Creek discharges near the mouth of San Juan Creek, which has water contact and noncontact water recreation; wildlife habitat; rare, threatened, or endangered species; marine habitat; and migration of aquatic organisms' beneficial uses. The Upper Trabuco groundwater subbasin has designated beneficial uses of municipal and domestic supply; industrial service supply; and agriculture.

As required under 303(d), California has established total maximum daily loads (TMDLs) to implement applicable water quality standards for waters identified as impaired pursuant to CWA section 303(d). Currently, the mouth and lower mile of San Juan Creek are listed as impaired for fecal indicator bacteria, DDE, phosphorous, selenium, nitrogen, and toxicity. The Specific Plan area, in contributing drainage flows to the Oso Creek tributary to San Juan Creek, would have to comply with TMDL load reduction plan requirements. The Indicator Bacteria TMDL was approved by the State on April 4, 2010, triggering an 18-month deadline for completion of a load reduction plan, and a 10-year deadline for implementing the plan and achieving compliance. Development within the Specific Plan area would also have to comply with any applicable TMDL load reduction plans for any additional TMDLs for the other pollutant constituents, which are scheduled for development in 2019 to 2021.

Municipal Separate Storm Sewer Systems NPDES Permit/Waste Discharge Requirements (MS4 Permit)

In South Orange County, runoff discharges into municipally owned separate storm sewer systems (MS4) are regulated under the general NPDES MS4 permit (Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems [MS4s] Draining the Watershed of the County of Orange, The Incorporated Cities of Orange County, and The Orange County Flood Control District Within the San Diego Region [SDRWQCB Order No. R9-2009-0002, NPDES No. CAS0108740], December 16, 2009) that has been issued by the SDRWQCB. Development that could occur in the Specific Plan area would be subject, as applicable, to the waste discharge requirements issued by the SDRWQCB in the MS4 Permit.

The City of Laguna Niguel is a co-permittee under the MS4 Permit, and therefore, is required to enforce the terms of the permit within its jurisdiction, including the Specific Plan area. Per the Permit, co-permittees must adopt and implement a Jurisdictional Runoff Management Plan (JRMP) that reduces the discharge of stormwater pollutants from the MS4 to the maximum extent practicable, and prevents runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. Central elements of the JRMP include required implementation of water quality best management practices (BMPs) and routine BMP inspection to ensure and evaluate ongoing BMP effectiveness. Development and redevelopment projects meeting the "Priority Project" definition also require low-

impact-design BMPs, and hydrologic control measures to be established under a post-construction Water Quality Management Plan (Directive F.1.d of the MS4 Permit).

Regional Dewatering General Waste Discharge Requirements (Regional Dewatering WDR)

The SDRWQCB has issued a general NPDES permit for construction dewatering (General waste discharge requirements for discharges from groundwater extraction and similar discharges to surface waters within the San Diego region except for San Diego Bay, Order No. R9-2008-0002 and NPDES No. CAG919002) (SWRCB 2008). Discharges covered by this permit include, but are not limited to, treated or untreated groundwater generated from permanent or temporary dewatering operations. If dewatering is required for construction or operation of projects that could be developed in the Specific Plan area, the project would have to obtain coverage under this general permit.

■ Local

City of Laguna Niguel General Plan

The City of Laguna Niguel General Plan identifies various policies and programs for addressing hydrology and water quality. The following goals and policies could apply to the proposed project:

Seismic/Public Safety Element

- | | |
|-------------------|--|
| Goal 1 | A water and wastewater infrastructure system that supports existing and future development in the City of Laguna Niguel. |
| Policy 1.1 | Encourage water conservation practices. |
| Policy 1.2 | Cooperate with Moulton Niguel Water District in analyzing capacity and supply requirements. |
| Goal 2 | An effective and efficient drainage and flood control system. |
| Policy 2.1 | Regional flood control facilities within the City shall be provided and maintained in accordance with Orange County Master Plan of Drainage. |
| Policy 2.2 | Development will be prohibited in the floodway portion of the 100-year flood plain. |
| Policy 2.3 | Encourage only compatible uses within the 100-year floodplain areas. |
| Policy 2.4 | Drainage facilities shall be sized to accommodate projected flows and to minimize potential impacts on downstream areas. |

Public Facility Element

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|-------------------|--|
| Goal 1 | A reduction of impacts from natural hazards that may affect the City of Laguna Niguel. |
| Policy 1.2 | Protect the community from flood hazards. |

Open Space Element

Goal 10 Effective utilization and management of water resources.

Policy 10.2 Future land development and redevelopment must adhere to the standards set forth in the City of Laguna Niguel Local Implementation Plan for the National Pollution Discharge Elimination System Storm Water Program to ensure that new development incorporates measures, to the extent practicable, that reduce the quantity of storm flow and discharge of pollutants in urban runoff to protect the water quality and biological habitats of downstream receiving waters.

City of Laguna Niguel Municipal Code

City of Laguna Niguel Municipal Code: Title 6 (Health and Sanitation), Division 3 (Sewage and Solid Waste Disposal), Article 5 (Prohibition of Non-Storm Water Discharges into Storm Sewers); Title 6 (Health and Sanitation), Division 5 (Water Conservation), Article 3 (Landscape Water Use Efficiency Regulations and Guidelines); Title 8 (Building Regulations), Division 1 (Buildings and Construction Generally), Article 8 (Grading and Excavation Code); and, Title 9 (Planning and Zoning), Division 1 (Planning), Article 4 (Floodplain Management) (City of Laguna Niguel 1993) list the City's requirements for runoff pollution control. Provisions include prohibitions of illicit discharges, illicit connections, and spills, dumping, and discharges of nonstormwater to the MS4s; pollutant control requirements from sites of industrial activities; water conservation practices to prevent runoff and pollutant discharges; and, requirements for construction activity water quality measures.

City of Laguna Niguel Local Implementation Plan/Jurisdictional Runoff Management Program (LIP/JRMP)

The LIP/JRMP is the City of Laguna Niguel's specific document that details how the stormwater programs are implemented within their local jurisdiction. Under the guidance and structure of a Countywide Drainage Area Management Plan (DAMP), the City of Laguna Niguel has prepared the LIP/JRMP in compliance with SDRWQCB Order No. R9-2009-0002 (City of Laguna Niguel 2010). The LIP/JRMP describes the programs and activities that the City is implementing to meet MS4 Permit requirements, with the goal of making meaningful improvement in water quality. The LIP/JRMP is intended to serve as the basis for City compliance during the 5-year life of the Permit, subject to modification by the City, or as directed by the Regional Board. Program updates are informed by an iterative feedback process to address high-priority water quality problems by revising, adding, or deleting BMPs and activities in response to performance assessment and research. This feedback loop forms the framework for revision and improvement of the program documents.

Consistency Analysis

Runoff from individual project sites resulting from implementation of the Specific Plan would be conveyed to the storm drain system operated by the City, which has specific requirements for controlling pollutants in runoff during construction and operation. These requirements would apply to projects facilitated by implementation of the Specific Plan. The City would also ensure, through site development permit and building permit application review and approvals, that sufficient drainage capacity is available.

There are existing flood risk hazards in portions of the Specific Plan area. The City has standard procedures governing permit review and mitigation procedures for areas prone to flooding. The enforcement of all requirements applicable to the construction and operation of projects that could be developed in the Specific Plan area would be the responsibility of the City in order to ensure the project is consistent with the applicable General Plan policies listed above.

4.8.3 Project Impacts and Mitigation

■ Analytic Method

Implementation of the Specific Plan could result in hydrologic impacts such as changes in runoff volume and quality and potential exposure of people and structures to flood hazards.

Baseline information for the analysis was compiled from a review of data and reports published by state agencies, environmental documents for projects in the vicinity, as well as information compiled and evaluated by the City of Laguna Niguel in conjunction with its runoff water quality management and hazard mitigation programs. The result of that effort is a general and qualitative analysis of the types of hydrologic and water quality changes that could be expected relative to the location of the Specific Plan area and the anticipated land uses.

Independent of the CEQA process, there is a comprehensive regulatory framework implemented at the state and City level to mitigate effects related to drainage, pollutants, and flood hazards. Compliance with these regulations is required, not optional. A project proponent must demonstrate compliance in a project's design before permits for construction would be issued by the City. The analysis presented herein assumes compliance with all applicable laws, regulations, and standards.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on hydrology/water quality if it would do any of the following:

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

- Otherwise substantially degrade water quality
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam
- Expose people or structures to inundation by seiche, tsunami, or mudflow

■ Effects Found to Have No Impact

Thresholds	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam
	Expose people or structures to inundation by seiche, tsunami, or mudflow

The Specific Plan area is not located within a dam or levee failure inundation zone. The Specific Plan area is not located within a tsunami or seiche inundation zone. As such there would be no impact associated with dam failure, levee failure, tsunamis, or seiches. Potential other flood and mudflow risks are addressed in the impacts discussion, below.

■ Impacts and Mitigation Measures

Drainage and Flooding

Thresholds	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?
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Impact 4.8-1 Implementation of the Specific Plan could substantially alter the existing drainage pattern of the area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. This would be a *less-than-significant* impact with mitigation.

Implementation of the Specific Plan would result in an increase in development that could result in a total of 2,994 residential dwelling units, 350 hotel rooms, and 2,259,961 square feet (sf) of nonresidential uses, including retail, office, auto sales, and light manufacturing/business park uses. Existing uses that would remain in portions of the Specific Plan area include light manufacturing and auto sales. Most of the private land in the Specific Plan area is already developed with buildings and other impervious surfaces that have resulted in changes to the natural drainage systems. The Specific Plan would provide for intensifying existing land uses on developed parcels, with new development occurring on a few vacant parcels. The intensification of land uses could result in increased impervious surfaces, other alterations in surface drainage conditions, and modifications to the stormwater collection system. Increased impervious surfaces and alterations in surface drainage systems could increase runoff to the storm drain system and Oso Creek. Implementation of the Specific Plan would not alter the course of a stream or river.

Increased impervious surfaces would not be expected to substantially increase the amount of runoff during a 100-year storm event because bare surfaces are quickly saturated and soon act as impervious surfaces during a 100-year storm event. However, because a few on-site areas are already subject to flooding during a 100-year storm event, and off-site areas along Oso Creek and Trabuco Creek are also subject to 100-year flooding, any increase in 100-year storm event runoff to these areas or to Oso Creek could be potentially significant.

Furthermore, alterations in drainage characteristics could contribute to localized on-site flooding and exceedance of storm drain system capacities during smaller stormwater runoff events. For instance, if stormwater runoff from a site currently sheet flows to a local drain but is conveyed as piped flow after development, stormwater runoff could enter the off-site drainage system faster and at a higher rate than under current conditions. Alterations in topography could also substantially affect on- and off-site flow rates, volumes, and timing of peak flows. This could lead to localized flooding in the Specific Plan area. Direct obstruction and alteration of the local storm drain system could also occur with development in the Specific Plan area. During construction activities, existing storm drains may not be able to convey storm flows and reconfiguration of systems may affect conveyance capacities.

LNMC, Title 6, Division 3, Article 5, Section 6-3-400 (Runoff Water Quality Control Ordinance) ensures City of Laguna Niguel's compliance with the MS4 Permit, which requires that new development must comply with the LIP/JRMP and control runoff that could contribute to increased downstream erosion potential.

"Priority" development and redevelopment projects, of a size or type that requires a Water Quality Management Plan as defined in the LIP/JRMP, must implement hydrologic control measures so that post-project runoff flow rates and durations for storms at the 2-year to 10-year level do not exceed pre-project, naturally occurring runoff flow rates and durations, as required and described in the applicable Interim or Final Hydromodification Management Plan. Alternatively and where allowable, developments must participate in an applicable Low Impact Design (LID) waiver program achieving equivalently-effective hydromodification results as provided in Directive F.1.d(7) of the MS4 Permit; or if eligible and where available, must participate in a qualifying regional LID BMP program meeting the requirements of Directive F.1.d.(11) of the MS4 Permit. LID waiver or regional LID BMP projects may function dually as existing retrofit projects in accordance with Section 9.6 (Plan for retrofitting development) of the LIP/JRMP.

The MS4 Permit and LIP also require that priority development projects must infiltrate, harvest, and reuse, evapotranspire, or bio-treat (e.g., biofilter) the 24-hour 85th percentile storm event, which represents approximately 0.8 inch of rainfall. This requirement would also result in a reduction in flow rates for similar storms. However, this requirement would not be sufficient to ensure that new development or significant redevelopment runoff within the Specific Plan area does not result in on- or off-site flooding impacts during larger storms, and that existing or planned storm drain system capacity is adequate for the design storm event. Consequently, implementation of the Specific Plan could have a potentially significant impact on both existing and planned storm drainage systems.

Implementation of the following mitigation measure would ensure that development in accordance with the Specific Plan does not increase flood flows or otherwise cause or contribute to on-site or off-site flooding and reduce potential impacts to ***less than significant with mitigation***.

MM4.8-1

Prior to receiving a grading permit, the Project Applicant shall submit a Hydrology Study, to be reviewed and approved by the Community Development Department that documents:

- *Drainage patterns would not be altered such that there is a reduction in the time of concentration¹⁰ at the project site off-site outlet(s); OR, if new impervious surfaces would be created and/or time of concentration could be reduced by drainage characteristics modification, the Drainage Plan shall demonstrate through calculations, modeling, and BMPs that:*
 - > *Stormwater runoff peak flows, flow volumes, and timing of peak flows for the 10- to 25-year storm event would not be different than existing conditions at the project site outlet, OR*
 - > *The local storm drain system has adequate available capacity to convey stormwater runoff from the developed project site for up to the 25-year storm event at the project site outlet to the storm drain system discharge into Oso Creek (or Galivan Basin).*
- *Existing stormwater drainage system capacity would be maintained throughout the project site and to the downstream outlet to Oso Creek (or Galivan Basin).*
- *Adequate conveyance capacity during construction through the use of BMPs such as construction of storm drains during the dry season; bypass structures for sections being altered; detention devices; and, others as approved by the Community Development Department.*
- *Specific project requirements, if necessary, to ensure that stormwater peak flow rates, flow volumes, and timing of peak flow rates do not result in storm drain system conveyance capacity constraints for the 10-year to 25-year storm events. Project requirements shall be incorporated into the grading permit and grading and drainage plans.*

Threshold

Would the proposed project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Impact 4.8-2

Implementation of the Specific Plan would place housing within a 100-year flood hazard area, but would not place structures in a 100-year flood hazards area that would impede or redirect flood flows, and would not result in a substantial risk to people or structures from flooding. Compliance with existing regulations, plans, and policies would ensure impacts are *less-than-significant*.

No regulatory floodway is located within the Specific Plan area or would be affected by development within the Specific Plan area. Portions of the Specific Plan area are within FEMA-designated Zone A and Zone AE, which are areas inundated by 100-year flooding. These areas are primarily contained within the Oso Creek channel, Galivan Basin, and drainage channels, except for an area north of Paseo de la Colinas that is currently primarily a large parking lot and open space. Development under the Specific Plan could place mixed commercial uses within the parking lot but would not alter the open space

¹⁰ Time of concentration refers to the amount of time it takes a raindrop falling on the top of the drainage area to reach the outlet.

subject to 100-year flood hazards. For streams and other watercourses where FEMA has provided Base Flood Elevations, but no floodway has been designated, such as the parking lot area, in accordance with the NFIP, the City of Laguna Niguel must review floodplain development on a case-by-case basis to ensure that increases in water surface elevations do not occur, or identify the need to adopt a floodway if adequate information is available. Because development within 100-year flood hazard areas would be minimal, would not alter a regulatory floodway, and would require review by the City of Laguna Niguel to ensure flood flow conveyance, potential impacts associated with impedance or redirection of flood flows under the Specific Plan would not be substantial.

However, increased development intensity within the Specific Area FEMA Zones A and AE could expose more people and structures to flood hazards. Development within flood hazard areas (including FEMA Zones A and AE) is restricted in accordance with the City's Municipal Code Title 9, Division 1, Article 4 (Floodplain Management). Specifically, the Municipal Code includes requirements for methods of reducing flood losses (Section 9-1-404):

- Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities
- Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction
- Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters
- Control filling, grading, dredging, and other development that may increase flood damage
- Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards in other areas

Development within Specific Plan area FEMA Zones A and AE would require a development permit (Section 9-1-441 [Establishment of development permit]) and must comply with standards identified in Section 9-1-451 (Standards of construction) including:

- Adequate anchoring to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy
- New construction and substantial improvement shall be constructed:
 - > With materials and utility equipment resistant to flood damage
 - > Using methods and practices that minimize flood damage
 - > With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding
- Elevation and floodproofing:
 - > Residential construction, new or substantial improvement, the lowest floor, including basement must be elevated at least one foot above the base flood elevation and certified by a registered professional engineer or surveyor, and verified by the community building inspector to be properly elevated.
 - > Nonresidential construction, new or substantial improvement, the lowest floor shall either be elevated at least one foot above the base flood elevation or together with attendant utility and sanitary facilities be flood proofed below the base flood elevation recommended so that the

structure is watertight with walls substantially impermeable to the passage of water; have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and, also be certified by a registered professional engineer.

- > All new construction and substantial improvement with fully enclosed areas below the lowest floor (excluding basements) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater with designs meeting minimum criteria

All new and replacement water supply and sanitary sewage systems within the Specific Plan area FEMA Zones A and AE must also be designed to minimize or eliminate: infiltration of floodwaters into the systems, and discharge from the systems into floodwaters (Section 9-1-452 [Standards for utilities]). Additional standards for subdivision development within 100-year flood hazard areas are specified in Section 9-1-453 (Standards for subdivisions), including adequate drainage to reduce exposure to flood hazards.

Portions of the Specific Plan are also designated by FEMA as Zone X areas, with moderate flood hazard—areas between the limits of the 100-year and 500-year floods. Existing properties in FEMA Zone X areas are primarily currently developed, and the flood risk exists regardless of whether the Specific Plan is adopted. As for development within FEMA Zones A and AE, any new development within the existing the FEMA Zone X areas could result in expose more people and structures to flood hazards. However, the shallow flooding in FEMA Zone X areas would not present a substantial risk to people and structures.

Should construction occur within the 100-year flood hazard zone, implementation of the existing City of Laguna Niguel policies and regulatory requirements governing development in a FEMA-designated flood hazard zone (described above) would serve to reduce potential risks and flood insurance would be available to affected property owners. Furthermore, development within FEMA Zone X areas would not expose people or structures to substantial flood hazards. Therefore, these impacts would be *less than significant*, and no mitigation is required.

Threshold	Would the proposed project expose people or structures to inundation by seiche, tsunami, or mudflow?
	Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Impact 4.8-3 Implementation of the Specific Plan would not expose people or structures to substantial mudflow or flooding risks. Compliance with existing regulations, plans, and policies would ensure impacts are *less-than-significant*.

Potential flood risks are addressed in Impact 4.8-1 and Impact 4.8-2. Development within the Specific Plan area could be located on or adjacent to steep hillsides that may be subject to mudflow conditions. However, development within these areas would be subject to Municipal Code Section 9-1-458 (Mudslide [i.e., mudflow]). In accordance with Section 9-1-458, during the permit review process, the

floodplain administrator shall review permits for proposed construction of other development to determine if it is proposed within a mudslide area to determine that the proposed site and improvement will be reasonably safe from mudslide hazards. If development would occur in an area that may have mudslide hazards, the floodplain administration shall require that:

- A site investigation and further review be made by persons qualified in geology and soils engineering
- The proposed grading, excavation, new construction, and substantial improvement be adequately designed and protected against mudslide damages
- The proposed grading, excavations, new construction, and substantial improvement not aggravate the existing hazard by creating either on-site or off-site disturbances
- Drainage, planting, watering, and maintenance not endanger slope stability

Therefore the potential for flood and mudslide risks would be minimized through these existing City permitting processes and this impact would be *less than significant*, and no additional mitigation measures are required.

Water Quality

Threshold	<p>Would the proposed project violate any water quality standards or waste discharge requirements?</p> <p>Would the proposed project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</p> <p>Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?</p> <p>Would the project otherwise substantially degrade water quality?</p>
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Impact 4.8-4 Implementation of the Specific Plan would not violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, substantially alter the existing drainage pattern of the area in a manner that would result in substantial erosion or siltation, or otherwise substantially degrade water quality. Compliance with existing regulations, plans, and policies would ensure impacts are *less than significant*.

Potential impacts associated with storm drain system capacity are addressed in Impact 4.8-1 and is less than significant with mitigation.

Surface Water Quality

Construction

Development associated with the proposed project would include construction activities, such as clearing and grubbing, pavement removal and replacement, excavation and trenching for foundations and utilities, soil compaction, cut and fill activities, and grading, all of which would temporarily disturb soils.

Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport from the project area. Erosion and sedimentation affect water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported with sediment to downstream locations. Sediment-associated pollutants could also cause or contribute to degradation of water quality.

The delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could also introduce a risk for stormwater contamination that could impact water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination, and some hydrocarbon compound pollution associated with oil and grease can be toxic to aquatic organisms at low concentrations. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction.

All project developed under the Specific Plan that disturb one or more acres (individually or cumulatively), including installation and realignment of utilities, would be subject to existing regulatory requirements. The Construction General NPDES Permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP) and specific minimum BMPs to protect water quality during construction activities. Specific minimum BMPs must include, but would not necessarily be limited to, the following:

- Good site management “housekeeping” measures for construction materials that could potentially be a threat to water quality if discharged including waste and stockpile management; a spill response and implementation element of the SWPPP; vehicle storage and maintenance BMPs; landscape materials BMPs; an assessment and list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in stormwater discharges and authorized nonstormwater discharges; and air deposition of site materials controls.
- Nonstormwater management BMPs
- Wind and water erosion control BMPs
- Sediment controls including establishment and maintenance of effective perimeter controls and stabilization of all construction entrances and exits to sufficiently control erosion and sediment discharges from the site; and, where sediment basins are to be used, dischargers shall, at minimum, design sediment basins according to the method provided in Appendix 2 of the Construction General NPDES Permit.
- Run-on and run-off controls including effective management of all run-on, all runoff within the site, and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in the Construction General NPDES Permit.
- Inspection, maintenance, and repair of BMPs and sampling activities to be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger.
- Monitoring and reporting requirements require that all dischargers subject to the Construction General NPDES Permit shall develop and implement a written site specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of the Construction General

Permit. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions.

The City's Municipal Code, Article 8 (Grading and Excavation Code), Subarticle 1 (General Provisions) and Subarticle 13 (Erosion Control) also set forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments, site drainage and relevant water quality requirements, and establishes administrative requirements for issuance of permits and approvals of plans and inspection of grading construction in accordance with the requirements for grading and excavation as contained in the California Building Code then in effect as adopted and modified by city ordinance (Section 8-1-803 [Scope]). A grading permit is required for any grading, clearing, brushing or grubbing on natural or existing grade that is preparatory to grading, except as specifically permitted in the Municipal Code or as otherwise determined by the building official (Section 8-1-805). Erosion control plans (Section 8-1-836) and erosion control maintenance (Section 8-1-837) is also required for projects under a grading permit except under certain conditions for single residential lot projects. Subarticle 14 (Grading inspection) also ensures that projects requiring a grading permit are inspected by the City (Section 8-1-83). Title 9 (Planning and Zoning), Division 1 (Planning), Article 2 (Comprehensive Zoning Code), Subarticle 8 (Hillside Protection) also include requirements to minimizing geologic hazards, erosion and other potential dangers associated with hillside areas (Section 9-1-81 Hillside protection regulations). Additionally, the Municipal Code, Title 6, Division 3, Article 5, Section 6-3-400 (Runoff Water Quality Control Ordinance) ensures City of Laguna Niguel's compliance with the MS4 Permit which requires that each co-permittee must verify that project proponents subject to California's statewide Construction General NPDES Permit have existing coverage under the Construction General NPDES Permit (MS4 Permit Provision F.2.c.).

The Construction General NPDES Permit was prepared by the SWRCB to ensure that construction activities do not provide substantial additional sources of polluted runoff and implement practices protective of water quality standards. The City of Laguna Niguel's plan review and permit process provides for erosion control from construction activities. As such, existing permitting and regulatory requirements ensure that construction impacts to water quality are *less than significant*.

Operation

Development in accordance with the Specific Plan would result in changes to land use and development intensity, amount of impervious surfaces, and standards related to site layout, building design, and landscaping. Under the Specific Plan, it is expected there could be construction on vacant or undeveloped land resulting in new impervious surfaces and alterations in land use, and new construction on developed properties resulting in alterations in land use and potentially new impervious surfaces. New impervious surfaces (e.g., parking lots, rooftops, and hardscaping) that could be facilitated by the Specific Plan have the potential to result in changes in the amount of runoff and increase the potential for build up and wash off of pollutants during rain events. Changes in land use can also alter the concentration of pollutants in runoff entering receiving waters.

Pursuant to the Construction General NPDES Permit, all disturbed surfaces must be stabilized following construction activities, thereby reducing the potential for erosion and sediment transport, and all

dischargers are required to implement BMPs to reduce pollutants in stormwater discharges that are reasonably foreseeable after all construction phases have been completed at the site.

The City of Laguna Niguel has comprehensive standard requirements for developed lands to ensure that violations of water quality standards do not occur. For example, the City enforces its LIP/JRMP, a comprehensive water quality program, to manage runoff and to minimize water pollution. The goals and objectives of the LIP/JRMP are achieved through the use of BMPs that manage runoff water quality and reduce the potential for pollutant discharges to receiving waters. Site design or planning management BMPs are used to minimize runoff from new development and to discourage development in environmentally sensitive areas that are critical to maintaining water quality. Minimizing runoff reduces the potential for pollutants in runoff to be transported via the storm drain system to receiving waters. Source-control BMPs are usually the most effective and economical BMPs and keep pollutants out of stormwater and nonstormwater runoff. Treatment control (or structural) BMPs involve physical treatment of runoff, usually through structural means, to clean out pollutants in runoff waters.

The LIP/JRMP requires project-specific Water Quality Management Plans (WQMPs) governing post-construction BMPs for certain private development projects. Priority Developments that require a WQMP include: new projects that create 10,000 sf or more of impervious surface; automotive repair shops (SIC codes 5013, 5014, 5541, 7532–7534, and 7536–7539); restaurants involving over 5,000 sf of total development (SIC code 5812); hillside developments that create 5,000 sf or more of impervious surface in an area with known erosive soil conditions, involving grading on a natural slope of 25 percent or greater; projects that create 2,500 sf or more of impervious surface and are situated within 200 feet of an ESA; parking lots 5,000 sf or more, or with 15 or more parking spaces, and potentially exposed to runoff; streets, roads, highways, and freeways that would create a new paved surface 5,000 sf or more; retail gasoline outlets 5,000 sf or more with projected Average Daily Traffic (ADT) of 100 or more vehicles per day; or pollutant-generating projects that result in the disturbance of 1 acre or more of land. New construction on developed sites that will create, add, or replace at least 5,000 sf of impervious surfaces and where the existing development and/or new construction meets any of the project categories listed above are also considered Priority Development Projects and are required to prepare and implement a project-specific WQMP. In accordance with the LIP/JRMP, development projects that do not meet the requirements above are also required to implement a set of minimum BMPs, where appropriate.

Required BMPs of the LIP/JRMP include:

- Control of stormwater runoff discharge rates and volumes from projects requiring WQMPs
- Conservation of natural areas
- Minimization of stormwater pollutants of concern
- Protection of slopes and channels
- Storm drain system stenciling and signage
- Low-impact site design
- Properly designed trash and material storage areas
- Proof of ongoing BMP Maintenance
- Design standards for structural treatment control BMPs

- Nonstructural source control and operational BMPs
- Provisions for individual priority project categories
- Limitations on use of infiltration BMPs

LIP/JRMP requirements are enforced through the City's plan approval and permit process and all new development projects are subject to City inspection. Furthermore, all applicable projects must comply with LNMC, Title 6, Division 3, Article 5 (Prohibition of Non-Storm Water Discharges into Storm Sewers), which governs nonstormwater runoff controls and requires a City-approved WQMP (MS4 Permit Standard Stormwater Mitigation Plan [SSMP]) in compliance with the LIP/JRMP.

Minimization of nonstormwater discharges is also achieved through compliance with Municipal Code Title 6 (Health and Sanitation), Division 5 (Water Conservations), Article 3 (Water Efficient Landscaping Regulations), which requires that all development applications, except as specified in the City's Municipal Code Section 6-5-44b, must submit landscape and irrigation plans that are in compliance with the Water Efficient Landscaping Regulations prior to receiving a building permit. Certification that the irrigation system was installed in accordance with the approved plan is required prior to receiving issuance of final certificates of use and occupancy (Section 6-5-45). In accordance with Section 6-5-50 (Landscape standards), the landscape and irrigation plans and operational BMPs would ensure that potential overspray of irrigation water and over irrigation is minimized and reduce landscape management nonstormwater discharges from entering the storm drain system and discharging to receiving waters.

If development under the Specific Plan includes light industrial activities that must be covered under the Industrial General NPDES Permit, an Industrial SWPPP would be required to prevent stormwater quality pollution and nonstormwater discharges to the storm drain system from regulated sites. Coverage under the Industrial General NPDES Permit also requires a monitoring and reporting program to ensure BMPs are effective and water quality protection is provided.

Compliance with the City's LIP/JURMP, Municipal Code, and Industrial General NPDES Permit would ensure that development under the Specific Plan does not violate any water quality standards or waste discharge requirements, create or contribute additional runoff water that would provide substantial additional sources of polluted runoff, substantially alter the existing drainage pattern of the area in a manner that would result in substantial erosion or siltation, or otherwise substantially degrade water quality. Impacts would be *less than significant*, and no mitigation is required.

Groundwater Quality

During construction, exposed surfaces and excavations could increase the potential for groundwater contamination by construction chemicals and percolation of rainfall through areas with existing soil contamination. However, the Construction General NPDES Permit requires specific minimum BMPs to prevent contamination by construction chemicals and run-on prevention to reduce the potential for rainfall runoff to transport existing contaminants to groundwater by percolation through exposed surfaces. As such, potential groundwater quality degradation during construction would not be substantial.

Additionally, the MS4 Permit includes specific limitations on use of infiltration BMPs where groundwater quality could be adversely affected.

Operation of projects under the Specific Plan would not involve direct groundwater injection or withdrawals. Infiltration of stormwater runoff into groundwater is currently negligible because the Specific Plan area is mostly covered with impervious surfaces and/or low-permeability soils and slopes. However, infiltration BMPs would be encouraged as a low-impact design element during development, for those portions of the Specific Plan area where infiltration would be feasible and effective. The Specific Plan area does not overlay a drinking water aquifer. Additionally, the MS4 Permit requires limitations and pre-treatment for infiltration BMPs where groundwater quality could be affected by infiltrating stormwater. Groundwater recharge through the Oso Creek streambed could increase pollutant loads to groundwater if development under the Specific Plan results in greater amounts of polluted runoff entering Oso Creek. However, as discussed above under Surface Water impacts, provisions in the MS4 Permit and the Municipal Code would prevent substantial additional sources of polluted runoff entering Oso Creek and operational groundwater quality impacts would not be substantial.

Therefore, impacts with respect to violations of groundwater quality standards, discharge, and rate or movement of existing contaminants would be *less than significant*, and no mitigation measures are required.

Groundwater Resources

Threshold	Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?
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Impact 4.8-5 Implementation of the Specific Plan would not deplete or interfere with groundwater supplies or recharge. This would be a *less-than-significant* impact.

No new groundwater wells are included in the Specific Plan and there would be no direct depletion of groundwater supplies or lowering of the local groundwater tables; groundwater is not used by the City of Laguna Niguel; City of Laguna Niguel's water wholesaler, the Moulton Niguel Water District (MNWD), does not use groundwater supplies. Additionally, the San Juan Valley Groundwater Basin is jurisdictionally subterranean surface water and a surface water supply subject to a Water Rights permit. As such, potential effects on the San Juan Valley Groundwater Basin would constitute a surface water supply effects and not a groundwater supply effect.

Impedance of shallow groundwater recharge by new impervious surfaces is not expected to be substantial because the majority Specific Plan area is already highly impervious, the Specific Plan area does not overlay a drinking water aquifer, existing undeveloped lands that could be developed do not likely contribute to much groundwater recharge because of steep slopes, which encourage rainfall runoff as opposed to percolation to groundwater, and San Juan Valley Groundwater Basin recharge is primarily through streambed and bank percolation. Some increase to shallow groundwater recharge may occur, to

the extent that infiltration BMPs are incorporated during redevelopment, in locations where infiltration would be feasible and effective.

New development in accordance with the Specific Plan could also indirectly increase the MWDOC demand for groundwater as increased surface water demands from MNWD may require deficiencies to be met with groundwater supplies. However, the Specific Plan requires new development to use reclaimed water to irrigate landscaping and the City's Municipal Code requires water efficient landscaping, thereby reducing potential demand for increased or new groundwater supplies for MWDOC.

As such, the Specific Plan would not substantially deplete groundwater supplies, interfere with groundwater recharge, or reduce the ability of a water utility to use the groundwater basin for public water supplies. This impact would be *less than significant*, and no mitigation measures are required.

4.8.4 Cumulative Impacts

The cumulative context for the analysis of hydrology and water quality impacts is a function of the type of impact and geographic considerations. Some cumulative impacts may have a broad, regional context, while others may be limited by site-specific conditions or location. The cumulative context regarding flooding and drainage, water quality, and groundwater resources is described at the beginning of each analysis, below.

■ Drainage and Flooding

Thresholds	<p>Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?</p> <p>Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems?</p>
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The cumulative context for site drainage patterns and stream or river course alterations effects on flooding is the San Juan Creek hydrologic area. Areas along downgradient Oso Creek, Trabuco Creek, and San Juan Creek are already subject to 100-year flooding. Direct alteration of creeks and drainages within the San Juan Creek hydrologic area would be subject to existing OCFCD, California Department of Fish and Game, SDRWQCB, individual city development requirements, and potentially U.S. ACOE regulatory requirements. However, cumulative development could increase impervious surfaces, alter land surface drainage characteristics, and local storm drain systems such that flood hazards are exacerbated. This would be a potentially substantial cumulative effect on flooding within areas already inundated during a 100-year flood event.

The cumulative context for storm drainage system flooding impacts is the extensive storm drain system operated by the City of Laguna Niguel. Stormwater flows from the Specific Plan area currently combine with those from surrounding development and are discharged into the storm drain system. Deficiencies in the existing onsite storm drain facilities have been identified in 1992 in the Master Drainage Plan.

Most of the private land in the Specific Plan area is already developed, and flows from those areas are already accounted for in system capacity. Therefore, cumulative effects on storm drain system capacities are not substantial.

With implementation of mitigation measure MM4.8-1, the Specific Plan impacts on flooding and the storm drain system would be less than significant. As such, the Specific Plan would not contribute considerably to cumulative impacts and cumulative drainage and flood impacts would be *less than significant*.

Threshold	Would the proposed project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows?
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The cumulative context for flood hazards is the City of Laguna Niguel. Portions of the City of Laguna Niguel are located within FEMA-identified 100-year flood hazard areas. The City is essentially fully built out (City of Laguna Niguel 2010); however, future development within flood hazard areas could result in greater flood risks to people and structures. In accordance with the City's Municipal Code (Title 9, Division 1, Article 4 [Floodplain Management] and Article 2, Subarticle 5, Section 9-1-54.3 [FP floodplain overlay district]), development within these areas is restricted and specific development standards must be implemented to minimize the exposure of people and structures to flood hazards within 100-year flood hazard areas.

NFIP regulations also require restrictions on development where structures could result in impedance or redirection of flood flows. The floodplain administrator is responsible for ensuring that floodplain development in areas without a regulatory floodway do not cause or contribute to substantial increases in the floodwater surface elevation and flood risks. These existing regulatory requirements ensure that cumulative floodplain development would not have a substantial effect on flood hazard risks. Further, flood insurance would be available to affected property owners.

Portions of the Specific Plan area are within FEMA-designated Zone A and Zone AE, which are areas inundated by 100-year flood events. Any development within the existing flood hazard areas could result in exposing additional people and structures to flood risks. However, because of the limited size of developable land in the Zone A and Zone AE mapped areas (primarily Oso Creek and other surface water drainage channels), such changes would not be substantial. Furthermore, new construction or substantial redevelopment within a 100-year flood hazard zone, implementation of the existing City of Laguna Niguel policies and regulatory requirements governing development in a FEMA-designated flood hazard zone would reduce the Specific Plan flood risks to less-than-significant levels. Therefore, the project would not contribute considerable to cumulative impacts and cumulative impacts would be *less than significant*.

Threshold	<p>Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</p> <p>Would the proposed project expose people or structures to inundation by seiche, tsunami, or mudflow?</p>
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The Specific Plan would have no impacts associated with tsunamis, seiches, dam failure inundation, or levee failure inundation; therefore, a cumulative impacts analysis is not provided. As noted above, potential cumulative flood risks are less than significant.

The cumulative context for potential mudflow risks is the City of Laguna Niguel. Development within potential mudslide areas would be subject to Municipal Code Section 9-1-458 (Mudslide [i.e., mudflow]). Compliance with the Municipal Code includes development requirements to minimize potential mudflow risks and cumulative impacts would be less than significant. Development within the Specific Plan area could be located on or adjacent to steep hillslopes that may be subject to mudflow conditions in a few areas. Compliance with the Municipal Code would ensure that mudflow risks associated with development in accordance with the Specific Plan is less than significant and the Specific Plan would not contribute considerably to cumulative impacts. Cumulative flood and mudslide risks would be *less than significant* with existing regulatory requirements.

■ Water Quality

Threshold	<p>Would the proposed project violate any water quality standards or waste discharge requirements?</p> <p>Would the proposed project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</p> <p>Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?</p> <p>Would the project otherwise substantially degrade water quality?</p>
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The cumulative context for water quality is existing and reasonably foreseeable development in SDRWQCB’s San Juan Watershed Management Area (WMA) (City of Laguna Niguel 2010).

With respect to new construction, all development within the WMA is required to conform to applicable Waste Discharge Requirements (WDRs) including the Construction General NPDES Permit, Industrial General NPDES Permit, MS4 Permit, Regional Dewatering General WDR, and any individual WDRs/NPDES Permits that may be applicable. During construction, all development within the WMA that would disturb one or more acres would have to comply with the Construction General NPDES Permit, including preparation of a SWPPP and implementation of specific minimum BMPs to protect water quality. Industrial activities and development covered under the Industrial General NPDES Permit are required to implement a SWPPP and monitoring and reporting program to minimize the potential for pollutant discharged to the storm drain system.

The requirements of the MS4 Permit are implemented by the City through the LIP/JRMP. Priority projects, as identified in the LIP/JRMP, would be required to prepare and implement a project-specific WQMP, including stormwater runoff controls. Nonpriority projects are also required to implement water quality BMPs where feasible. Specific water quality protection requirements for municipal projects are identified in the LIP/JRMP Municipal Activities element. Protection of water quality during operational dewatering activities would be ensured by compliance with the Regional Dewatering General WDR. Certain development and activities not covered under the above general permits may be required to obtain an individual NPDES Permit and/or WDR (e.g., wastewater treatment facilities or groundwater cleanup facilities) that would include specific project requirements issued by the SDRWQCB to protect water quality. These WDRs/NPDES permits include monitoring and reporting programs and inspection and enforcement provisions to ensure violation of WDRs is minimized.

The applicable water quality standards are listed in the Basin Plan. The biannual review of water quality impairment, development of TMDLs, and limited permit terms ensure that violation of water quality standards is minimized. As such, potential cumulative effects of development within the WMA are not substantial.

Development within the Specific Plan area, would be subject to regulations that, as applicable require implementation of specific minimum BMPs during construction activities, preparation and implementation of an approved WQMP, and preparation and implementation of an Industrial SWPPP, which would minimize the potential for the discharge of pollutants to water resources and increased flows that could cause or contribute to erosion in susceptible water courses. These existing regulatory requirements ensure that Specific Plan impacts on water quality are less than significant and that the Specific Plan would not contribute considerably to cumulative impacts. Therefore, the cumulative water quality impacts would be *less than significant*.

■ Groundwater Resources

Threshold	Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?
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The cumulative context for groundwater resources impacts is the San Juan Valley Groundwater Basin, which underlies portions of the communities of Mission Viejo, San Juan Capistrano, Dana Point, and unincorporated areas of southern Orange County. The San Juan Valley Groundwater Basin is comprised of four subbasins: Upper San Juan, Middle San Juan, Lower San Juan, and Lower Trabuco. The Specific Plan area is located next to and drains into the Lower Trabuco subbasin. The San Juan Valley Groundwater Basin is area local groundwater basin supply of Metropolitan member agency Municipal Water District of Orange County (MWDOC). Although recharge of this basin is primarily through creek beds and banks, some recharge occurs through percolation of rainfall. Increased development in areas overlying or upstream of the basin could reduce groundwater recharge; however, this is not expected to be substantial.

Increased development within the MWDOC service area could result in increased demand on its San Juan Valley Groundwater Basin supplies. However, as noted above, this would not be considered a depletion in groundwater supplies because the San Juan Valley Groundwater Basin has been determined by the SWRCB to be subterranean river flow and therefore, a surface water supply subject to water rights permits. The San Juan Basin Authority (SJBA) SWRCB Permit for Diversion and Use of Water Permit No. 21074 allows for appropriation and diversion of up to 8,026 acre-feet per year (afy), with the ability to increase to 10,702 afy upon demonstration of sufficient availability of unappropriated water from the San Juan Valley Groundwater Basin (MWDOC 2011). Because withdrawal from this basin is regulated by water rights permits, cumulative development within the MWDOC service area would not affect groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Groundwater is a not component of the City's water supply program, as such, increased demand associated with the Specific Plan would not directly affect groundwater resources. The water demand of individual projects under the Specific Plan would be met with existing surface water supplies and imported water supplies, and use of reclaimed water for landscape irrigation. The Specific Plan area does not contribute greatly to groundwater recharge because the area is already highly impervious, does not overlay a groundwater basin, and pervious areas have steep slopes, which are more prone to stormwater runoff instead of percolation. Therefore, any increased impervious surface associated with Specific Plan area build out would not have a substantial effect on groundwater recharge. Any stormwater infiltration promoted by LID or hydromodification BMP requirements applied to new developments could incrementally increase recharge. Overall, the Specific Plan impacts on groundwater supplies and water tables would be less than significant and it would not contribute considerably to cumulative impacts. Cumulative groundwater resources impacts would be *less than significant*.

4.8.5 References

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4.9 LAND USE/PLANNING

This section of the PEIR describes existing land uses within the Laguna Niguel Gateway Specific Plan and in the surrounding area, and evaluates the potential for land use impacts associated with adoption of the proposed Specific Plan. The analysis focuses on the potential for the Specific Plan to result in impacts on existing and planned uses within the project site boundaries and on adjacent community land uses, and the relationship of the Specific Plan to relevant planning policies that guide land use decisions.

Data used in the preparation of this section were obtained primarily from the Laguna Niguel General Plan (General Plan), the existing 1999 Laguna Niguel Gateway Specific Plan, Laguna Niguel Municipal Code (LNMC), and information from City Staff. Full bibliographic entries for all reference materials are provided in Section 4.9.5 (References) at the end of this section.

Two comment letters addressing land use/planning were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

4.9.1 Environmental Setting

The City of Laguna Niguel is located in south Orange County, California, approximately 50 miles south of downtown Los Angeles and 65 miles north of downtown San Diego. The City of Laguna Niguel is surrounded by the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Mission Viejo, and San Juan Capistrano. Laguna Niguel is a 14.72-square-mile planned community consisting of residential neighborhoods, parks, and supporting retail businesses in an attractive setting that has a distinct coastal orientation.

■ Specific Plan Area Characteristics

The Specific Plan area includes approximately 315 acres, is almost 2 miles long, and varies from 0.1 to 0.6 mile at its widest point at Crown Valley Parkway. The Specific Plan area is characterized by a series of roadways, railway, utilities, and drainage facilities that substantially affect the cohesion of the area. The Gateway area is physically separated from the rest of the City by the State Route 73 (SR-73) toll road, which serves as the westerly boundary of the area. The Interstate 5 (I-5) forms the eastern boundary of the Specific Plan area. Figure 3-1 (Project Location and Regional Context) illustrates the project site's regional location and vicinity.

The Specific Plan area is currently developed with approximately 1,371,000 square feet (sf) of nonresidential uses, including a variety of commercial service, light industrial, auto sales and services, retail, and office uses. Figure 3-2 (Existing Land Uses) depicts the existing land uses on each parcel within the Gateway area. The primary land uses within the Specific Plan area are light manufacturing and auto sales, with approximately 174,544 sf of development dedicated auto sales on 17.78 acres of land, and 878,740 sf of light manufacturing located within the Specific Plan area. Office uses comprise approximately 173,900 sf, and retail uses total approximately 143,895 sf within the Specific Plan area. Additionally, there are currently 33 hotel rooms within the Specific Plan area. There are currently no

residential uses located within the Gateway area. Approximately 115 acres (37 percent) of the project site is designated as Open Space.

■ Existing General Plan Designations

The City of Laguna Niguel General Plan Land Use Element divides the entire City into fourteen separate areas called Community Profile Areas. The 1999 Gateway Specific Plan area is currently included in a portion of Community Profile Area 3 and all of Community Profile Area 4. The Laguna Niguel General Plan Land Use Map identifies properties within the Specific Plan area as having the following Land Use designations:

- **Community Commercial:** This designation is applied to commercial centers with uses intended to serve the entire community. Community Commercial centers are larger planned shopping complexes which provide for a broader range of goods and services, and serve a greater trade area than neighborhood centers.
- **Industrial/Business Park:** This designation provides for the development for a variety of compatible light manufacturing, wholesaling and office uses supportive of a contemporary business center environment.
- **Professional Office:** This designation provides for professional offices, corporate headquarters, research and development, and administrative offices. It is intended to provide for office uses, and supporting limited retail.
- **Public/Institutional:** This designation includes a wide range of public, quasi-public, and special purpose private facilities that are aimed at providing a variety of governmental or social services for the community.
- **Open Space:** Areas designated Open Space are primarily intended for passive recreation, or visual enhancement, or resource conservation uses. Such uses would include; conservation of natural resource area, natural hillsides, and landscaped slopes or buffers and trails. Active sports or other organized recreational activities are not encouraged in these areas.

The General Plan Land Use Element was amended with the adoption of the 1999 Gateway Specific Plan to provide for increased densities, up to a Floor Area Ratio of 1.0 in some cases, based upon certain lot sizes, as an incentive to implement the Specific Plan. In addition, the statistical summaries for the Community Profile Areas, which establish the buildout capacities for the City, were amended to reflect the anticipated new development identified in the 1999 Specific Plan. The Gateway Specific Plan includes a portion of Community Profile 3 and all of Community Profile Area 4 and allows up to 3,777,000 square feet of nonresidential development.

The proposed Specific Plan Update project includes a General Plan Amendment (GPA 11-01) as implementation of the proposed project would result in changes to land use and development intensity standards. The proposed Specific Plan would update and replace the current Laguna Niguel Gateway Specific Plan adopted in June 1999. The GPA would be subject to review and recommendation by the Planning Commission and approval by the City Council.

■ Existing Zoning/Specific Plan

The Zoning designation for the entire Specific Plan area is “S-Laguna Niguel Gateway Specific Plan.” The 1999 Specific Plan defines the overall vision, goals, policies, land use regulations, development standards, and design guidelines for the Specific Plan area. The Zoning designation for the entire Specific Plan area is “S-Laguna Niguel Gateway Specific Plan.” By statute, the Specific Plan must be consistent with the goals, policies, and implementation programs of the City of Laguna Niguel General Plan.

The 1999 Laguna Niguel Gateway Specific Plan identifies six land use designations and one overlay designation applicable to properties within the Specific Plan area, which include:

- **Automotive Commercial (CA)**—This Zone accommodates new and used automobile sales and other uses generally related to the rental, repair, storage and operation of automobiles and other vehicles.
- **Hospitality Commercial (CH)**—This Zone provides for restaurants, hotels, motels, service stations and other uses intended to serve the motoring public.
- **Commercial/Light Industrial (C/LI)**—This Zone provides for a wide variety of retail, general/highway commercial services, light industrial, manufacturing, and warehousing uses.
- **Mixed Use (MU)**: This Zone provides for a cohesive mix of various retail, entertainment, commercial services, hotels, and office uses and would accommodate the most intense land uses within the Specific Plan area.
- **Public/Institutional (PI)**—This Zone provides for public and quasi-public utility uses, such as the existing San Diego Gas & Electric substation facility on Camino Capistrano.
- **Open Space (OS)**—This Zone provides for areas and slopes that were to remain undeveloped, trails, the Oso Creek drainage channel, the Galivan detention basin, freeway overpasses, and utility lines.
- **Transit Overlay (T)**—This Zone provides an additional overlay zone to properties designated Mixed Use to accommodate transit-oriented uses related to the Metrolink station, including other public transit and parking facilities.

The proposed Laguna Niguel Gateway Specific Plan requires a Zone Change (ZC 11-01) to update the City’s Zoning Map and to consider the amended Specific Plan document, which would update and replace the current Laguna Niguel Gateway Specific Plan adopted in June 1999. The ZC would be subject to review and recommendation by the Planning Commission and approval by the City Council.

■ Surrounding Land Uses

There are several large-scale retail developments in proximity to the Gateway area. The Mission Viejo Freeway Center, a big-box retail center, lies east of Cabot Road and west of I-5, approximately 2 miles north of the Specific Plan area. The Shops at Mission Viejo, an indoor mall, is located nearly adjacent to the I-5 on the east, just south of Crown Valley Parkway, and the Kaleidoscope Courtyards shopping complex, an entertainment/retail center located at the northeast corner of I-5 and Crown Valley Parkway. A fourth shopping center, The Center at Rancho Niguel, is located at Greenfield Drive and Crown Valley Parkway, 0.25 miles west of the Specific Plan area.

The area located north of SR-73 and west of the Gateway area contains steep hillsides sloping up to single-family detached residential homes on large lots (i.e., the Nellie Gale Ranch community in the City of Laguna Hills). South of SR-73 and west of the Gateway area, the land is devoted to both detached and attached residential uses. With the exception of the multi-family development located on Cabot Road, directly south of the Crown Cabot Financial Center, all of the existing residential areas are located at a higher-grade elevation than the Specific Plan area properties. The City of San Juan Capistrano is located along the southern border of the Gateway area. This land is primarily undeveloped, aside from an extensive church/school/camp complex with several buildings, gardens, playing fields, and parking areas (formerly the Schuller church retreat).

To the east of the Specific Plan area, in addition to the previously noted Shops at Mission Viejo and the Kaleidoscope shopping complex, are the I-5, various corporate office uses, Saddleback College, Mission Hospital Regional Medical Center, and other medical and general office buildings.

4.9.2 Regulatory Framework

■ Federal and State

There are no federal or state regulations related to land use that apply to the proposed project.

■ Regional

Southern California Association of Governments (SCAG)

SCAG Regional Transportation Plan

The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality.

On May 8, 2008, the Regional Council of SCAG adopted the 2008 Regional Transportation Plan (RTP): Making the Connections. The 2008 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that preserve and enhance the existing transportation system and integrate land use into transportation planning. The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. Relevant goals and policies of the RTP are discussed as part of the impact discussion below.

SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- Mobility—Getting where we want to go
- Livability—Creating positive communities
- Prosperity—Long-term health for the region
- Sustainability—Preserving natural surroundings

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region’s mobility, livability and prosperity. Specific growth visioning principles and strategies are discussed as part of the impact discussion below.

■ Local

City of Laguna Niguel General Plan

The City of Laguna Niguel General Plan outlines an order of progress through which the City can grow and maintain economic and environmental integrity. As a policy, the General Plan serves as a guide to the adoption of laws necessary to execute its intent. The General Plan is composed of nine elements, as follows:

- Land Use
- Open Space, Parks and Conservation
- Circulation
- Public Facilities
- Noise
- Seismic and Public Safety
- Housing
- Growth Management
- Community Service Standards

The applicable goals, objectives, and policies of each of the above-listed elements are discussed in the section pertaining to the relevant resource in this PEIR. The thresholds for analysis of land use impacts include the identification of conflicts with goals and policies. As such, applicable goals and policies in the Land Use Element of the General Plan related to land use that are potentially relevant to the proposed project are analyzed under Impact 4.9-1.

Laguna Niguel Gateway Specific Plan

In May 1999, the Laguna Niguel City Council adopted the Laguna Niguel Gateway Specific Plan, which defines the overall vision, goals, policies, land use regulations, development standards, and design guidelines for the Specific Plan area. By statute, the Specific Plan must be consistent with the goals, policies, and implementation programs of the City of Laguna Niguel General Plan. The 1999 Specific Plan envisioned the development of retail, restaurant, entertainment, hotel, office, and business park uses in the Gateway Area. The 1999 Specific Plan elements included a land use plan, urban design plan, circulation plan and public services and facilities plan, in addition to development standards and an implementation program. The proposed Specific Plan Update would supersede the existing Specific Plan.

City of Laguna Niguel Municipal Code

The Zoning designation for the entire Specific Plan area is “S-Laguna Niguel Gateway Specific Plan.” The Municipal Code regulations apply to Specific Plan properties wherever the Specific Plan references the Municipal Code or where the Specific Plan is silent regarding a specific regulation or ordinance.

■ **Proposed Specific Plan Policies**

Below are the proposed specific plan policies that relate to land use, organized by section. The policies of the Specific Plan provide guidance for new development and mobility and public improvements within the Gateway area. These policies apply globally throughout the area and supplement the goals and policies of the adopted City of Laguna Niguel General Plan. Development proposals must be found to be consistent with the policies of both the General Plan and proposed Specific Plan.

Land Use and Development

- Policy 3.2.1** **Transit-Oriented Development.** Accommodate the development of a mix and density of land uses that benefit from the presence and support of transit use in the Gateway area.
- Policy 3.2.2** **Land Use Mix and Balance.** Promote the development of a diverse mix of uses within distinct neighborhoods and districts containing housing, general and medical offices, retail commercial, dining and entertainment, community services, and amenity uses supporting residents, workers, and transit riders.
- Policy 3.2.3** **Housing.** Provide for increased densities to encourage the development of housing that accommodates a variety of persons and households who choose to live in an active, urban environment.
- Policy 3.2.4** **Office Development.** Promote the development of general and medical offices contributing to the economic health of Laguna Niguel, while providing quality employment opportunities for residents in the City, adjoining communities, and those in the region that are accessible by transit.
- Policy 3.2.5** **Retail Commercial.** Promote the development of retail and service commercial uses that enable the residents and workers of the area to meet their basic needs locally without travelling to other areas, while contributing revenues for City services.
- Policy 3.2.6** **Community-Supporting Uses.** Continue to provide for light manufacturing, business park, automobile sales, and comparable uses needed to serve Laguna Niguel, provided that they are located and designed to be compatible with and not diminish the intended urban and pedestrian character of the Gateway area.
- Policy 3.2.7** **Emerging and Evolving Market Demands.** Allow for flexibility in the mix of land uses to be accommodated in the Gateway area to respond to economic markets for retail, office, and housing uses as they evolve and newly emerge during the lifetime of the Specific Plan.
- Policy 3.2.8** **Parcel Assembly.** Provide for increased densities for the assembly of adjoining parcels as incentives for the development of larger scale, cohesive mixed-use development projects.

- Policy 3.2.9** **Development Density.** Promote development that creates a high-density urban community, concentrating residents and jobs in proximity to the Metrolink station.
- Policy 3.2.10** **Urban Framework.** Develop a network of greenways, streetscapes, and public places that serve as the organizing framework for land use development and provide connectivity throughout the Gateway area.
- Policy 3.2.11** **Sustainable Development.** Encourage developers to employ best practices for architectural design, land development, and infrastructure improvements that reduce consumption of nonrenewable resources such as energy and water, toxic wastes and pollutants, greenhouse gas emissions, and “heat islands.”
- Policy 3.2.12** **Natural Setting.** Protect the integrity and health of the Gateway’s natural resources including its undeveloped hillsides, riparian corridors, and important plant and animal habitats.

4.9.3 Project Impacts and Mitigation

■ Analytic Method

The analysis in this section addresses the compatibility of land uses identified in the proposed project with existing and planned uses within and adjacent to the project site, as well as consistency with any applicable land use plans, policies, or regulations. Analysis of other elements of the General Plan is provided in the applicable resource sections of this PEIR.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2010 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on land use/planning if it would do any of the following:

- 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

■ Effects Found to Have No Impact

Threshold	Would the proposed project physically divide an established community?
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The proposed project would not disrupt or physically divide an established community. The 315-acre Specific Plan area is currently developed with a variety of commercial service, light industrial, auto sales and service, retail, and office uses. There are no residential uses located within the Specific Plan area. The project involves the adoption of a planning document for the purpose of guiding and facilitating new investment in the Specific Plan area with a mix of residential and commercial uses. The proposed project would not cut off an existing or proposed transportation route. Therefore, *no impacts* would occur, and no further analysis is required in the PEIR.

Threshold	Would the proposed project conflict with any applicable habitat conservation plan or natural community conservation plan?
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There are no applicable habitat conservation plans or natural community conservation plans for the proposed project site. The City of Laguna Niguel, which includes the Specific Plan area is not a participating agency in the South Central Coastal Natural Community Conservation Plan (NCCP) area. The land is currently developed with limited landscape or natural features. **No impact** would result, and no further analysis of this issue is required in the PEIR.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
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Impact 4.9-1 **Implementation of the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. This would be a less-than-significant impact.**

Description of Specific Plan Project

The proposed Specific Plan project includes a General Plan Amendment (GPA 11-01) as implementation of the proposed project would result in changes to land use and development intensity standards, and a Zone Change (ZC 11-01) to update the City’s Zoning Map and to consider the amended Specific Plan document, which would update and replace the current Laguna Niguel Gateway Specific Plan adopted in June 1999. Both the GPA and ZC would be subject to review and recommendation by the Planning Commission and approval by the City Council.

The proposed Specific Plan would allow for a maximum of 2,994 dwelling units where none currently exist; a total of 2,259,931 square feet of non-residential where a total of 1,371,000 square feet currently exist, and; a total of 350 hotel rooms where 33 currently exist. However, it should be recognized that the majority of the area is already developed, and new development would likely be less than the maximum allowed and full buildout may never be reached. Table 4.9-1 (Land Use Development Capacity) provides the development capacity of the Specific Plan by Planning District.

Planning Districts

The Specific Plan area has been divided into eleven districts, based on the existing building patterns within each area and the intended development envisioned for each district. The District Plan establishes a series of distinct residential, employment, commercial, mixed-use, and transit-oriented districts interconnected and unified by a network of public realm improvements. Each district is defined by

Planning District	Residential (dwelling units)	Retail Commercial (square feet)	Office (square feet)	Business Park (square feet)	Hotel (rooms)	Automobile Sales (square feet)
A	0	0	0	76,480		
B	0	0	0	323,200		
C	220	0	305,460	0	*	
D	200	0	187,639	0	200*	
E	1,427	87,338	203,425	0	*	
F	142	0	173,900	0		
G	142	247,639	0	0	*	
H	863	76,000	240,100	0	*/***	
I	0	62,509	30,492	0	***	45,739****
J	0	0	0	0		141,860*****
K	0	58,150	0	0	150**	
Totals	2,994	531,636	1,141,016	399,680	350	187,599

* A hotel with a maximum of 200 rooms may be located in planning districts C, D, E, G, or H.

** A total of 150 motel/hotel rooms may be located within planning district K.

*** Up to a total of 1,200 parking spaces to serve the Metrolink station may be provided in areas H & I

**** Includes 45,739 sf of building space and 106,721 sf of exterior sales are on 3.5 acres of land dedicated to automobile sales

***** Includes 141,860 sf of building space and 481,048 sf of exterior sales are on 14.3 acres land dedicated to automobile sales

roadway or other identifiable features. Their boundaries are consistent with General Plan Land Use Element Community Profile Areas and Traffic Analysis Zones (TAZs) to enable effective administration and monitoring of new development as it occurs. Figure 3-3 (Proposed Planning Districts) illustrates the proposed Planning Districts within the Specific Plan area.

Regulating Plan and Zones

The Specific Plan establishes five land use zones applicable to all properties within the Specific Plan area. The land use zones, as described in Section 3.2 of this PEIR, include: Retail Commercial, Business Park, Community Service, Mixed Use, and Open Space. The Specific Plan's Regulating Plan, included as PEIR Figure 3-4 (Proposed Regulating Plan), defines the boundaries and locations of these zones, which are based on the desired distribution and mix of uses, development densities, and urban form characteristics identified in Chapter 3 (Policies and Development Plans) of the Specific Plan. The zones are intended to accommodate the development of multiple new districts and corridors where the placement of buildings, form and scale, orientation to sidewalks and the public realm, location of parking, and architectural character promote the interaction among living, working, shopping, and entertainment functions.

Consistency with Applicable Land Use Policies

As required by Section 15125(d) of the CEQA Guidelines, this PEIR discusses any inconsistencies between the proposed project and applicable regional and local plans. The applicable plans relevant to the proposed project, and for which a consistency analysis is also provided, include SCAG's RTP and Compass Growth Visioning documents, and the City of Laguna Niguel General Plan Land Use and

Circulation Elements. As requested by SCAG in their November 1, 2010, NOP comment letter, consistency of the proposed project with applicable regional plans is provided in Table 4.9-1 (SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis). Consistency of the proposed project with local plans is provided in Table 4.9-2 (Laguna Niguel General Plan Consistency Analysis). In specific cases where the policies or goals are similar, or address similar issues, the consistency analysis has been summarized for multiple policies. If one policy or goal is unique or addresses a specific issue, a separate consistency analysis is provided for that policy. Table 4.9-3 (Laguna Niguel General Plan Consistency Analysis) provides the general plan consistency analysis.

Table 4.9-2 SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis

SCAG RTP Policies		Project Consistency
Regional Transportation Plan		
RTP G1	Maximize mobility and accessibility for all people and goods in the region.	Consistent: The proposed Specific Plan creates land use and circulation policies that support mobility for people and goods, through enhancements of public transportation, walking and bicycling to make them viable alternatives to automobile travel. In addition, maximizing the efficiency of the circulation system through the use of Transportation Demand Management (TDM) techniques is also encouraged, to reduce total vehicular miles traveled in the City and to manage congestion and maximize mobility. TDM techniques, as identified in Chapter 3 of the Specific Plan, include incentives to use alternative transportation modes such as ridesharing, carpools, vanpools, public transit, bicycles, and walking. TDM techniques would reduce the number of vehicle trips, or travel during peak times. Implementation of the Specific Plan would maximize productivity of the region’s transportation system. Further, the proposed land use changes would encourage more pedestrian-oriented uses and design, and would locate housing in close proximity to jobs and transit facilities which would serve to further reduce automobile trips. The proposed Specific Plan encourages transit-oriented development that places housing near transit and close proximity of jobs. The mix of uses would enable residents and workers to meet their basic needs in the Gateway area without traveling to outside communities.
RTP G2	Ensure travel safety and reliability for all people and goods in the region.	Consistent: The proposed Specific Plan includes policies and plans that support the creation of an efficient multi-modal transportation network that maximizes safety and reliability for vehicles, transit users, bicyclists, and pedestrians. The proposed Specific Plan would establish and maintain a diverse multimodal transportation system that provides mobility options for the community, including adequate roads, transit service, bike paths, pedestrian walkways, and commuter rail service that supports the Specific Plan area.
RTP G3	Preserve and ensure a sustainable regional transportation system.	Consistent: The proposed Specific Plan includes a Circulation and Mobility Plan that identifies improvements in the circulation system to accommodate future traffic. The plan includes arterial and freeway access improvements along with an emphasis on expansion of non-automobile travel including transit, bicycle and walking trips. Additionally, the proposed Specific Plan supports the creation of mixed-use neighborhoods and districts to put daily needs within walking distance and maximizes the use of transit by residents and workers through the placement and density of land uses, and the creation of safe and attractive pedestrian and bike routes to the Metrolink station. The proposed Specific Plan also includes polices and plans for the City to continue to work with adjacent jurisdictions and regional agencies to coordinate transportation improvement projects and identify funding sources that will support a sustainable regional transportation system.

Table 4.9-2 SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis

<i>SCAG RTP Policies</i>		<i>Project Consistency</i>
RTP G4	Maximize the productivity of our transportation system.	Consistent: An objective of the proposed Specific Plan is to develop land uses and densities that maximize ridership and support public investment in transit facilities. Additionally, the Circulation and Mobility plan identifies physical and operation improvements intended to address both project-specific and regional transportation issues. Improvements include arterial and freeway access improvements along with an emphasis on expansion of non-automobile travel including transit, bicycle and walking trips. Implementation of the Specific Plan would create an interconnected transportation system that encourages a shift in travel from private passenger vehicles to public transit, ride-sharing, car-sharing, bicycling, and walking. The proposed Specific Plan has policies that would also provide traffic management tools, such as TDM techniques as identified in Chapter 3 of the Specific Plan and described previously in this table.
RTP G5	Protect the environment, improve air quality, and promote energy efficiency.	Consistent: The proposed Specific Plan incorporates policies aimed at relieving congestion, improving air quality and protecting the environment through implementation of TDM techniques encouraging new mixed-use near existing development and transit corridors, and supporting development of a multi-modal pathway system that includes access for bicyclists, pedestrians, and equestrians. The Specific Plan would encourage developers to employ best practices for architectural design, land development, and infrastructure improvements that reduce consumption of nonrenewable resources. These efforts lead to reduced per capita VMT, and GHG emissions that are critical to long-term environmental protection.
RTP G6	Encourage land use and growth patterns that complement our transportation investments and improves the cost-effectiveness of expenditures.	Consistent: Land use changes in the proposed Specific Plan area are intended to maximize the use of transit by residents and workers and support public investment in transit facilities through the placement and densities of land uses and the creation of safe and attractive pedestrian and bike routes to the Metrolink Station. The proposed Specific Plan area is currently served by Metrolink rail service and Orange County Transportation Authority (OCTA) bus service. Revitalization of the Specific Plan Area creates a high-density urban community, concentrating residents and jobs in proximity to the Metrolink station, which is planned to expand service. Development of the Specific Plan Area would serve to support the efforts of OCTA to expand commuter rail and bus service to Laguna Niguel, especially the Laguna Niguel/Mission Viejo Metrolink station. In addition, Implementation of the Specific Plan would be through in-fill development on sites accessed and supported by existing infrastructure, in close proximity to both the I-5 freeway and SR-73. This approach would link land use decisions to transportation investments, which minimizes costs on infrastructure, makes use of existing facilities, and reduces vehicle trips. As such, implementation of the Specific Plan would complement transportation investments.
RTP G7	Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Consistent: The proposed Specific Plan would promote and support roadway infrastructure improvements and improve access to the City and Specific Plan area from the I-5 and SR-73. These actions would improve the safety of the existing transportation system serving the Specific Plan area. Additionally, the proposed Specific Plan would introduce a range of uses in close proximity to public transit and would create an improved and interconnected transportation system that would provide for a more secure system serving the Specific Plan area. The proposed Specific Plan also includes policies that require coordination with regional agencies and adjacent jurisdictions to improve transit service, safety, accessibility, security, frequency, and connectivity.

Table 4.9-2 SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis

SCAG RTP Policies		Project Consistency
Compass/Growth Visioning Principles		
Principle 1: Improve mobility for all residents		
GV P1.1	Encourage transportation investments and land use decisions that are mutually supportive.	Consistent: The proposed Specific Plan includes policies that encourage the development of land uses and densities that maximize ridership and support public investment in transit facilities by placing housing and jobs in close proximity to public transit. Land use and mobility policies within the proposed Specific Plan are mutually supportive and are closely correlated. The policies are intended to create a well-connected network that supports a mix of land uses, encourages transit use, walking or bicycling, conserves energy resources, and reduces greenhouse gas emissions and air pollution.
GV P1.2	Locate new housing near existing jobs and new jobs near existing housing	Consistent: The proposed Specific Plan encourages the development of a diverse mix of uses within distinct neighborhoods and districts containing housing, general and medical offices, retail commercial, dining and entertainment, community services, and amenity uses supporting residents, workers, and transit riders. The mix of uses is intended to enable residents and workers to meet their needs within the Specific Plan area. The Specific Plan also incentivizes the production of affordable housing. The proposed Specific Plan calls for a range of uses that provide important new opportunities for employment, commercial, residential, mixed-use and activity centers.
GV P1.3	Encourage transit-oriented development.	Consistent: The proposed Specific Plan links land use to transportation, and calls for new land uses and densities that maximize ridership of existing transit systems. The Specific Plan's Transit-Oriented Mixed Use Corridor would allow for the highest density of development in the area to take advantage of its proximity to the Metrolink station. Further, mobility and circulation policies, as well as land use policies of the Specific Plan encourage the development of a diverse integrated, multi-modal transportation system that provides mobility options for the community, and maximizes the use of this system through the placement of land uses in close proximity to transit and provides safe connections. As such, the proposed Specific Plan encourages transit-oriented development through its policies and development plans.
GV P1.4	Promote a variety of travel choices.	Consistent: Policies of the Specific Plan are intended to establish and maintain a diverse, integrated, multimodal transportation system that provides mobility options for the community, including adequate roads, transit service, bike paths, pedestrian walkways, and commuter rail service. The Specific Plan would create an interconnected transportation system that encourages a shift in travel from private passenger vehicles to public transit, ride sharing, car-sharing, bicycling, and walking. As such, the proposed project would promote a variety of travel choices through its policies and development plans.
Principle 2: Foster livability in all communities		
GV P2.1	Promote infill development and redevelopment to revitalize existing communities.	Consistent: An objective of the proposed Specific Plan is to provide for the area's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. Policies and plans contained in the Specific Plan would support this objective and result in the revitalization of the Specific Plan area.

Table 4.9-2 SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis

<i>SCAG RTP Policies</i>		<i>Project Consistency</i>
GV P2.2	Promote developments which provide a mix of uses.	Consistent: A range of uses would be permitted in the Specific Plan area, including housing, office, retail, restaurants, personal services, hotels, community facilities, and parks, as well as existing auto and industrial uses. Mixed land uses near transit would allow for a more walkable community and would enable residents and works to meet their basic needs in the Specific Plan area without traveling to outside communities, thereby reducing automobile trips, air pollution, greenhouse gas emissions, energy consumption, and noise. The proposed Specific Plan would therefore promote the development of a mix and balance of land uses.
GV P2.3	Promote “people-scaled,” walkable communities.	Consistent: The proposed Specific Plan includes walkable community policies that would provide a continuous pedestrian and bicycle network that connects community facilities and other public and private buildings to each other, to the street, and to transit facilities, making walking a convenient and safe way to travel. These policies address the need for a continuous pedestrian network that connects community facilities and other public and private buildings to each other, to the street, and to transit facilities, which encourages walking. People-scaled components such as streetscapes, and roadway design elements of future development would be required by policies of the Specific Plan.
GV P2.4	Support the preservation of stable, single-family neighborhoods	Not Applicable: No residential development currently exists within the Specific Plan area. The proposed Specific Plan would allow for the development of mixed-use and multi-family residential uses. As such, this policy is not applicable to the proposed project.
Principle 3: Enable prosperity for all people		
GV P3.1	Provide, in each community, a variety of housing types to meet the housing needs of all income levels.	Consistent: The proposed Specific Plan incentivizes the development of affordable housing through the provision of density bonuses. Multi-family residential development in the MU zone could be constructed at densities up to 120 dwelling units per acre as incentive for providing important community benefits such as affordable housing, which would provide for a variety of housing for all income levels and household types near services, jobs, and transit. As such the proposed Specific Plan would allow for a variety of housing types.
GV P3.2	Support educational opportunities that promote balanced growth.	Consistent: The Specific Plan allows for college, university and vocational school uses and childcare facilities with a use permit in of the Business Park, Community Service, and Mixed-Use land use zones within the Specific Plan area. Public school services for grades K-12 would be provided by the Capistrano Unified School District. Although none of the district schools are within the Specific Plan area, roadway improvements associated with the proposed Specific Plan would improve roadway access. Additionally, Saddleback College is easily accessible from the Specific Plan area via OCTA Bus Route 82. As such, the proposed Specific Plan supports educational opportunities through its Regulating Plan.

Table 4.9-2 SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis

<i>SCAG RTP Policies</i>		<i>Project Consistency</i>
GV P3.3	Ensure environmental justice regardless of race, ethnicity, or income class.	Consistent: The proposed Specific Plan allows for density bonuses when community benefits such as affordable housing, incorporation of community facilities, and funding of non-project-related amenities and infrastructure are provided by individual project applicants. Additionally, future development within the Specific Plan area would be required to pay development impact fees for all or a portion of the costs of any public facility that benefits their development. Further, as there are no residential uses currently existing in the Specific Plan area, and existing uses would be allowed to remain, the potential for existing environmental justice populations residing in the project area to be impacted is considered nil. The payment of development impact fees and the provision of community benefits would ensure that minority and impoverished populations are not disproportionately impacted by implementation of the proposed project. Additionally, implementation of the Specific Plan would revitalize and improve the area while allowing for affordable housing opportunities. As such, the policies and regulations of the Specific Plan would ensure environmental justice.
GV P3.4	Support local and state fiscal policies that encourage balanced growth.	Consistent: The future permitted uses in the Specific Plan area in combination with existing uses would serve to invigorate the local economy by providing a mix and choice of uses that would enable residents and workers to meet their basic needs in the Gateway area without traveling to outside communities. The proposed Specific Plan would also allow for flexibility in the mix of land uses in order to respond to market conditions as they evolve. Additionally, future uses would contribute revenues for needed capital improvements and on-going public services for residents and workers in the Specific Plan area. As such, plans and policies of the Specific Plan would support local and state fiscal policies that encourage balanced growth.
GV P3.5	Encourage civic engagement.	Consistent: As part of the CEQA process, the public has the opportunity to comment on the finding of this PEIR, and may attend public hearings where their concerns may be addressed. The proposed Specific Plan is the result of the collaborative planning efforts between the City, the public, land and business owners, and consultant team. As such, civic engagement has been encouraged through the opportunity to attend public forums and workshops relating to the proposed Specific Plan.
Principle 4: Promote sustainability for future generations		
GV P4.1	Preserve rural, agricultural, recreational, and environmentally sensitive areas.	Consistent: The Oso Creek drainage channel traverses the Specific Plan area. This channel provides a significant open space amenity within the project area. No agricultural uses currently existing in the Specific Plan area. Policies of the Specific Plan are intended to protect natural resources in the area including undeveloped hillsides, riparian corridors and important plant and animal habitats. Land zoned Open Space is to be retained in a primarily natural state. These open space areas may be used for active or passive outdoor recreation and improvements must maintain the integrity of the natural resource. As such, plans and policies of the Specific Plan would preserve natural resources and provide for recreational opportunities while retaining the integrity of the area.

Table 4.9-2 SCAG Regional Transportation Plan and Compass Growth Visioning Policies Consistency Analysis

<i>SCAG RTP Policies</i>		<i>Project Consistency</i>
GV P4.2	Focus development in urban centers and existing cities.	Consistent: The existing Gateway Area consists of a mix of various land uses including commercial, office, light industrial, public/quasi-public, and open space uses. There are no residential uses located within the confines of the Gateway Area. Approximately 115 acres (37 percent) of the project site remains undeveloped. The existing low development intensity and disparate mix of uses afford a unique opportunity for intensification driven by markets induced by the commuter rail station. The proposed Specific Plan would create a new urban center for the region by providing a mix of uses at greater densities. The proposed project would establish an urban design framework that distinguishes the Gateway area as a symbolic and functional entry to Laguna Niguel. Therefore, implementation of the proposed Specific Plan would allow the development of land uses and densities that would create an urban center.
GV P4.3	Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	Consistent: The Specific Plan policies encourage developers to employ best practices for architectural design, land development, and infrastructure improvements that reduce consumption of nonrenewable resources such as energy and water, toxic wastes and pollutants, greenhouse gas emissions, and heat islands. The proposed Specific Plan also allows for the development of land uses and densities that maximize transit ridership and encourage walking, while reducing regional traffic congestion, pollution, and greenhouse gas emissions. As such, the proposed Specific Plan would implement strategies to ensure the future development uses resources efficiently, attempts to eliminate pollution and would reduce waste.
GV P4.4	Utilize "green" development techniques.	Consistent: Specific Plan policies encourage developers to employ best practices for architectural design, land development, and infrastructure improvements that reduce consumption of nonrenewable resources such as fossil fuel energy and water, toxic wastes as well as reducing air pollutants, greenhouse gas emissions, and heat islands. As such, future development under the proposed Specific Plan would utilize green development techniques as specified in Chapter 3 of the Specific Plan.

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

<i>General Plan Policies</i>		<i>Project Consistency</i>
Land Use Element		
Goal 1	A well-balanced mixture of land uses that meet the residential, commercial, open space, and public service needs of residents.	Consistent: The proposed Specific Plan would create an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. The mix and choices of use would enable residents and workers to meet their basic needs in the Gateway area without traveling to outside communities.
Policy 1.1	Encourage the development of land uses that contribute to the goal of a well-balanced community.	Consistent: The proposed Specific Plan would create a transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. Planning districts would permit uses that would complement one another and would allow residents to live close to where they work, while also having easy access to public transit that would serve to enhance the City.

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

<i>General Plan Policies</i>		<i>Project Consistency</i>
Goal 2	A sufficient amount of commercial and industrial uses that provide jobs and revenue to the City without compromising environmental quality.	Consistent: An objective of the Specific Plan is to match new housing opportunities with jobs in the Specific Plan area, enabling residents to live close to where they work. Additionally, policies of the Specific Plan promote the development of general and medical offices, retail and service commercial uses, and community supporting uses such as light manufacturing, business park, automobile and comparative uses. The Specific Plan would maintain opportunities within portions of the Gateway area for businesses that support community needs. Additionally, the Specific Plan incorporates goals, objectives, and measures to enhance the conservation and protection of open space, including preserving existing undeveloped native habitats within the western slopes surrounding Cabot Road, as well as within Oso Creek and the Galivan Basin. These uses would provide for employment opportunities for residents in the City and region, and address the needs of the community while maintaining the environmental quality of the Specific Plan area. Flexibility in the mix of land uses would ensure that the Specific Plan area can be responsive to economic markets.
Policy 2.1	Allow a wide range of uses in the City that will be beneficial in terms of employment and revenue generation, but without undue impacts on public services and facilities.	Consistent: The proposed Specific Plan would promote the development of a diverse mix of uses including housing, general and medical offices, retail commercial, dining and entertainment, community services, and amenity uses supporting residents, workers, and transit riders. The provision of housing, jobs, and community supporting uses that would meet the basic need of the Gateway area would be beneficial in terms of employment and revenue generation, as residents would not have to travel outside of the community. Impacts on public services and facilities would be mitigated through the payment of development impact fees that would be imposed as individual projects occur. Additionally, future development may receive density bonuses if community benefits are provided. Community benefits may include affordable housing, incorporation of community facilities, and funding of non-project-related open space amenities and infrastructure. As such, implementation of the proposed project would not create undue impacts on public services and facilities.
Policy 2.2	Enhance the quality and competitive advantage of commercial centers and business parks within the City.	Consistent: The Specific Plan includes eleven planning districts, based on existing building patterns and land uses within each area. For districts where commercial centers and business parks currently exist, future development would complement these uses and district wide improvements would provide for physical revitalization of the properties and businesses. Additionally, the proposed Specific Plan would allow for housing in close proximity to these existing commercial centers and business parks which would increase the utility and convenience of these uses.
Goal 3	Compatible relationships between land uses in the community.	Consistent: The proposed Specific Plan would promote the development of a diverse mix of uses including housing, general and medical offices, retail commercial, dining and entertainment, community services, and amenity uses supporting residents, workers, and transit riders. The Specific Plan would provide for opportunities through its Regulating Plan and Zones for the development of uses that complement one another, such as locating retail, restaurants, hotels, and financial services near offices and residences. The Regulating Plan also focuses on placing jobs and housing in close proximity to transit enabling residents to live close to where they work while still having access to outside communities. In addition, mitigation measures identified in the Air Quality and Noise Sections of this PEIR would ensure compatibility between any new land use and adjacent existing uses. Therefore, land use zones established by the Specific Plan and identified by parcel in the Regulating Plan would ensure that land uses would be compatible.

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

General Plan Policies		Project Consistency
Policy 3.1	Ensure that effective buffers between residential and nonresidential uses are established and maintained.	Consistent: Future development under the Specific Plan would be required to comply with this General Plan policy. Residential uses in the Specific Plan area would be mixed-use and multi-family. The Mixed-Use zone would allow for residential uses among a range of other uses. Development of new allowable uses in this zone would be compatible with one another and would not require a buffer; rather all uses would be complimentary and oriented towards roadways. In addition, compatibility between new and existing land uses is addressed in the Air Quality and Noise Sections of this PEIR, which include mitigation measures to ensure compatibility between any new land use and adjacent existing uses. Compliance with the Specific Plan's Regulating Plan and Development Standards, and mitigation measures identified in the Air Quality and Noise Sections of this PEIR would ensure that adjacent uses are compatible and effective buffers are provided if determined necessary.
Policy 3.2	Discourage the proliferation of strip commercial development along major streets that create negative impacts on adjoining residential areas.	Consistent: The Specific Plan area is bound by roadways and open space. No residential uses currently exist within the Plan area, and most adjacent residential uses are located at a significantly higher grade than the Specific Plan area. The vision of the Specific Plan is to create a transit and pedestrian-oriented urban village. Minimum and maximum densities established by the Specific Plan, as well as development standards and required building types would ensure that strip commercial development does not occur in the future.
Policy 3.3	Reduce land use conflicts between residential and nonresidential uses.	Consistent: The Specific Plan's Regulating Plan assigns a specific zone to each property in the plan area and establishes allowable uses in each zone. The zones are intended to accommodate the development of multiple mixed-use districts. Compliance with the Regulating Plan would ensure that conflict between land uses does not occur, and that all future uses would be compatible. In addition, compatibility between new and existing land uses is addressed in the Air Quality and Noise Sections of this PEIR, which include mitigation measures to ensure compatibility between any new land use and adjacent existing uses.
Policy 3.4	Ensure that residential densities are compatible with the surrounding land uses and buildings are in scale with the neighborhood character.	Consistent: The Specific Plan provides for increased densities for the assembly of adjoining parcels as incentives for the development of larger scale, cohesive mixed-use development projects. Permitted densities for residential development within each Planning District and zone are established by the Regulating Plan. All future development would be required to conform to the minimum density requirement, and may be permitted to exceed baseline densities through the provision of community benefits. Compliance with the Regulating Plan would ensure that residential densities are compatible with surrounding and future land uses and development. Conformance with Development Standards would ensure that residential development is in scale with the neighborhood character.
Goal 4	Urban design that provides community gathering areas and other pedestrian spaces.	Consistent: The Specific Plan would establish zoning and design guidelines for ground floor uses and facades, streets, sidewalks, landscaping, lighting, and signage that facilitate pedestrian use. The Specific Plan requires the provision of on-site Open Space for future development in the Plan area which is essential to the creation of a green and pedestrian friendly network of open space through the Specific Plan area. Design guidelines encourage the creation of accessible and appropriately designed open space. As such the provision of on-site open space in the Specific plan area and conformance with design guidelines would ensure that community gathering areas and other pedestrian spaces are provided in the area.

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

<i>General Plan Policies</i>		<i>Project Consistency</i>
Policy 4.1	Emphasize attractive and functional urban design in new development.	Consistent: The proposed Specific Plan includes development standards and design guidelines intended to establish high quality design for new development. The Specific Plan would establish design standards for buildings and streets that create a unified and desirable street character as well as establish an urban design framework that distinguishes the Gateway area as a symbolic and functional entry to Laguna Niguel. Compliance with these standards and guidelines would ensure that future development is attractive and functional.
Policy 4.2	Enhance the landscape theme throughout public rights-of-way and at major City entrance points.	Consistent: The proposed Specific Plan includes streetscape improvements planned for each of the existing and proposed pedestrian-oriented corridors in the Specific Plan area and includes streetscape standards. Implementation of the Specific Plan would develop an area-wide greenways network and open spaces to unify and provide recreational amenities for residents and workers in the Gateway area. Future projects are required to provide continuous landscaped parkways and/or setbacks. Additionally, district markers would be located at entries to the Specific Plan area and at key intersections.
Policy 4.3	Require, where feasible, the development of open spaces and places for people to gather within commercial and office complexes.	Consistent: The Specific Plan requires the provision of on-site open space for future development in the Plan area which is essential to the creation of a green and pedestrian friendly network of open space through the Specific Plan area. One of the objectives of the proposed project would be to develop the Oso Creek corridor as a linear greenway for pedestrians, bicyclists, and equestrians, with amenities such as a bridge to provide access across Crown Valley Parkway and across the creek, benches and tables, interpretive signage, and native landscape. As such the provision of on-site open space in the Specific plan area and conformance with design guidelines would ensure that community gathering areas and other pedestrian spaces are provided in the area.
Policy 4.4	Provide, where feasible, pedestrian walkways and linkages between residential, commercial, office, open space/recreation facilities, and other public places.	Consistent: The Specific Plan would create a continuous pedestrian network that connects community facilities, and other public and private buildings to each other, to the street, and to transit facilities, making walking a convenient and safe way to travel. Implementation of the Specific Plan would result in areawide greenways network to unify and provide recreational amenities for residents and workers in the Gateway area. Policies of the Specific Plan support the development of a walkable community and a multi-modal transportation system that provides mobility options for the community including pedestrian walkways, improved sidewalks for increased safety, and connections to public transit. Policies of the Specific Plan would ensure that pedestrian walkways and linkages are provided throughout the area.
Goal 5	Preservation and enhancement of the natural setting of the City.	Consistent: Policies of the Specific Plan are intended to protect natural resources in the area including undeveloped hillsides, riparian corridors and important plant and animal habitats. Where land is zoned Open Space, land is to be retained in a natural state. This land may be used for active or passive outdoor recreation and improvements must maintain the integrity of the natural resource. Additionally, the Specific Plan would promote and support the completion of multi-use trails, sidewalks, and pathways to provide connectivity within the Gateway area and to the City's trail system including the Oso Creek Trail. As such, plans and policies of the Specific Plan would preserve and enhance the open space in the area.
Policy 5.1	Preserve existing sensitive open space areas within the City.	
Policy 5.2	Ensure that adequate recreational and open space areas are provided.	
Goal 8	Revitalization of Camino Capistrano/Cabot Road Business Area.	Consistent: The Specific Plan area includes the entirety of the Camino Capistrano/Cabot Road Business Area. The vision of the Specific Plan is to create attractive transit- and pedestrian-oriented districts with a mix of uses that meet the basic needs of the residents and workers. Policies and plans of the Specific Plan support the revitalization of this area.

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

<i>General Plan Policies</i>		<i>Project Consistency</i>
Policy 8.1	Ensure that high-quality urban design is incorporated into the project area.	Consistent: An objective of the Specific Plan is to provide for the area's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and open spaces. The Specific Plan includes development standards and design guidelines that would create a unified and desirable street character, and allows for diversity of architectural design within the framework of unified building setbacks from the street, building scale and mass, and building heights.
Policy 8.2	Enhance where feasible local and regional circulation in the area.	Consistent: The Circulation and Mobility Plan identifies improvements in the circulation system to accommodate future traffic. These include physical and operational improvements to address project-specific and regional issues. The program includes arterial and freeway access improvements with an emphasis on expansion of nonautomobile travel including transit, bicycle, and pedestrian trips. As such, the proposed Specific Plan would enhance local and regional circulation through implementation of the Circulation and Mobility Plan and related policies.
Policy 8.3	Allow for the redevelopment or reuse of existing commercial and industrial uses along with the phasing of adequate infrastructure and other needed public facilities.	Consistent: An objective of the proposed Specific Plan is to provide for the area's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. The Specific Plan would continue to provide for light manufacturing, business park, automobile sales, and comparable uses in the Business Park and Community Service Land Use Zones. The Infrastructure Improvement Plan includes planned system improvements that will facilitate development and enhance system efficiency and service levels. Policies and plans contained in the Specific Plan would support this objective and result in the revitalization of the Specific Plan area while providing for infrastructure and public facilities.
Policy 8.4	Enhance riding, biking, and bikeway opportunities within the project area.	Consistent: Implementation of the Specific Plan would result in the City undertaking several key public realm improvements, including the multi-use trail and slope landscaping along Oso Creek and landscape screening between Camino Capistrano and the railroad ROW. The proposed Specific Plan includes several policies providing for bicycle and pedestrian access, and bicycle facilities. Bikeway and bicycle facilities would be incorporated into plans for new street and highways and where feasible in plans for improving existing roadways. Policies of the Specific Plan would create biking and bikeway opportunities.

Circulation Element

Goal 2	A network of regional transportation facilities which ensures the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and which accommodates the regional travel demands of developing areas outside the city.	Consistent: The proposed Specific Plan includes a number of policies addressing regional transportation facilities and supports improvements and expansions of these facilities. Implementation of the Specific Plan includes the City working with Caltrans and OCTA to promote the preparation of a master plan and funding for improvements of the Crown Valley Parkway/I-5 interchange to reduce traffic congestion and improve levels of service. Additionally, the City would collaborate with other local and regional agencies to help improve the capacity at intersections along Crown Valley Parkway and Avery Parkway to improve traffic flows along those major roadways.
Policy 2.8	Coordinate with Caltrans on all plans, activities, and projects that might affect state facilities.	

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

<i>General Plan Policies</i>		<i>Project Consistency</i>
Policy 3.1	Encourage new development which facilitates transit services, provides for non-automobile circulation, and minimizes vehicle miles traveled.	Consistent: Land use changes in the proposed Specific Plan area are intended to maximize the use of transit by residents and workers and support public investment in transit facilities through the placement and densities of land uses and the creation of safe and attractive pedestrian and bike routes to the Metrolink Station. The proposed Specific Plan area is currently served by Metrolink rail service and OCTA bus service. Revitalization of the Specific Plan Area will introduce new and denser development in close proximity to the Metrolink which is planned to expand service. This approach would link land use decisions to transportation investments, which minimizes costs on infrastructure, makes use of existing facilities, and reduces vehicle trips.
Policy 3.5	Support the development of additional regional public transportation facilities and services.	Consistent: The proposed Specific Plan includes a Circulation and Mobility Plan that identifies improvements in the circulation system to accommodate future traffic. The plan includes arterial and freeway access improvements along with an emphasis on expansion of non-automobile travel including transit, bicycle and walking trips. The proposed Specific Plan also includes policies and plans for the City to continue to work with adjacent jurisdictions and regional agencies to coordinate transportation improvement projects and identify funding sources that will support a regional transportation system.
Goal 4	An efficient public transportation system that provides mobility to all City residents, employees, and visitors.	Consistent: An objective of the proposed Specific Plan is to establish and maintain a diverse, integrated, multimodal transportation system that provides mobility options for the community, including adequate roads, transit service, bike paths, pedestrian walkways, and commuter rail service that supports the future land uses. Additionally, the Circulation and Mobility plan identifies physical and operation improvements intended to address both project-specific and regional transportation issues. Improvements include arterial and freeway access improvements along with an emphasis on expansion of non-automobile travel including transit, bicycle and walking trips. The proposed Specific Plan also would provide traffic management tools, such as TDM techniques that include the use of alternative transportation modes, such as ridesharing, carpools, vanpools, public transit, bicycles, and walking. TDM techniques would reduce the number of vehicle trips, or travel during peak times. In addition, policies to encourage the use of alternative transportation modes are identified in the Specific Plan that would include the expansion of transit service and policies to better access to the Metrolink Station throughout the Specific Plan area for pedestrians, bicyclists, equestrians, and motor vehicle drivers. As such, implementation of the Specific Plan would therefore support an efficient public transportation system.
Policy 4.4	Promote new development that is designed in a manner that (1) facilitates provision or expansion of transit service, (2) provides on-site commercial and recreational facilities to discourage mid-day travel, and (3) provides non-automobile circulation within the development.	Consistent: An objective of the Specific Plan is to create a transit and pedestrian-oriented urban community containing mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and open spaces. The mix and choices of use would enable residents and workers to meet their basic needs in the Specific Pan area without traveling to outside communities. Additionally, the Specific Plan would maximize the use of transit by residents and workers through the placement and density of land uses, and the creation of safe and attractive pedestrian and bike routes to the Metrolink station and the surrounding area.

Table 4.9-3 Laguna Niguel General Plan Consistency Analysis

General Plan Policies		Project Consistency
Policy 4.6	Encourage the provision of safe, attractive, and clearly identifiable transit stops and related high-quality pedestrian facilities throughout the community.	Consistent: The proposed Specific Plan would promote and support roadway infrastructure improvements and improve access to the City and Specific Plan area from the I-5 and SR-73. These actions would improve the safety of the existing transportation system serving the Specific Plan area. Additionally, the proposed Specific Plan would introduce a range of uses in close proximity to public transit and would create an improved and interconnected transportation system that would provide for a more secure system serving the Specific Plan area. The design of transit stops and pedestrian facilities would be addressed in the Specific Plans Design Guidelines. The proposed Specific Plan also includes policies that require coordination with regional agencies and adjacent jurisdictions to improve transit service, safety, accessibility, security, frequency, and connectivity.
Goal 5	An efficient bicycle, equestrian and pedestrian circulation system that encourages these alternative forms of transportation.	Consistent: The proposed Specific Plan would establish and maintain a diverse, integrated, multimodal transportation system that provides mobility options for the community, including adequate roads, transit service, bike paths, pedestrian walkways, and commuter rail service that supports the proposed land uses. This system would create an interconnected transportation system that encourages a shift in travel from private passenger vehicles to public transit, ride sharing, car-sharing, bicycling, and walking. The proposed Specific Plan includes walkable community and bikeway policies. These policies address the need for a continuous pedestrian network that connects community facilities and other public and private buildings to each other, to the street, and to transit facilities, which encourages walking. Additionally, bikeway and bicycle facilities would be incorporated in the design of improved roads, new streets and highways. Policies would insure that alternative transportation modes are encouraged.
Policy 5.1	Require proposed developments, whenever feasible, to dedicate easements for Class I bikeways and to provide additional right-of-way for Class II bike lanes in the project vicinity on all major or primary roadways or other roadways where deemed appropriate.	Consistent: Implementation of the Specific Plan would result in several key public realm improvements, including the multi-use trail and slope landscaping along Oso Creek. Policies of the Specific Plan require that improvements to existing roads incorporate bikeway facilities. Additionally, new development projects would be required to provide bicycle and pedestrian access to and through the project and to construct links to adjacent uses and bike trails, where appropriate and provide bicycle-support facilities, such as bicycle racks and storage facilities, to promote bicycle use and secure bicycle parking.

Summary

The proposed Specific Plan introduces residential and mixed land uses in the Gateway area that are not currently contemplated in the City's General Plan. Therefore, a General Plan Amendment (GPA 11-01) is proposed as part of the project, to add the proposed land uses, as well as the allowed residential density and nonresidential building intensity, which are included in the General Plan for all Community Profile Areas (citywide).

The proposed project, including a General Plan Amendment, is consistent with all applicable portions of the General Plan that are not being amended as part of the project, including policies that generally encourage projects to provide a mix of uses that are compatible and harmonious with surrounding development, offer pedestrian amenities that enhance the image and quality of life and the environment, provide for a variety of housing types to meet the City's future housing needs, and support the local and regional transportation system. Therefore, the impacts of the proposed project are considered *less than significant*.

4.9.4 Cumulative Impacts

This cumulative impact analysis considers development of the proposed project, in conjunction with anticipated cumulative growth as represented by implementation of the City of Laguna Niguel General Plan, General Plans for the cities of Mission Viejo, San Juan Capistrano, Dana Point, Laguna Hills, and San Clemente, as well as the build-out land use plans for both Ladera Ranch and Rancho Mission Viejo. Generally, cumulative development within the City and surrounding communities would result in changes to the existing land use environment through conversions and/or intensification of existing land uses (e.g., from industrial to commercial, or commercial to mixed-use), or through the conversion of vacant land to developed uses.

Cumulative land use impacts have the potential to occur where a number of projects have the potential to negatively change the overall land use of an area by affecting adjacent existing uses. Adherence to existing land use plans, policies, and regulations generally prevent such occurrences. Future development in the City and neighboring communities would be reviewed for consistency with adopted land use plans and policies, in accordance with the requirements of CEQA, the state Zoning and Planning Law, and the state Subdivision Map Act, all of which require findings of plan and policy consistency prior to approval of entitlements for development. It should be noted that future projects could also include General Plan amendments and/or zone changes. However, modifications to existing land use patterns that require such amendments do not necessarily represent an inherent negative effect on the environment, particularly if the proposed changes do not conflict with the policies that were specifically adopted for the purpose of avoiding or mitigating an environmental effect. Cumulative projects primarily result in development to enhance existing land use patterns within areas of the City, and are therefore generally anticipated to be compatible with adjacent uses. However, should such analysis identify significant land use impacts, mitigation measures would be required to reduce those impacts to a less-than-significant level. Absent effective and feasible mitigation, the City may determine that the benefits derived from the proposed land use changes are sufficient to justify adoption of a Statement of Overriding Considerations, permitting the revisions and their associated projects to proceed.

Other than the proposed project, this type of wide-scale change is not foreseen in any other portion of the City. However, build out of the Rancho Mission Viejo Planned Community located in an unincorporated portion of the Orange County would also result in a substantial land use change. The proposed Specific Plan represents the primary catalyst for substantial land use changes within the City. The proposed Specific Plan includes a GPA/ZC amendment to facilitate medium to high-density mixed-use developments throughout areas of the project site. This represents a departure from the existing commercial and industrial uses that are currently designated on site; however, the introduction of multi-family residential uses within specific Planning Districts would be compatible with the land uses that surround the Specific Plan area, as demonstrated in the consistency analyses of this section.

The General Plan Amendment (GPA 11-01) would allow the proposed residential and mixed-use land uses in the Specific Plan Update to be consistent with the General Plan. The proposed project is consistent with the broad vision and policies of the General Plan, the citywide General Plan build-out capacity, the 2000 General Plan Housing Element, and the community vision for the area. Therefore, the cumulative impact associated with conflict of future development with adopted plans and policies would not be cumulatively considerable, and would be *less than significant*.

4.9.5 References

Laguna Niguel, City of. 1992. City of Laguna Niguel General Plan, adopted August 4.

———. 1999 Laguna Niguel Gateway Specific Plan.

———. 2011. Laguna Niguel Gateway Public Draft Specific Plan, January 25.

Southern California Association of Governments (SCAG). 2008. *2008 Regional Transportation Plan*, adopted May 8.

4.10 NOISE

This section of the PEIR analyzes the potential environmental effects on noise and groundborne vibration associated with construction and operational activities from implementation of the proposed project. No comment letters addressing noise were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from the City of Laguna Niguel General Plan Noise Element, the Noise Ordinance of the City's Municipal Code, the Traffic Study prepared by Iteris (Appendix E [Traffic Study]) for the proposed project, and information obtained by measuring and modeling existing and future noise levels in the project area. Full reference-list entries for all cited materials are provided in Section 4.10.5 (References).

4.10.1 Environmental Setting

■ Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Table 4.10-1 (Representative Environmental Noise Levels) lists representative noise levels for the environment.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Ambient noise levels are all-encompassing noise levels at a given place and time, usually a composite of sounds from all sources near and far, including specific sources of interest. Community is a measure of 24-hour noise levels. Community noise constantly changes its level and duration. It can reach 50 dBA changes in short time periods, depending on the noise source. The L_{eq} is a measure of ambient noise, while Community Noise Equivalent Level (CNEL) is a measure of community noise. Each is applicable to this analysis and defined as follows:

Table 4.10-1 Representative Environmental Noise Levels		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

SOURCE: California Department of Transportation (1998).

- L_{eq} , the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- $CNEL$ is a 24-hour average L_{eq} with a 5 dBA “weighting” during the hours of 7:00 PM to 10:00 PM and a 10 dBA “weighting” added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour L_{eq} would result in a measurement of 66.7 dBA $CNEL$.
- L_{min} , the minimum instantaneous noise level experienced during a given period of time.
- L_{max} , the maximum instantaneous noise level experienced during a given period of time.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night, or over a 24-hour period. Environmental noise levels are generally

considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA).

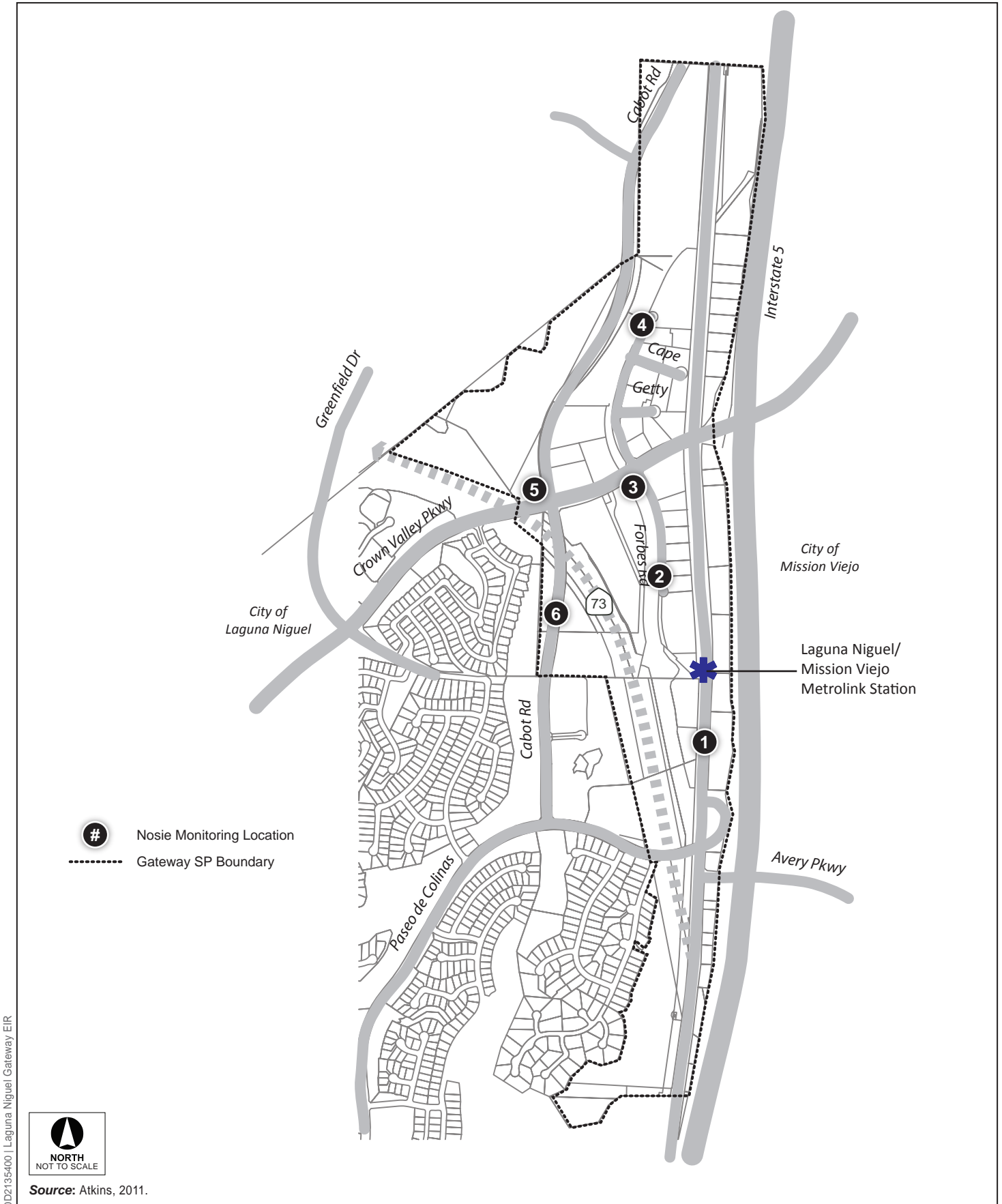
Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., where the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., where the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (HMMH 2006).

■ Existing Environmental Noise Levels

According to the Noise Element of the City of Laguna Niguel General Plan, the primary source of noise within the City is noise from motor vehicles on roadways (traffic noise). These motor vehicles include automobiles, buses, trucks, and vehicles associated with construction equipment transport. Secondary noise sources in the City include aircraft operations, railroad operations, and construction activities.

Existing daytime noise levels were monitored at 6 locations in the Specific Plan area, which are depicted in Figure 4.10-1 (Noise Monitoring Locations), in order to identify representative noise levels at various areas. The noise levels were measured using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 4.10-2 (Existing Noise Levels in the Specific Plan Area). These daytime noise levels are characteristic of a typical urban area.

Existing roadway noise levels were calculated for roadway segments in the project site vicinity that are proximate to existing or future noise-sensitive uses and would receive a moderate to large share of the project trips. This task was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the



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Source: Atkins, 2011.

Figure 4.10-1
Noise Monitoring Locations

Table 4.10-2 Existing Noise Levels In the Specific Plan Area

	Location	Primary Noise Sources	Noise Level Statistics		
			Leq (dBA)	Lmin (dBA)	Lmax (dBA)
1	28322 Camino Capistrano	Traffic on Camino Capistrano	70.9	61.2	87.0
2	27942 Forbes Road	Traffic on Forbes Road	66.3	54.6	80.2
3	Southwest corner of Crown Valley Parkway and Forbes Road	Traffic on Crown Valley Parkway and Forbes Road	75.0	61.4	88.8
4	27601 Forbes Road	Traffic on Interstate 5, Forbes Road	64.2	54.5	83.5
5	Northwest corner of Crown Valley Parkway and Cabot Road	Traffic on Crown Valley Parkway and Cabot Road	74.6	64.2	86.1
6	28202 Cabot Road	Traffic on Cabot Road, Highway 73	68.6	52.4	81.6

SOURCE: PBS&J 2011

FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these roadway segments are presented in Table 4.10-3 (Existing Roadway Noise Levels Off Site).

One Burlington Northern Santa Fe (BNSF) rail line runs through the City of Laguna Niguel, paralleling the I-5 Freeway throughout the Specific Plan area. Currently, there are a total of twenty-seven Metrolink trains and twenty-two Amtrak trains that travel through Laguna Niguel each weekday. In addition, approximately four to six BNSF freight trains pass through the area each day. In spring 2011, Metrolink anticipates to have an additional six Metrolink trains per day serving Laguna Niguel. Rail transit traveling at grade typically produces a noise level of 80 dBA at a distance of 50 feet from the tracks while rail transit stopped at a station typically produces a noise level of 65 dBA at a distance of 50 feet (HMMH 2006).

■ Fundamentals of Environmental Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operating heavy earth-moving equipment. As

Table 4.10-3 Existing Roadway Noise Levels Off Site		
Roadway	Roadway Segment	dBA CNEL
Crown Valley Parkway	Glen Rock Drive to Greenfield Drive	74.2
	Greenfield Drive to Cabot Road	75.1
	Cabot Road to Forbes Road	75.9
	Forbes Road to I-5 SB Ramp	75.7
	I-5 NB Ramp to Puerta Real	76.2
	Puerta Real to Medical Center	75.1
	Los Altos to Marguerite Parkway	74.3
Avery Parkway	Camino Capistrano to I-5 SB Ramp	70.4
	I-5 NB Ramp to Marguerite Parkway	71.5
Paseo de Colinas	El Sur to Cabot Road	72.8
	Cabot Road to Camino Capistrano	71.3
Camino Capistrano	North of Paseo de Colinas	64.9
	Paseo de Colinas to Avery Parkway	71.7
	South of Avery Parkway	66.3
Forbes Road	North of Crown Valley Parkway	62.1
	South of Crown Valley Parkway	60.3
Cabot Road	Oso Parkway to Vista Viejo	70.6
	Vista Viejo to Crown Valley Parkway	70.2
	Crown Valley Parkway to Paseo de Colinas	70.7

SOURCE: Atkins (2011) (calculation data and results are provided in Appendix D)

such, the range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table 4.10-4 (Human Response to Different Levels of Groundborne Vibration).

Table 4.10-4 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 that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

SOURCE: HMMH (2006).

■ Existing Groundborne Vibration Levels

Aside from seismic events, the greatest source of groundborne vibration in the project area is roadway truck and bus traffic and railroad activity. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB. These levels could reach 72 VdB where trucks and buses pass over bumps in the road. Commuter rail can generate groundborne vibration levels of 75 VdB to 85 VdB 50 feet from the source.

■ Noise-Sensitive Receptors

Sensitive receptors are specific locations that are particularly delicate to variations in noise, such as locations where sleeping occurs or concentration is necessary. The Noise Element of the Laguna Niguel General Plan identifies the following types of land uses as sensitive receptors: residential areas, school sites, childcare areas, libraries, parks, and senior centers. These receptors are located throughout the City, but none of them are currently located within the Specific Plan area. The closest sensitive receptor to future development within the Specific Plan area are located above the steep hillsides sloping up to single family detached residential homes (i.e., the Nellie Gale Ranch community in the City of Laguna Hills), approximately 400 feet west of the Specific Plan boundary. This topographical separation would serve to shield the residential uses from noise sources within the Specific Plan area. As the Specific Plan is implemented and new residential developments are built, sensitive receptors could be located within 50 feet of noise-generating activities.

4.10.2 Regulatory Framework

US Environmental Protection Agency

The federal Noise Control Act of 1972 addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Act, the U.S. Environmental Protection Agency (USEPA) published *Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (USEPA Levels). Table 4.10-5 (Summary of Noise Levels Identified as Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety) summarizes EPA recommendations for noise-sensitive areas. Ideally, the yearly average L_{eq} should not exceed 70 dBA to prevent measurable hearing loss over a lifetime, and the L_{dn} should not exceed 55 dBA outdoors and 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas. In addition to the identified noise levels to protect public health, the USEPA Levels identifies an increase of 5 dBA as an adequate margin of safety relative to a baseline noise exposure level of 55 dBA L_{dn} before a noticeable increase in adverse community reaction would be expected.

The USEPA does not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no reason to suspect that there would be risk from any of the identified health or welfare effects of noise.

Table 4.10-5 Summary of Noise Levels Identified as Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety

<i>Effect</i>	<i>Level</i>	<i>Area</i>
Hearing Loss	$L_{eq}(24 \text{ hr}) < 70 \text{ dBA}^a$	All areas.
Outdoor activity interference and annoyance	$L_{dn} < 55 \text{ dBA}$	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
Outdoor activity interference and annoyance	$L_{eq}(24 \text{ hr}) < 55 \text{ dBA}$	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{dn} < 45 \text{ dBA}$	Indoor residential areas.
Indoor activity interference and annoyance	$L_{eq}(24 \text{ hr}) < 45 \text{ dBA}$	Other indoor areas with human activities such as schools, etc.

SOURCE: US Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (March 1974).

a. Yearly average equivalent sound levels in decibels; the exposure period that results in hearing loss at the identified level is a period of forty years.

Federal Transit Administration

The FTA has developed criteria for judging the significance of vibration produced by transportation sources and construction activity, as shown in Table 4.10-6 (Groundborne Vibration Impact Criteria for General Assessment).

Under Federal Highway Administration (FHWA) regulations, noise abatement must be considered for new highway construction and highway reconstruction projects when the noise levels approach or exceed the noise-abatement criteria. For residential, school and other noise sensitive sites, these criteria indicate that the equivalent noise level (L_{eq}) during the noisiest 1-hour period of the day should not exceed 67 A-weighted decibels (dBA) at the exterior or 52 dBA within the interior. For commercial purposes, the exterior L_{eq} should not exceed 72 dBA.

Table 4.10-6 Groundborne Vibration Impact Criteria for General Assessment

<i>Land Use Category</i>	<i>Impact Levels (VdB; relative to 1 micro-inch/second)</i>		
	<i>Frequent Events^a</i>	<i>Occasional Events^b</i>	<i>Infrequent Events^c</i>
Category 1: Buildings where vibration would interfere with interior operations	65 ^d	65 ^d	65 ^d
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

SOURCE: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment* (May 2006).

- a. "Frequent Events" is defined as more than 70 vibration events of the same source per day.
- b. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
- c. "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
- d. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define the acceptable vibration levels.

■ State

State Department of Health Services

The Office of Noise Control in the California Department of Health Services has established guidelines to provide a community with a noise environment that it deems to be generally acceptable. Specifically, ranges of noise exposure levels have been developed for different land uses to serve as the primary tool a city uses to assess the compatibility between land uses and outdoor noise.

California Noise Insulation Standards (California Code of Regulations, Title 24)

Title 24 establishes an interior noise standard of 45 dBA for multiple unit residential and hotel/motel structures. Acoustical studies must be prepared for proposed multiple unit residential and hotel/motel structures within the CNEL noise contours of 60 dBA or greater. The studies must demonstrate that the design of the building will reduce interior noise to 45 dBA CNEL or lower.

■ Local

City of Laguna Niguel General Plan

The California Government Code requires that a noise element be included in the General Plan of each county and city in the state. Each local government's goals, objectives, and policies for noise control are established by the noise element of the General Plan and the passage of specific noise ordinances. The Noise Element of the City of Laguna Niguel General Plan addresses the issue of noise by identifying sources of noise in the City and providing objectives and policies that ensure that noise from various sources do not create an unacceptable noise environment. Laguna Niguel has adopted community noise guidelines from the Office of Noise Control in the California Department of Health Services. The guidelines provide a range of noise exposure levels for different land uses to serve as the primary tool the City uses to assess the compatibility between land uses and outdoor noise. These noise standards are shown in Figure 4.10-2 (General Plan Guidelines for Noise Compatible Land Use). As shown in Figure 4.10-2, a noise level standard of 60 dBA CNEL is used for the exterior living areas of new low-density residential land uses, and 65 dBA CNEL for the exterior of all new multi-family residential uses. Where a land use is denoted as "normally acceptable" for the given CNEL noise environment, the highest noise level in that range should be considered the maximum desirable for conventional construction that does not incorporate any special acoustic treatment. The acceptability of noise environments classified as "conditionally acceptable" or "normally unacceptable" will depend on the anticipated amount of time that will normally be spent outside the structure and the acoustic treatment to be incorporated in the structure's design.

According to the Noise Element of the City of Laguna Niguel General Plan, the noise level standards adopted by the City are largely based on the County of Orange Noise Ordinance, which is considered to be one of the most effective noise ordinances in California. In addition, the City's Noise Ordinance, as discussed below, places limitations on noise produced by equipment operation, human activities, and construction. The Noise Element goals, objectives, and policies that are relevant to the proposed project are identified below.

Land Use Category

Community Noise Exposure Ldn or CNEL, dB
50 55 60 65 70 75 80

Residential - Low Density
Single Family, Duplex, Mobile Homes

Residential Multi-Family

Transient Lodging, Motels, Hotels

Schools, Libraries, Churches, Hospitals,
Nursing Homes

Auditorium, Concert Hall, Amphitheaters

Sports Arena, Outdoor Spectator Sports


Playground, Neighborhood Park


Golf Course, Riding Stables, Water Recreation,
Cemetaries


Office Buildings, Business, Commercial,
and Professional


Industrial, Manufacturing, Utilities, Agriculture

50 55 60 65 70 75 80

 **Normally Acceptable.** Specified land use is satisfactory, based upon assumption that any buildings involved are normal conventional construction, without any special noise insulation requirements.

 **Conditionally Acceptable.** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.

 **Normally Unacceptable.** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shield.

 **Clearly Unacceptable.** New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: City of Laguna Niguel, General Plan: Noise Element, August 4, 1992.

Figure 4.10-2
General Plan Guidelines for Noise Compatible Land Use

Goal 1 Establishment of exterior and interior noise environments for land uses that will protect citizens from excessive noise.

Policy 1.1 Discourage noise sensitive land uses in noisy exterior environments unless measures can be implemented to reduce exterior and interior noise to acceptable levels. Alternatively, encourage less sensitive uses in areas adjacent to major noise generators but require appropriate interior working environments.

Action 1.1.1 Incorporate measures into all development projects to attenuate exterior/interior noise levels to acceptable levels. The City's noise standards for land use compatibility are provided in Table N-9 [shown in this PEIR as Table 4.10-7 (General Plan Land Use Noise Standards)]. These standards shall be adhered to and implemented during the review of all proposed development projects.

<i>Land Use</i>	<i>Interior Standard (dBA)</i>	<i>Exterior Standard (dBA)</i>
Residential Detached, Residential Attached	45	65
Neighborhood Commercial, Community Commercial	—	70
Professional Office	50	70
Community Commercial / Professional Office	—	70
Industrial / Business Park	55 ^a	75
Professional Office / Industrial / Business Park, Industrial / Business Park / Professional Office / Community Commercial	—	75
Public / Institutional, Public Institutional / Professional Office	50	70
Schools	50 ^b	65 ^b
Parks and Recreation	—	70

SOURCE: City of Laguna Niguel, General Plan: Noise Element. Table N-9 (Land Use with Noise Standards) (August 4, 1992).

a. Where quiet is a basis for use.

b. In interior or exterior Classroom Areas during school operating hours.

Goal 2 Land use planning that provides for the separation of significant noise generators from sensitive receptor areas.

Policy 2.1 Locate noise tolerant land uses in areas currently impacted by noise, such as adjacent to master planned roadways or within the contours of the United States Marine Corps Air Station at El Toro.

Policy 2.3 Utilize the information from the noise contour map in the General Plan in the development review process to ensure that

noise sensitive land uses are not located near major stationary noise sources.

Policy 2.4 Minimize noise conflicts between land uses and the circulation network.

Action 2.4.1 Consider noise mitigation measures in the design of all future streets and highways and when improvements occur along existing highway segments. Measures will emphasize the establishment of buffers between roadways and adjoining noise sensitive areas.

Goal 3 Promote the control of noise between land uses.

Policy 3.1 Limit the maximum permitted noise levels which cross property lines and impact adjacent land uses.

Action 3.1.1 Implement the City’s Noise Ordinance to regulate noise for various land use categories and for sensitive time periods.

Goal 4 The control of noise from significant noise generators in the community.

Policy 4.1 Regulate noise from construction activities.

Action 4.1.1 Enforce the Noise Ordinance for all non-emergency construction operations.

Goal 5 The consideration of noise issues in the planning process.

Policy 5.1 Evaluate potential noise conflicts for individual sites and projects.

Action 5.1.1 During review of development applications, consider noise impact of the proposed land use on the existing and future noise environment of existing or planned contiguous uses.

Action 5.1.2 Require proposed noise producing projects to have an acoustical engineer prepare a noise analysis with recommendations for special design measures if the project is to be located close to existing or planned noise sensitive land uses.

Action 5.1.3 Require proposed noise sensitive projects within noise impacted areas to have acoustical studies prepared by a qualified acoustical engineer and to provide special design measures to protect noise sensitive uses from ultimate projected noise levels.

Action 5.1.4 For projects close to master planned roadways, utilize the ultimate roadway capacity at Level-of-Service D and the posted speed limit to estimate maximum future noise impacts.

Action 5.1.5 Discourage projects that are incapable of successfully mitigating excessive noise.

Policy 5.2

Require mitigation of all significant noise impacts as a condition of project approval.

Action 5.2.1 Consider site design techniques as the primary means to minimize noise impacts.

- Utilize building setbacks to increase the distance between the noise source and receiver.
- Promote the placement of noise tolerant land uses such as parking lots, maintenance facilities, and utility areas between the noise source and receptor.
- Orient buildings to shield outdoor spaces from a noise source. Quiet outdoor spaces can be provided by creating a U-shaped development which faces away from the roadway or by clustering land uses.

Action 5.2.2 Require developers to consider alternative architectural layouts as a means of meeting noise reduction requirements.

- Place bedrooms on the side of the house facing away from major roadways. The use of noise tolerant rooms such as garages, bathrooms and kitchens to shield noise-sensitive areas will be encouraged.
- When bedrooms cannot be located on the side of a house away from a major roadway, require extra insulation and double-pane windows.
- Avoid balconies facing major travel routes. Development proposals including balconies in the design will need to be evaluated for potential noise impacts during the environmental

Action 5.2.3 Where architectural design treatments fail to adequately reduce adverse noise levels or will significantly increase the costs of land

developments require the use of noise barriers and landscaped berms in combination.

- Goal 6** Minimize noise impacts from transportation noise sources
- Policy 6.1** Develop a program to construct barriers to mitigate sound emissions where necessary or where feasible to ensure the peace and quiet of the community.
- Policy 6.3** Ensure the effective enforcement of City, state, and federal noise levels by all appropriate City Divisions.

Consistency Analysis

This PEIR provides the existing noise environment and estimates of future roadway noise levels. The analysis includes City requirements and mitigation measures to ensure that noise levels in the exterior activity environments meet City standards, including limiting the hours of construction in accordance with the Laguna Niguel Municipal Code.

The Specific Plan proposes developing mixed-use buildings with residential uses throughout the Specific Plan area. These projects would be located along existing stationary noise sources such as Crown Valley Parkway, Camino Capistrano, SR-73, and the Metrolink/Amtrak rail corridor. The siting of these uses adjacent to these noise sources conflicts with Policy 1.1, Policy 2.3, Policy 2.4, Policy 5.1, and Goal 6 of the Noise Element, which encourage noise-sensitive uses to be located away from stationary and transportation-related noise sources. However, compliance with Action 5.1.2, Action 5.1.3, Action 5.1.4, Action 5.2.1, Action 5.2.2, and Policy 6.1 could work to reduce noise impacts to these sensitive residential receptors. Particularly Action 5.2.1 and Action 5.2.2, which encourage innovative site designs and alternative architectural layouts as a means of meeting noise reduction requirements. Since some of the mixed-use development is proposed as an urban village, this allows flexibility to design the individual projects in compliance with the General Plan in a way that would help reduce impacts associated with stationary noise. Further compliance with Action 5.1.3, which requires acoustical studies to be performed for individual developments as part of the planning process, would identify site-specific noise issues and mitigations would be developed to address them as detailed in Policy 5.2.

The Specific Plan would also introduce noise sources into the area, such as HVAC units and noises associated with residential uses (home repair, loud music, public gatherings, etc.). However, in compliance with Action 5.1.2 of the Noise Element, a noise analysis would be prepared during project review to recommend design measures to reduce noise levels. Additionally, compliance with the Noise Ordinance in the Municipal Code would be required, which addresses noise emission requirements. Through individual project review and compliance with the Municipal Code, the Specific Plan would be consistent with the existing regulations of the City of Laguna Niguel

City of Laguna Niguel Municipal Code

The City of Laguna Niguel has also adopted a Noise Ordinance (Division 6.6 of the Laguna Niguel Municipal Code), which identifies exterior and interior noise standards, specific noise restrictions, exemptions, and variances for sources of noise within the City. The Noise Ordinance applies to all noise

sources within the City that generate unnecessary, excessive and annoying sounds, with the exception of those sources of noise that are specifically exempted.

The exterior residential noise standards established in the City's Noise Ordinance are identified in Table 4.10-8 (City of Laguna Niguel Noise Ordinance Exterior Noise Standards), along with the exterior noise levels that are prohibited. Table 4.10-9 (City of Laguna Niguel Noise Ordinance Interior Noise Standards) identifies the City's interior residential noise standards and prohibited interior noise levels. In both cases, if the ambient noise level is greater than the identified noise standards, the noise standard becomes the ambient noise level without the offending noise.

Noise Zone	Noise Level	Time Period
1	55 dBA	7:00 AM to 10:00 PM
1	50 dBA	10:00 PM to 7:00 AM

SOURCE: City of Laguna Niguel, Noise Ordinance (December 2, 1993).

Exterior Noise Levels Prohibited

It shall be unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when such noise causes the noise level, when measured on any other residential property, to exceed:

- a. The noise standard for a cumulative period or more than 30 minutes in any hour;
- b. The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour;
- c. The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour;
- d. The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
- e. The noise standard plus 20 dBA for any period of time.

If the ambient noise level exceeds any of the first four noise limit categories (a–d) of this section, the cumulative period applicable to such category shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category e, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

Noise Zone	Noise Level	Time Period
1	55 dBA	7:00 AM to 10:00 PM
1	45 dBA	10:00 PM to 7:00 AM

SOURCE: City of Laguna Niguel, Noise Ordinance (December 2, 1993).

Interior Noise Levels Prohibited

It shall be unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, when such noise causes the noise level, when measured within any other dwelling unit on any residential property, to exceed:

- a. The interior noise standard for a cumulative period or more than 5 minutes in any hour;
- b. The interior noise standard plus 5 dBA for a cumulative period of more than 1 minutes in any hour; or
- c. The interior noise standard plus 10 dBA for any period of time.

If the ambient noise level exceeds either of the first two noise limit categories (a-b) in this section, the cumulative period applicable to the category shall be increased to reflect such ambient noise level. If the ambient noise level exceeds the third noise limit category c, the maximum allowable noise level under the category shall be increased to reflect the maximum ambient noise level.

Construction noise activities are exempt from the Noise Ordinance, provided that the construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sundays or federal holidays. Additional noise exemptions found within the Noise Ordinance

under Section 6.6.7 that are relevant to the Specific Plan include activities conducted on the grounds of a public education facility, outdoor gatherings and events that have obtained a license from the City, activities conducted in a public park or playground, any mechanical device or equipment used related to an emergency, maintenance of real property that occur between 7:00 AM and 8:00 PM on any day except Sunday or a federal holiday or between the hours of 9:00 AM and 8:00 PM on Sunday or a federal holiday, and any activity to the extent that the Noise Ordinance has been preempted by state or federal law.

4.10.3 Project Impacts and Mitigation

■ Analytic Method

This analysis of the existing and future noise environments is based on noise-level monitoring, noise-prediction modeling, and empirical observations. As defined in the City's General Plan Noise Element, noise-sensitive land uses include schools, hospitals, rest homes, long-term care, and mental care facilities. Typically, residential uses are also considered noise-sensitive receptors. Therefore, for the purposes of this analysis, the nearest existing sensitive receptors to the project site would be the residential uses located within 400 feet of the Specific Plan area. However, residential uses are proposed as part of the Specific Plan, so future buildout could occur adjacent to new residential developments. Therefore, this analysis assumes that future residential receptors would be within 50 feet of future construction activities and stationary noise generators within the Specific Plan area as a result of project implementation.

Existing noise levels were monitored at selected locations within the project area using a Larson-Davis Model 814 precision sound-level meter, which is consistent with the standards of the ANSI for general environmental noise measurement instrumentation. Noise modeling procedures involved the calculation of existing and future vehicular noise levels along individual roadway segments in the project area. This task was accomplished using the FHWA RD 77 108 model. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. Traffic volumes utilized as data inputs in the noise prediction model were provided by the Traffic Impact Analysis prepared by Iteris for the proposed project. The analysis considers future cumulative traffic noise levels, in recognition of expected higher traffic volumes and resultant noise levels in the future, which provide an appropriate benchmark against which future noise resulting from implementation of the Specific Plan can be assessed.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on noise if it would do any of the following:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels
- If located within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels

Human Exposure to Noise

The CEQA Guidelines do not define the levels at which temporary and permanent increases in ambient noise are considered “substantial.” As discussed previously in this section, a noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness. Based on this information, the following thresholds would apply to the operational characteristics of the proposed project:

- Less than 3 dBA: not discernable, not significant
- Greater than 3 dBA but less than 5 dBA: noticeable, but not significant, if noise levels remain below 65 dBA CNEL noise level standard at sensitive land uses including residential uses
- 5 dBA or greater: potentially significant, if the noise increase would meet or exceed 65 dBA CNEL noise level standard at sensitive land uses including residential uses
- 5 dBA or greater: potentially significant

Additionally, noise generated by construction activities is regulated by the City of Laguna Niguel Municipal Code. Construction activities that would occur outside the designated hours established by Section 6.6.7 would be potentially significant. Similarly, operational noise resulting from heating ventilation and cooling systems (HVAC), deliveries, refuse collection, and human-activity noise are also regulated by the City’s Municipal Code, and noise generated by these activities that exceeds the City’s established standards would be potentially significant.

The CEQA Guidelines also do not define the levels at which groundborne vibration or groundborne noise is considered “excessive.” For the purpose of this analysis, groundborne vibration impacts associated with human annoyance would be significant if vibration caused by implementation of the proposed project exceeds 85 VdB, which is the vibration level that is considered by the FTA to be acceptable only if there are an infrequent number of events per day (as described in Table 4.10-4). In terms of groundborne vibration impacts on structures, this analysis will use the FTA’s vibration damage threshold of approximately 100 VdB for fragile buildings and approximately 95 VdB for extremely fragile historic buildings (HMMH 2006).

■ Effects Found to Have No Impact

Threshold	Would the proposed project, if located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?
Threshold	Would the proposed project, if located within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?

The project site is not located within 2 miles of a public airport, public use airport, or private airstrip. The closest airport to the Specific Plan is John Wayne Airport, which is approximately 13 miles to the northwest. Therefore, the project would not expose people to excessive noise from airports. **No impact** would occur, and no further analysis of this issue is required in the PEIR.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
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Construction

Impact 4.10-1 **Construction of the proposed project would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This is a potentially significant impact. Implementation of mitigation measures MM4.10-1 through MM4.10-4 and compliance with the City of Laguna Niguel Municipal Code would reduce this impact to less-than-significant levels.**

The Specific Plan provides a framework on a program level for future development in the Specific Plan area and specifies the type of uses, densities, and intensities that would be permitted. General Plan amendments would result in changes or refinements to land use plan designations, including the development of residential mixed-uses. Implementation of the Specific Plan would result in construction activities associated with the development of these new uses. While specific development plans are not known at this time, it is likely that construction activities associated with implementation under the Specific Plan would be located within 400 feet of existing noise-sensitive uses (residential development adjacent to the Gateway area) and 50 feet of future noise-sensitive uses (residential development within the Gateway area).

The primary sources of noise associated with the development resulting from implementation of the proposed Specific Plan would be construction activities and project-related traffic volumes. Secondary sources include increased human activity throughout the sites. Noise limits for sensitive uses established in the Laguna Niguel Municipal Code are shown in Table 4.10-8 and Table 4.10-9. Development of projects as part of the Specific Plan would require the use of heavy equipment for demolition, site excavation, installation of utilities, site grading, paving, and building fabrication. Construction activities

would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of construction there would be a different mix of equipment operating, and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The EPA has compiled data regarding the noise-generating characteristics of specific types of construction equipment and typical construction activities. These data are presented in Table 4.10-10 (Noise Ranges of Typical Construction Equipment) and Table 4.10-11 (Typical Outdoor Construction Noise Levels). These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source to the receptor would reduce to 80 dBA at 100 feet from the source to the receptor, and reduce by another 6 to 74 dBA at 200 feet from the source to the receptor.

<i>Equipment</i>	<i>Noise Levels in dBA L_{eq} at 50 feet ^a</i>
Front Loader	73 to 86
Trucks	82 to 95
Cranes (moveable)	75 to 88
Cranes (derrick)	86 to 89
Vibrator	68 to 82
Saws	72 to 82
Pneumatic Impact Equipment	83 to 88
Jackhammers	81 to 98
Pumps	68 to 72
Generators	71 to 83
Compressors	75 to 87
Concrete Mixers	75 to 88
Concrete Pumps	81 to 85
Back Hoe	73 to 95
Pile Driving (peaks)	95 to 107
Tractor	77 to 98
Scraper/Grader	80 to 93
Paver	85 to 88

SOURCE: USEPA (1971).

a. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Noise that would be experienced by sensitive uses due to development associated with implementation of the proposed Specific Plan is determined at their property lines. As specific development plans have not yet been determined at individual sites, existing off-site sensitive receptors are located approximately 400 feet to the north of the Specific Plan area, and future on-site receptors could be as close as 50 feet

Table 4.10-11 Typical Outdoor Construction Noise Levels

Construction Phase	Noise Levels at 50 Feet (dBA L_{eq})	Noise Levels at 50 Feet with Mufflers (dBA L_{eq})
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

SOURCE: USEPA (1971).

from where construction would take place. Therefore, for the purpose of this analysis, future on-site residential uses are considered the closest noise sensitive receptors. Sensitive receptors in the project vicinity could experience noise levels up to 98 dBA L_{eq} , and up to 107 dBA L_{eq} in the event that pile drivers are used during the construction of building foundations. Under Section 6.6.7(5) of the City's Noise Ordinance, noise sources associated with construction are exempt from the requirements of the Municipal Code, provided that the project developer has acquired the proper permit(s) from the City and construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on Sunday or a federal holiday. As construction would not occur except during the times permitted in the Noise Ordinance, and as Section 6.6.7(5) of the Municipal Code allows construction noise in excess of standards to occur between these hours, the proposed project would not violate established construction noise standards.

The following mitigation measures shall be implemented as part of the proposed project:

- MM4.10-1 Prior to issuance of grading or building permits, the project applicant shall document on the grading and building plans the following construction best management practices (BMPs), to be implemented by contractors to reduce construction noise levels:*
- *Ensure that construction equipment is properly muffled according to industry standards and be in good working condition*
 - *Place noise-generating construction equipment and locate construction staging areas away from sensitive uses, where feasible*
 - *Schedule high noise-producing activities between the hours of 8:00 AM and 5:00 PM to minimize disruption on sensitive uses, Monday through Saturday*
 - *Implement noise attenuation measures, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources, where feasible*
 - *Use electric air compressors and similar power tools rather than diesel equipment, where feasible*
 - *Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes*
 - *Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party.*

- MM4.10-2 *Prior to issuance of a grading permit, project applicants shall demonstrate/notate in the grading permit plans that construction staging areas along with the operation of earthmoving equipment within the project area would be located as far away from vibration and noise sensitive sites as possible.*
- MM4.10-3 *Prior to issuance of a grading permit, project applicants shall demonstrate/notate in the grading permit plans that heavily loaded trucks used during construction would be routed away from residential streets.*
- MM4.10-4 *Noise-reducing Pile Driving Techniques and Muffling Devices. The Project Applicant shall require its construction contractor to use noise-reducing pile driving techniques if nearby structures are subject to pile driving noise and vibration. These techniques include pre-drilling pile holes (if feasible, based on soils) to the maximum feasible depth, installing state-of-the-art intake and exhaust mufflers on pile driving equipment, vibrating piles into place when feasible, and installing shrouds around the pile driving hammer where feasible. Pile driving activities shall be scheduled between the hours of 8:00 AM and 4:00 PM on Mondays through Fridays only.*

Implementation of these mitigation measures would reduce construction noise levels at existing and future noise-sensitive receptors during construction activities associated with implementation of the Specific Plan; however, as identified in Table 4.10-10, noise levels from various mechanized construction equipment could be as high as 98 dBA at distances of 50 feet from the equipment which could exceed the 55 dBA exterior standard established in the City's Noise Ordinance. Mitigation measures MM4.10-1 through MM4.10-4 would require the use of noise attenuating techniques such as the erection of temporary sound walls and noise blankets; and these barriers would typically reduce noise levels by 5 to 10 dBA. Additionally, Section 6.6.7(5) of the Noise Ordinance exempts construction noise, provided that the construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sundays or federal holidays. Compliance with the Noise Ordinance and implementation of the mitigation measures discussed above would ensure this impact remains *less than significant*.

Operation

Impact 4.10-2 **Operation of the proposed project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This would be a potentially significant impact. Implementation of mitigation measures MM4.10-5 and MM4.10-6 would reduce this impact to a less-than-significant level.**

Sources of noise generated by implementation of the proposed project would include new stationary sources (such as rooftop heating, ventilation, and air conditioning [HVAC] systems for the residential and commercial uses). Large-scale HVAC systems would be installed for the new residential and commercial buildings in the Specific Plan area. Large HVAC systems associated with the residential commercial buildings could result in noise levels that average between 50 and 65 dBA L_{eq} at 50 feet from the equipment. It is assumed that HVAC units would be mounted on the rooftops of the proposed buildings. In addition, the installation of shielding around these HVAC systems would be required as part of the proposed project, as stated in mitigation measure MM4.10-5 below.

MM4.10-5 Prior to installation, Project applicants shall demonstrate proper shielding for all new HVAC systems used by the proposed residential and mixed-use buildings to achieve a maximum noise level of approximately 50 dBA at 50 feet from the equipment.

The shielding installed around these systems would typically reduce noise levels by approximately 15 dBA, which could reduce HVAC system noise to approximately 50 dBA L_{eq} at 50 feet from the equipment. Implementation of mitigation measure MM4.10-5 would ensure that impacts related to the HVAC systems would remain below the exterior noise standard established in the City's Noise Element and Municipal Code.

The proposed project would also introduce new activity and noise to the area as residences are included and people are attracted to the new mix of uses that would develop as part of the proposed project. As shown in Table 4.10-2, noise monitoring in the Specific Plan area indicates that existing noise levels at various points in the Specific Plan area currently exceeding the City noise standards for residential uses, especially along Crown Valley Parkway. Development of new residences in areas where existing noise levels currently exceed the City standard would constitute a significant impact. The City of Laguna Niguel General Plan states that sensitive uses (such as residences) should incorporate sound-reducing measures, including fences, walls, etc., when constructed in areas exposed to greater than existing standards. Pursuant to Action 5.2.1 and Action 5.2.2 of the Noise Element, all new developments within the Specific Plan would utilize site design and alternative architectural layouts to situate noise tolerate land uses and rooms (parking lots, garages, kitchens, etc.) closer to stationary noise sources such as roadways in an effort to buffer noise sensitive uses and rooms (bedrooms, living rooms, etc.) from the offending noise sources. These policies would increase the noise attenuation between the noise sources and the noise receptors and would help to reduce potential noise impacts. Additionally, pursuant to Action 5.1.3 of the Noise Element, the following mitigation measure shall be implemented for all residential development within the Specific Plan Area where the existing noise levels exceed the City standards as set forth in the Noise Ordinance.

MM4.10-6 Prior to approval of a residential project by the City's decision-making authority, project applicants shall submit an acoustical study prepared by a certified acoustical engineer. Should the results of the acoustical study indicate that exterior (e.g., patios and balconies) and interior noise levels of residences would exceed the standards set forth in the Noise Ordinance of the City of Laguna Niguel Municipal Code Sections 6.6.5 through 6.6.6, the project applicant shall include design measures that may include acoustical paneling or walls to ensure that noise levels do not exceed City standards. Final project design shall incorporate special design measures in the construction of the residential units, if necessary.

Operation of the proposed project would also involve the delivery of goods and foodstuffs to the commercial and retail operations associated with the Specific Plan, as well as refuse pick up for both the commercial and residential components. Two noise sources would be identified with delivery operations: the noise of the diesel engines of the semi-trailer trucks and the backup beeper alarm that sounds when a truck is put in reverse, as is required and regulated by Cal-OSHA. The noise generated by idling diesel engines typically ranges between 64 and 66 dBA L_{eq} at 75 feet. This noise would be temporary in nature, typically lasting no more than five minutes. Backup beepers are required by Cal-OSHA to be at least 5 dBA above ambient noise levels. These devices are highly directional in nature, and when in reverse the trucks and the beeper alarm would be directed towards the loading area and adjacent commercial

structures. Backup beepers are, of course, intended to warn persons who are behind the vehicle when it is backing up. Further, the loading docks associated with the proposed project would be screened from sensitive receptors both on site and off site by intervening structures and design of the loading spaces. As described above, compliance with the Noise Ordinance would exempt this noise source, which includes maintenance of real property that occurs between 7:00 AM and 8:00 PM on weekdays and Saturdays or between the hours of 9:00 AM and 8:00 PM on Sundays and federal holidays.

With implementation of mitigation measure MM4.10-5, development within the Specific Plan area would be required to shield HVAC systems such that noise attributed to such systems would not increase noise levels above City standards. In addition, implementation of mitigation measure MM4.10-6 would ensure that exterior living spaces, such as porches and patios are constructed in a manner that noise levels do not exceed the City noise standards. New development under the Specific Plan would also comply with all other Noise Element policies and Noise Ordinance sections as discussed above, which would require specific site design, architectural features, and mitigation measures to reduce noise impacts to sensitive receptors. Therefore, this impact would be reduced to a level of *less than significant*.

Impact 4.10-3 Operation of the Amtrak, Metrolink, and freight rail line would potentially expose noise-sensitive land uses located within the Specific Plan area to noise levels that exceed the standards established by the City of Laguna Niguel General Plan and Noise Ordinance. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this is considered a *significant and unavoidable* impact.

The Laguna Niguel/Mission Viejo transit station is the southernmost station with double tracking, and train service is anticipated with maximum 30-minute headways. The rail lines parallel the I-5 Freeway throughout the Specific Plan area. Currently, there are a total of 27 Metrolink trains and 22 Amtrak trains that travel through Laguna Niguel each weekday. In addition, approximately 4-6 BNSF freight trains pass through the area each day. Beginning in spring 2011, Metrolink is scheduled to have an additional six Metrolink trains per day serving Laguna Niguel. With Metrolink and Amtrak both utilizing the corridor, and a passenger station located within the Specific Plan, train noise is a daily occurrence within the project area. As stated previously, typical commuter train noise produces a noise level of 80 dBA at 50 feet from the tracks, while a stopped commuter train would produce a noise level of 65 dBA. Per the Federal Railway Administration, noise levels associated with trains are anticipated to attenuate/reduce at a rate of 4.5 dBA for each doubling of distance. As such, potentially noise-sensitive uses, such as residential structures, would likely experience noise levels ranging from 60.5 to 75.5 dBA due to the physical movement and idling of commuter trains along the rail line.

Under the Specific Plan, sensitive uses, both interior and exterior, could be located within areas that may experience excessive noise levels due to train horns. Interior uses would include predominantly residential structures, while exterior uses at new developments adjacent to the rail station and the rail line may include communal open spaces, such as pocket parks or pedestrian walkways. It is expected that these uses could be located within the interior of new developments or on the opposite side of the development from the rail station and train tracks, thereby mitigating some of the noise generated by those transportation facilities. In terms of interior uses and as stated previously, under new construction

practices, noise levels inside structures, such as residential buildings, can be expected to be 30 dBA less than exterior noise levels. As such, the instantaneous interior noise levels attributable to residential units located within 100 feet of the train tracks would be reduced to approximately 50 dBA with respect to commuter train noise levels. However, exterior noise levels would remain in excess of City noise standards as established in Section 6.6.6 of the Noise Ordinance by approximately 25 dBA for instantaneous exterior noise. These noise levels would equate to CNEL levels of greater than 65 dBA, which would also exceed the exterior residential noise standards of the General Plan. As such, this impact would be considered potentially significant.

Implementation of mitigation measure MM4.10-6 will reduce potential noise levels at sensitive receptors associated with interior and exterior communal and private spaces but not to levels beneath the standards set in the City's Municipal Code for exterior noise levels. However, in compliance with Action 5.2.1 and Action 5.2.2 of the Noise Element, all new developments within the specific plan would utilize site design and alternative architectural layouts to situate noise tolerant land uses and rooms (parking lots, garages, kitchens, etc.) closer to stationary noise sources such as railroad tracks in an effort to buffer noise sensitive uses and rooms (bedrooms, living rooms, etc.) from the offending noise sources. When mixed-use developments are located adjacent to the railroad tracks, noise tolerant project components such as the parking garages could be built on the backside of the development facing the tracks, in an effort to reduce the noise levels experienced at the residential uses. The garages could act as a buffer and help attenuate the noise generated by the trains. Additionally, under Noise Element Policy 6.1, sound walls could be developed adjacent to the railroad tracks to mitigate train noise. In addition to the aforementioned mitigation measures, the following mitigation measure would be implemented:

MM4.10-7 Each applicant for projects with residential units located within Planning Districts E or H shall provide a written statement to each residential unit and resident, notifying them of potential noise and vibration issues associated with the railroad tracks, including the following, with final form and content to be reviewed and approved by the Community Development Director and City Attorney:

Notice of Disclosure

Each owner's [or renter's] interest is subject to the fact that trains operate at different times of the day and night on the railway tracks immediately adjacent to a project site; and that by accepting the conveyance of an interest [or lease agreement] in that project, owner [or renter] accepts all impacts generated by the trains.

Posting of Notice of Disclosure in Each Residential Unit

Prior to offering the first residential unit for purchase, lease, or rent, the property owner or developer shall post a copy of the Notice of Disclosure in every unit in a conspicuous location. Also, a copy of the Notice of Disclosure shall be included in all materials distributed for the Project, including but not limited to: the prospectus, informational literature, and residential lease and rental agreements.

Although the above mitigation measure would reduce impacts, it would not serve to fully mitigate the potential impact to nearby residents of the Specific Plan. As discussed above, implementation of mitigation measure MM4.10-6 would serve to reduce interior noise levels to acceptable levels, but exterior noise levels would still exceed City standards. Therefore, residential uses would be exposed to exterior noise levels of up to 75.5 dBA, and this would be considered to have a **significant and unavoidable** impact on sensitive receptors developed as part of the Specific Plan.

Threshold	Would the proposed project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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Construction

Impact 4.10-4 **Construction of the proposed project would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This is a potentially significant impact. Implementation of mitigation measures MM4.10-1 through MM4.10-4 and compliance with the City of Laguna Niguel Municipal Code would reduce this impact to less-than-significant levels.**

Construction-related groundborne noise and vibration has two potential impacts. First, groundborne noise and vibration at high enough levels can result in human annoyance. Table 4.10-12 (Vibration Source Levels for Construction Equipment) identifies various vibration velocity levels for the types of construction equipment that would operate within the City during construction.

Equipment	Approximate VdB			
	25 Feet	50 Feet	75 Feet	100 Feet
Pile Driver (Impact)	112	106	102	100
Pile Driver (Sonic)	104	98	92	86
Large Bulldozer	87	81	77	75
Loaded Trucks	86	80	76	74
Jackhammer	79	73	69	67
Small Bulldozer	58	52	48	46

SOURCE: Federal Railroad Administration (1998).

In addition to the construction equipment shown in Table 4.10-12, vibration that would be experienced from the use of impact pile drivers could reach as high as 112 VdB at a distance of 25 feet (HMMH 1995). Like noise, groundborne noise and vibration will attenuate at a rate of approximately 6 VdB per doubling of distance. The groundborne noise and vibration generated during construction activities would primarily impact existing sensitive uses (e.g., residences, schools, and hospitals) that are located adjacent to, or within, the vicinity of specific projects. These sensitive uses could sometimes be located as close as 50 feet to the construction site. Based on the information presented in Table 4.10-12, vibration levels could reach up to 106 VdB at sensitive uses located within 50 feet of construction. For sensitive uses that are located at or within 50 feet of project construction sites, sensitive receptors (e.g., residents, school children, and hospital patients) at these locations may experience groundborne noise and vibration levels during construction activities that exceed the FTA's vibration impact threshold of 85 VdB for human annoyance. As specific site plans or construction schedules are unknown at this time, a worst-case scenario would include construction activities as close as 50 feet from sensitive receptors. This would result in these sensitive receptors experiencing groundborne noise and vibration impacts above the threshold of 85 VdB, in which case this impact would be potentially significant.

Additionally, Section 6.6.7(5) of the Noise Ordinance exempts construction noise, including construction related vibration levels, provided that the construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sundays or federal holidays. Compliance with the Noise Ordinance and implementation of the mitigation measures discussed above would ensure this impact remains *less than significant*.

Operation

Impact 4.10-5 **Operation of the proposed project could result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This would be a potentially significant impact. Implementation of mitigation measure MM4.10-8 would ensure that vibration levels do not exceed 80 VdB at sensitive receptors. Therefore, this would be a *less-than-significant* impact.**

During operation of development resulting from implementation of the proposed Specific Plan, background operational vibration levels would be expected to average around 50 VdB, as discussed previously in this section. This is substantially less than the 85 VdB threshold for people in the vicinity of the project site. Groundborne vibration resulting from operation of the proposed project would primarily be generated by trucks making periodic deliveries to the uses within the Specific Plan boundaries. However, these types of deliveries would be consistent with deliveries that are currently made along roadways to commercial uses in the proposed Specific Plan and in the proposed project vicinity and are not anticipated to increase groundborne vibration above existing levels because the proposed project would increase the level of uses (residential) that do not typically require this type of delivery and decrease the level of uses (office and commercial) that do. Residential uses could be built in close proximity to existing railroad tracks as part of the Specific Plan. As shown in Table 4.10-6, the FTA would classify passing trains as an infrequent event (less than 30 vibration events per day) and the impact level for residential uses would be 80 VdB. According to the FTA's Transit Noise and Vibration Impact Assessment, passenger and freight locomotives generate approximately 85 VdB at 50 feet and approximately 80 VdB at 100 feet (HMMH 2006). These residential uses would potentially experience vibration levels that exceed 80 VdB due to the rail line operations, and this would be a potentially significant impact. Mitigation measure MM4.10-8 has been identified to reduce this potential impact to levels beneath the 80 VdB threshold. Mitigation measure MM4.10-8 would require that any future development within 150 feet of the existing rail line perform a site-specific vibration analysis to determine the vibration levels at the project site. If the analysis concludes that vibration levels would exceed 80 VdB, then the project applicant shall prepare design measures to ensure that residential occupants would not be subjected to vibration levels greater than 72 VdB. The design could include the use of increased building foundation mass or vibration isolation design techniques. Upon completion of construction of the future project, the applicant shall demonstrate to the Community Development Department that residential units would not experience vibration levels above 72 VdB prior to issuance of an occupancy permit. This is consistent with Action 5.2.1 and Action 5.2.2 of the Noise Element, which encourage the use of innovative site design and architectural layouts to mitigate noise impacts.

MM4.10-8 *Prior to the submittal of a building permit application for residential development within 150 feet of the BNSF Railway right-of-way, project applicants shall obtain a qualified vibration consultant to*

complete a site-specific vibration assessment subject to approval by the Department of Community Development. The vibration assessment shall measure the vibration levels at the project site's property line within 150 feet of the BNSF right-of-way. If vibration levels exceed the FTA 80 VdB criteria for "infrequent" vibration events impacting a residential use (i.e., fewer than 30 vibration events from the same source per day, which is typical of most commuter rail vibration sources), the vibration assessment shall recommend measures to reduce vibration levels to 72 VdB or less. Examples of such measures that have been successfully used, separately or in combination, to avoid vibration impacts to other residential projects located near rail transit vibration sources include:

- *Building Foundation Mats*—the use of increased mass in the foundation of the building to increase the effective vibration reduction that occurs at the boundary between the soil and the building foundation structure.
- *Vibration Isolation*—after provision of a break or gap in the structure between the first floor concrete slab and the top of the basement walls/columns, isolation would be achieved by placing rubber pads between the top of the basement walls/columns and the first floor structure.

Recommended vibration reduction measures provided by the site-specific assessment shall be incorporated into the design and construction of the proposed infill development project and their effectiveness shall be verified by vibration monitoring measurements after construction. The applicant shall provide the Department of Building and Safety documentation demonstrating compliance with this measure for review and approval once construction has been completed, but prior to occupancy of the building(s).

With implementation of mitigation measure MM4.10-8, operation of the proposed project would not expose sensitive receptors on or off site to excessive groundborne vibration or groundborne noise levels, and this impact would be *less than significant*.

Threshold	Would the proposed project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
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Impact 4.10-6 **Implementation of the proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a *less-than-significant* impact.**

Operation of the proposed project would generate local traffic as a result of residents, employees, and patrons entering and exiting the site. As stated in the Thresholds of Significance, a 3.0 dBA CNEL increase is considered substantial if the noise increase would meet or exceed the City's 65 dBA CNEL noise level standard at high density residential uses, and a 5.0 dBA CNEL increase is considered substantial where existing noise levels are below the 65 dBA CNEL standard at high density residential uses. As shown in Table 4.10-13 (Current and Future Roadway Noise Levels Off Site), existing roadway noise levels were compared to future roadway noise projections without the project (2035) and future roadway noise projections with the project (2035).

As identified above, the majority of the study roadway segments would not experience an increase in noise levels due to the proposed project traffic volumes, while the greatest increase between Cumulative Year 2035 Without Project and Year 2035 with Project roadway generated noise levels would occur at

Table 4.10-13 Current and Future (2035) Roadway Noise Levels

Roadway Segment		Noise Levels in dBA CNEL						
		Existing	Year 2035 Without Project Traffic	Year 2035 Increase Without Project	Year 2035 With Project Traffic	Project Related Increase	Significance Threshold ¹	Exceeds Significance Threshold?
Crown Valley Parkway	Glen Rock Drive to Greenfield Drive	74.2	75.1	0.9	75.1	0.0	3.0	No
	Greenfield Drive to Cabot Road	75.1	76.3	1.2	76.1	-0.2	3.0	No
	Cabot Road to Forbes Road	75.9	76.7	0.8	78.0	1.3	3.0	No
	Forbes Road to I-5 SB Ramp	75.7	76.5	0.8	77.9	1.4	3.0	No
	I-5 NB Ramp to Puerta Real	76.2	77.6	1.4	77.5	-0.1	3.0	No
	Puerta Real to Medical Center	75.1	77.0	1.9	76.8	-0.2	3.0	No
	Los Altos to Marguerite Parkway	74.3	76.7	2.4	76.6	-0.1	3.0	No
Avery Parkway	Camino Capistrano to I-5 SB Ramp	70.4	72.3	1.9	71.9	-0.4	3.0	No
	I-5 NB Ramp to Marguerite Parkway	71.5	72.4	0.9	72.2	-0.2	3.0	No
Paseo de Colinas	El Sur to Cabot Road	72.8	73.8	1.0	73.5	-0.3	3.0	No
	Cabot Road to Camino Capistrano	71.3	72.5	1.2	72.1	-0.4	3.0	No
Camino Capistrano	North of Paseo de Colinas	64.9	68.7	3.8	66.3	-2.4	3.0	No
	Paseo de Colinas to Avery Parkway	71.7	72.0	0.3	71.4	-0.6	3.0	No
	South of Avery Parkway	66.3	66.8	0.5	67.7	0.9	3.0	No
Forbes Road	North of Crown Valley Parkway	62.1	69.2	7.1	66.9	-2.3	3.0	No
	South of Crown Valley Parkway	60.3	64.3	4.0	65.4	1.1	3.0	No
Cabot Road	Oso Parkway to Vista Viejo	70.6	71.5	0.9	71.0	-0.5	3.0	No
	Vista Viejo to Crown Valley Parkway	70.2	71.0	0.8	70.4	-0.6	3.0	No
	Crown Valley Parkway to Paseo de Colinas	70.7	69.4	-1.3	69.0	-0.4	3.0	No

SOURCE: Atkins (2011) (calculation data and results are provided in Appendix D).

Forbes Road and the I-5 on/off-ramps. Noise in this area is projected to increase by 1.4 dBA as a result of the proposed project. This increase would be inaudible/imperceptible to most people and would not exceed the identified threshold of significance. Therefore, this impact would be considered *less than significant*.

Threshold	Would the proposed project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
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Construction

Impact 4.10-7 Construction of the proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. However, the project's

construction noise impacts would be temporary, would not occur during recognized sleep hours, and would be consistent with the exemption for construction noise that exists in the Municipal Code. Implementation of mitigation measures MM4.10-1 through MM4.10-4 would also reduce this impact. Therefore, this would be a *less-than-significant* impact.

Construction activities occurring as a result of implementation of the Specific Plan would involve demolition, grading, and excavation activities, followed by construction and external finishing of the proposed buildings and associated parking areas, as well as roadway and landscaping improvements. These activities would involve the use of heavy equipment. Construction activities would also involve the use of smaller power tools, generators, and other equipment that generates noise. Each stage of construction would use a different mix of equipment, and noise levels would vary based on the amount and types of equipment in operation and the location of the activity related to potential receptors.

As described under Impact 4.10-1, specific development plans have not been identified for future projects contemplated under the Specific Plan, and therefore, the location of noise-sensitive receptors would vary from project to project and the actual noise levels experienced by noise-sensitive receptors cannot be determined at this time. However, for the purpose of this analysis it is assumed that sensitive receptors could be as close as 50 feet from where construction would take place. Sensitive receptors in the project vicinity could experience noise levels up to 98 dBA L_{eq} , and up to 107 dBA L_{eq} in the event that pile drivers are used during the construction of building foundations. Development projects would be required to comply with the Noise Ordinance, limiting construction hours to between the hours of 8:00 AM and 7:00 PM on weekdays and Saturdays. Construction noise levels would also be reduced through the implementation of mitigation measure MM4.10-1 through MM4.10-4. As such, while the physical impact from an increase in ambient noise levels could occur from the construction activities associated with the proposed project, an adverse effect on the nearby residents would not occur, and this impact would be considered less than significant. Therefore, this impact would be *less than significant*.

Operation

Impact 4.10-8 Operation of the proposed project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a *less-than-significant* impact.

Operation of the development resulting from implementation of the proposed Specific Plan could include special events or temporary activities that would cause an increase in ambient noise levels. Noise-creating events such as outdoor gatherings, parades and farmers markets could be located within residential areas and would be required to obtain permits and comply with the requirements of Section 6.6.7(2) of the Noise Ordinance regarding public events. In addition, operation of future development would not require periodic use of special stationary equipment that would expose off-site or on-site sensitive receptors to an increase in ambient noise levels above those existing without the proposed project. The analysis included under Impact 4.10-1 above evaluates the potential for mechanical equipment to increase ambient noise levels. Mechanical equipment is assumed to be a constant/permanent source of ambient noise in the area, attributable to future development projects.

Therefore, there would be no temporary or periodic noise impacts to on- or off-site receptors due to operation of the proposed project. This impact would be *less than significant*.

4.10.4 Cumulative Impacts

A cumulative impact analysis is only provided for those thresholds that result in a less-than-significant or significant and unavoidable impact. A cumulative impact analysis is not provided for Effects Found Not to Be Significant, which result in no project-related impacts.

The geographic context for the analysis of cumulative noise impacts depends on the impact being analyzed. For construction impacts, only the immediate area around the specific development site would be included in the cumulative context. For operational/roadway related impacts, the context is build-out of the Specific Plan, including existing and future development of cumulative projects within the City of Laguna Niguel, as well as related projects in adjacent communities that would be potentially impacted. This cumulative impact analysis considers development of the proposed project, in conjunction with ambient growth as discussed in Section 4.14 (Transportation/Traffic), and other development within the vicinity of the proposed project in the City of Laguna Niguel and surrounding jurisdictions. Noise is by definition a localized phenomenon, and is significantly reduced in magnitude as distance from the source increases. Due to the location of the Specific Plan area, and that the boundaries of the Specific Plan include the I-5 and SR-73, it is unlikely that future development would occur in close proximity to the Specific Plan area. Consequently, it is unlikely that other construction or operational noise impacts would occur in the vicinity of the proposed project site that would contribute noise levels similar to those generated for the proposed project. As such, construction and operation of the proposed Specific Plan Update would *not cumulatively contribute* to noise impacts and no further cumulative analysis would be required.

4.10.5 References

- California Department of Transportation (Caltrans). 1998. *Traffic Noise Analysis Protocol for New Highway Construction and Highway Reconstruction Projects*, October.
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4.11 POPULATION/HOUSING

This PEIR section analyzes the potential for adverse impacts of the Laguna Niguel Gateway Specific Plan (Specific Plan) on the environment from a substantial increase in population growth that exceeds that accounted for in existing planning documents or future forecasts. The PEIR analysis is limited to those socioeconomic issues that could result in a direct change to the physical environment (CEQA Guidelines Section 15131).

Data used to prepare this section were taken from the United States Bureau of the Census (U.S. Census), the California Department of Finance (DOF), the Southern California Association of Governments (SCAG), City of Laguna Niguel General Plan EIR (City of Laguna Niguel 1992a), Laguna Niguel Gateway Specific Plan (PBR 1999, June), and the City of Laguna Niguel 2000–2005 Housing Element of the General Plan (Housing Element). Full bibliographic entries for all reference materials are provided in Section 4.11.5 (References).

One comment relating to population and housing projections was received from SCAG in response to the IS/NOP circulated for the proposed project. This comment has been addressed in the appropriate section within this document.

4.11.1 Environmental Setting

■ Population

According to the U.S. Census, in 2010 the City of Laguna Niguel had a population of 62,979. This decennial census population is lower than the 2010 population estimated by DOF of 67,666. It is also lower than what was projected for 2010 by SCAG (69,994). Since the incorporation of the City in 1989, the City population has grown from approximately 44,400 residents to a population of 62,979 in 2010, as reported by the 2010 Census. Between 1990 and 2000, the population of the city grew about 38 percent from 44,723 to 61,891 (DOF 2007a). Since 2000 the City has experienced substantially slower growth, with the population growing approximately 1.8 percent between 2000 and 2010, increasing from 61,891 to 62,979. The City's 2010 population of 62,979 accounts for approximately 2.1 percent of Orange County's total population (3,010,232). SCAG estimates that the City will grow to a population of 73,163 residents in 2035. This is an increase of 10,184 residents over the next 25 years.

The City of Laguna Niguel General Plan (1992) calculated a population at build-out of 61,671 persons (City of Laguna Niguel 1992a). That number was exceeded prior to the year 2000, when population reached 61,891. This is due, in part, to a decreasing vacancy rate (9 percent in 1992, decreasing to 4.3 percent by 2010) and an increase in household size.

■ Housing

As shown in Table 4.11-1 (Total Housing Units, Households, and Population for the City of Laguna Niguel (2000–2010)), the 2000 Census reported that the City had a housing inventory of 23,885 housing

units (DOF 2011b). Since the 2000 Census, the City’s housing inventory has increased by 1,427 housing units.

Table 4.11-1 Total Housing Units, Households, and Population for the City of Laguna Niguel (2000–2010)

Census Year	Total Number of Units	Occupied Units (Households)	Percent Vacant	Population	Average Persons Per Household
2000	23,885	23,217	2.8	61,891	2.66
2010	25,312	24,232	4.3	62,979	2.60

SOURCE: California Department of Finance, Demographics Research Unit, State Census Department, Table 2 (Housing Units, Households, and Vacant Units: 2000 and 2010 Incorporated Cities by County in California), generated March 8, 2011; California Department of Finance, Demographics Research Unit, State Census Department, Table 1 (Total Population: 2000 and 2010 Incorporated Cities by County in California), generated March 8, 2011.

Vacancy Rates

The vacancy rates and affordability of the housing stock are also key elements in the balance between supply and demand in the City’s housing market. High vacancy rates usually indicate low demand and/or high prices in the housing market or significant mismatches between the desired and available types of housing. Conversely, low vacancy rates usually indicate high demand and/or low prices in the housing market. However, vacancy rates are not the sole indicator of market conditions. They must be viewed in the context of all the characteristics of the local and regional market and economy. Vacancy rates, which indicate a “market balance” (i.e., a reasonable level of vacancy to avoid local housing shortages, and appropriate price competition and consumer choice), generally range from 1 percent to 3 percent for single-family units and from 3 percent to 5 percent for multi-family units. As shown in Table 4.11-1, the City’s overall vacancy rate increased from 2.8 percent in 2000 to 4.3 percent in 2010.

Household Size

A household is defined by DOF and the U.S. Census as a group of people who occupy a housing unit. The number of households in a given area differs from the number of dwelling units because the number of dwelling units includes both occupied and vacant units. The variance between households and dwelling units also reflects population segments living in group quarters such as board-and care facilities, and those who are homeless.

Small households (1 to 2 persons per household [pph]) traditionally reside in units with zero to two bedrooms, and family households (3 to 4 pph) normally reside in units with three to four bedrooms. Large households (5 or more pph) ordinarily reside in units with four or more bedrooms. In reality, the relationship between household size and the size of a dwelling unit may also be influenced by cultural and individual preference or by economic considerations, including a substantial variance between the cost of housing and household income. As shown in Table 4.11-1, the average household size in the City of Laguna Niguel decreased slightly from 2.66 pph in 2000 to 2.60 pph in 2010. Implementation of the proposed Specific Plan would result in the development of mixed-use, multi-family residential units constructed at a minimum density of 40 dwelling units per acre, and up to 120 dwelling units per acre as incentive for providing important community benefits such as affordable housing, incorporation of

community service facilities, and funding of non-project-related open space amenities and infrastructure to further the implementation of the Gateway area. In total, up to 2,994 residential units could be constructed at full build-out of the Specific Plan assuming every vacant or underutilized property is built out at its maximum potential pursuant to the Specific Plan.

Mixed-use units tend to bring in higher numbers of renters compared to the predominately owner-occupied single-family uses that make up the majority of the existing housing stock throughout the City. The proposed project would likely include one- and two-bedroom units that are ordinarily occupied by small families, singles, and couples. The buyers and/or renters of these units would likely be “empty-nesters” and young professionals without children. Census tracts for comparable in-town, multi-family housing ranges from 1.5 to 2.0 pph. For example, the census tract for downtown San Diego states an average household size of about 1.5 pph. Therefore, the Fiscal Impact Analysis prepared by Keyser Marston Associated, Inc. (KMA) for the proposed Specific Plan assumes an average household size of 1.75 pph. The 1.75 pph is a generally accepted industry standard for urban, residential developments such as that proposed for the Specific Plan area. On this basis, then, KMA estimated an average household size for the Specific Plan area of 1.75 pph, and implementation of the Specific Plan would be consistent with the growth trends identified by SCAG. As a result the maximum number of residents that could be generated by the Specific Plan would be 5,240 persons.

4.11.2 Regulatory Framework

■ Federal

There are no federal regulations related to population and housing that apply to the proposed project.

■ State

California State Housing Law Program

The State Housing Law (SHL) Program, which is implemented by the California Department of Housing and Community Development (HCD), was established to assure the availability of affordable housing and uniform statewide code enforcement; to protect the health, safety, and general welfare of the public and occupants of housing and buildings accessory thereto. To fulfill this obligation the SHL Program may propose legislation and regulations. The program oversees the application of state laws, regulations, and code enforcement by a city, county, city and county building, housing, health, and fire department or fire district. The SHL Program develops statewide building standards for new construction of hotels, motels, lodging houses, apartments, dwellings, and buildings accessory thereto. The building standards are published in the California Code of Regulations, Title 24, known as the California Building Standards Code. The SHL Program adopts regulations for maintenance, use, occupancy, repair, alteration, moving, and demolition of existing hotels, motels, lodging houses, apartments, dwellings, and buildings accessory thereto. The regulations are published in the California Code of Regulations, Title 25, Division 1, Chapter 1.

The SHL requires the HCD to allocate the region’s share of the statewide housing need to Councils of Governments based on DOF population projections and regional population forecasts used in preparing

regional transportation plans. The COG, which in the case of the Laguna Niguel Specific Plan is SCAG, develops a Regional Housing Need Plan allocating the regions share of the statewide need to cities and counties within the region. Refer to the discussion below under Southern California Association of Governments for the Regional Housing Needs Allocation (RHNA) for the City.

Housing Element Law

Housing element law requires local governments to adequately plan to meet their existing and projected housing needs, including their share of the regional housing need. A complete analysis is required to include quantification and a descriptive analysis of the specific needs and resources available to address identified needs.

■ **Regional**

Southern California Association of Governments

SCAG determines regional housing needs and the share of the regional needs to be addressed by Orange County and its constituent cities. SCAG is a Joint Powers Agency and is the designated Council of Governments (COG), Regional Transportation Planning Agency (RTPA), and Metropolitan Planning Organization (MPO) for the six-county region of Orange, Los Angeles, Ventura, San Bernardino, Riverside, and Imperial counties. SCAG’s Regional Comprehensive Plan and Guide (RCPG) and RHNA are tools for coordinating regional planning and housing development strategies in southern California. SCAG prepares population, housing, and employment forecasts for a 30-year period based on data provided by its constituent cities.

The population and household forecasts provided in Table 4.11-2 (SCAG Population Forecast) for the City of Laguna Niguel and Orange County (OCCOG Subregion) were prepared by SCAG in 2008.

Table 4.11-2 SCAG Population Forecast						
	2010	2015	2020	2025	2030	2035
Laguna Niguel						
Population	69,994	71,433	72,442	72,766	73,129	73,163
Households	24,507	24,567	24,655	24,668	24,692	24,706
Orange County (OCCOG Region)						
Population	3,314,948	3,451,755	3,533,935	3,586,283	3,629,539	3,653,990
Households	1,039,201	1,071,810	1,088,375	1,102,370	1,110,659	1,118,490
SOURCE: SCAG 2008, Growth Forecast						

Potential Housing Sites and Regional Housing Needs Assessment

The Land Use Element of the Laguna Niguel General Plan designates approximately 3,508 net acres (37 percent) of the City’s total land inventory for residential uses, providing a variety of residential types throughout the City. The maximum residential density permitted in Laguna Niguel is determined by unit allocations assigned to individual community profile areas and sub-profile areas identified in the Land

Use Element. Nearly all subprofile areas (with the exception of the Gateway Specific Plan area, which does not currently permit residential uses) have been built out to the General Plan maximum unit allocations, leaving few opportunities for new housing units.

State Housing Law mandates that local governments, through COGs, identify existing and future housing needs in a RHNA. The RHNA provides recommendations and guidelines to identify housing needs within cities. It does not impose requirements as to housing development in cities. In Orange County, the OCCOG was delegated by SCAG with the responsibility for developing the RHNA in coordination with other cities and unincorporated areas in the County. All thirty-four cities in Orange County are currently members of the OCCOG.

The RHNA adopted by SCAG for the planning period of 2006-2014 has identified a future housing need for Laguna Niguel of 355 units. Table 4.11-3 (RHNA Needs by Income Category for Laguna Niguel) shows the 2006 RHNA allocation for the City of Laguna Niguel. Total “construction need” for all income categories is comprised of three components: (1) the number of housing units needed to accommodate future household growth; (2) an additional allowance for vacant units to ensure a healthy housing market; and (3) a further additional allowance to account for units that will be demolished, converted to nonhousing uses, or otherwise removed from the housing stock. The calculation of each component is based on a combination of the method used to calculate statewide housing need and past SCAG practice in preparing the RHNA.

<i>Income Category</i>	<i>RHNA-Identified Need</i>
Very Low	80
Low	64
Moderate	71
Upper	141
Total	355

SOURCE: SCAG 2007, RHNA

Since 2006, 338 upper-income housing units have been completed, 23 lower-income (includes very low and low) and 119 moderate-income units are pending, and 163 upper-income housing units have been approved. The remaining lower-income housing units needed could be accommodate on vacant or underutilized parcels within the Specific Plan area that would be developed with new high-density residential uses within the City. Accordingly, the proposed project could accommodate the City’s remaining RHNA needs for 121 low-income units, and the proposed project would be consistent with the RHNA.

■ Local

General Plan Housing Element

The 2000–2005 Housing Element provides an examination of the City’s housing needs, the opportunities and constraints related to addressing these needs, and formulates policies to address these needs. Goals and policies listed in the Housing Element of the General Plan relevant to the proposed project are presented below.

Goal 1 A diversity of housing opportunities that satisfy the physical, social, and economic needs of existing and future residents of Laguna Niguel.

Policy 1.3 Promote a variety of housing opportunities that accommodate the needs of all income levels of the population.

Program 1 Provision of Adequate Housing Sites

Objective Identify and monitor the use of vacant land for the construction of new housing units to meet the City’s identified housing need in the SCAG RHNA allocation for Laguna Niguel.

Program 3 Affordable Housing Development

Objective Promote and assist in the development of housing for Low- and Moderate-income households.

Action 1 Administer the City’s affordable housing regulations (Subarticle 3, Section 9-1-37 of the Laguna Niguel Zoning Code) regarding provisions of incentives or regulatory concessions to encourage development of affordable housing in accordance with Government Code 65915. These provisions of State law require the City to provide density bonus of at least 25 percent and one other incentive if a developer agrees to provide at least 10 percent of the dwelling units in a development at prices/rents affordable to very low-income housings, or 20 percent of the units affordable to low-income households, or 50 percent of the units for senior citizen households.

Program 4 Removal of Governmental Constraints

Objective To remove as many governmental constraints as feasible, in order to help encourage and promote the construction of housing affordable to Low- and Moderate-income households.

Action 1 The City will evaluate vacant properties covered by vested subdivision maps to determine opportunities for amending these agreements to consolidate individual lots to

create an affordable multi-family housing development.

Program 7

Housing Element Monitoring and Report

Objective

To develop monitoring and reporting programs for the Housing Element and ensure the Housing Element is internally consistent with other elements.

Action 3

Whenever land use regulations, land use designations or housing programs are proposed for adoption or modification, the Community Development Department shall analyze the proposed changes to determine consistency with the Housing Element and other elements of the General Plan.

Consistency Analysis

The proposed Specific Plan would allow for the development of 2,994 multi-family residential housing units in an area where no residential development currently exists or is permitted. Approximately 75.77 percent of the City's existing housing inventory consists of single-family residential housing units. As such, implementation of the proposed project would diversify housing opportunities in the City by providing multi-family dwelling units that could accommodate all income levels, consistent with Goal 1 and Policy 1.3, as well the objective of Program 3. Further, the proposed project would help the City achieve the objective of Program 1 by allowing for the construction of housing in an underutilized area where housing has not previously existed, assisting the City in meeting its RHNA allocation. In order for the City's to address the community's housing needs as identified by the RHNA, the proposed Specific Plan would be subject to Action 3 of Program 7 to ensure consistency with the Housing Element policies. As such, the proposed project would be consistent with the City's Housing Element.

The City of Laguna Niguel General Plan (1992) provides for build-out of a maximum of 26,243 dwelling units. As of 2010, there is a remaining capacity of 931 dwelling units that can be built within the allowable maximum in the General Plan. As the proposed project would include up to 2,994 housing units, it would result in an exceedance of the maximum allowable housing under the 1992 General Plan, a potential inconsistency. However, as part of the proposed Specific Plan Update, the City's General Plan would be amended to reflect anticipated housing growth, and associated population growth that would occur in the Laguna Niguel Gateway Specific Plan area. Therefore, the project would not be inconsistent with the City's General Plan.

City of Laguna Niguel Municipal Code

Density Bonuses for Affordable Housing

Municipal Code Section 9-1-37 is intended to implement the provisions of the City's General Plan Housing Element policies relating to the provision of affordable housing and state Government Code Sections 65915 and 65915.5, which require a local jurisdiction to provide incentives for the production of affordable housing units. A density bonus may be granted to an eligible housing development in any

residential district through approval by the City Council. Future development under the Specific Plan would be eligible for density bonuses through the provision of affordable housing.

4.11.3 Project Impacts and Mitigation

■ Analytic Method

This analysis considers population and household growth that would occur with implementation of the proposed Specific Plan and whether it can be considered substantial compared to allowable General Plan build-out. Specifically, the following analysis considers the potential impacts of residential build-out in the Specific Plan area consisting of a maximum of 2,994 new dwelling units, which would also result in an increase in the City's total population.

Population and housing impacts were analyzed by comparing the anticipated population increase under development of the proposed Specific Plan with the development allowed by the General Plan. It should be noted that the planning horizon for the General Plan ended in 2010 and maximum development allowed under the General Plan reflects planning done 20 years ago. Since that time, SCAG has continued to update its Growth Management Chapter and Regional Transportation Plan, and has also implemented its Compass Growth Vision program, all of which focus on sustainable development and encourage transit-oriented and mixed-use development. Therefore, while the General Plan is the controlling document with regard to development within the City, regional policies and forecasts should also be considered in determining whether the proposed project would result in a significant impact with regard to population, housing, and employment growth. It is anticipated that full build-out of the Specific Plan would occur in 2035; therefore, SCAG 2035 population projections are used in concert with General Plan development maximums. For purposes of this analysis, a "substantial increase" is considered one in which both General Plan development caps and identified population and employment growth projections are exceeded.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G to the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact if it would do any of the following:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

■ Effects Found to Have No Impact

Thresholds	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? And, Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
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The Specific Plan area is currently developed with a variety of commercial service, light industrial, auto sales and service, retail, and office uses. There are no residential uses located within the Specific Plan area. Implementation of the proposed Specific Plan would allow for the development of up to 2,994 residential dwelling units. Consequently, as no residential uses currently exist within the Specific Plan area, future development permitted under the proposed Specific Plan would not result in the displacement of existing housing or people, and would not require the construction of replacement housing elsewhere. Rather, implementation of the proposed Specific Plan would allow for the development of housing to accommodate the needs of the community. As such, there would be *no impact* from implementation of the proposed project.

■ Impacts and Mitigation Measures

Threshold	Would the project induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure)?
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Impact 4.11-1 Implementation of the proposed project would not induce substantial population growth, either directly or indirectly. This impact is considered *less than significant*.

As proposed, implementation of the Specific Plan would enact land use changes to allow up to 2,994 dwelling units within the Specific Plan area, where none currently exist, with an estimated residential population of 5,240 persons. The proposed Specific Plan (at its build-out capacity) would also allow for a total of 2,259,931 square feet (sf) of nonresidential uses where a total of approximately 1,371,000 sf nonresidential uses currently exist (an increase of 888,661 sf), and; a total of 350 hotel rooms where 33 hotel rooms currently exist (an increase of 317 hotel rooms). This analysis discusses direct population growth from the residential component as well as indirect population growth that could result from nonresidential uses. The Specific Plan area is currently developed, and no major extension of infrastructure is proposed as part of the proposed project other than localized upgrades or feeder lines for utility systems.

The development of multi-family housing units in the Mixed-Use (MU) Zone is intended to enable residents to live in proximity to their jobs, commercial services, and transit, thereby reducing automobile trips, commuting distances, and greenhouse gas emissions while improving their quality of life. These would be located and designed to convey an “urban” scale and character, typical of those found in city centers and at transit nodes. The residential units would be constructed at a minimum density of 40 dwelling units per acre, and up to 120 dwelling units per acre in exchange for the provision of important community benefits, such as affordable housing, public amenities, and provision of

infrastructure beyond what would otherwise be required for the project. The General Plan currently allows for an ultimate residential capacity of 26,243 dwelling units. As of 2010, the City had an inventory of 25,312 dwelling units.

The proposed project would result in the development of up to an additional 2,994 dwelling units, increasing the City's housing inventory to 28,306 dwelling units. Although full build out of the proposed Specific Plan would result in an exceedance of the City's current residential capacity of 26,243 units, as established by the General Plan, part of the project is a General Plan Amendment, including an increase in residential capacity to maintain project consistency with the General Plan.

The occupants of the 2,994 residential units in the Specific Plan area would likely be "empty-nesters" and young professionals without children. Census tracts for comparable in-town, multi-family housing ranges from 1.5 to 2.0 pph. This PEIR assumes an average household size of 1.75 pph based on modeling performed by KMA in 2011. Based on an average household size of 1.75 pph and the maximum amount of residential development permitted under the Specific Plan, the proposed project could result in a direct population increase of 5,240 residents.

As such, looking only at build-out of the proposed Specific Plan, the City's population could grow to approximately 68,219 residents in 2035, compared to its existing 2010 population of 62,979 (and maximum projected 2010 population in the General Plan of 61,671 persons). SCAG estimates that in 2035 the City's population will grow to 73,163 residents, approximately 4,944 more residents in the City than would occur with full build-out of the Specific Plan. As such, the population that would result from full build-out of the Specific Plan would be within SCAG's 2035 projections for population growth.

Population growth can also be induced by the development of substantial new employment-generating businesses. The proposed Specific Plan (at its buildout capacity) could result in a total of 2,259,931 sf of nonresidential uses, an increase of 888,661 sf of nonresidential uses compared to existing conditions in the Specific Plan area. The proposed Specific Plan would allow up to a total of 531,636 sf of retail uses (compared to existing of 143,895 sf); 1,141,016 million sf of office (compared to existing of 173,900 sf); 13,054 net new sf of auto-related uses (compared to existing of 174,545 sf)¹¹, and 317 new hotel rooms (compared to 33 existing hotel rooms). It would also reduce light manufacturing/business park uses by 479,060 sf (compared to existing of 878,740 sf). Accordingly, full build out of the Specific Plan area has the potential to create a total of approximately 6,438 jobs.¹² However, nonresidential development under the Specific Plan would be within the build-out considered in the City of Laguna Niguel General Plan Final Environmental Impact Report (City of Laguna Niguel 1992a), and would not result in indirect population growth not previously analyzed. In addition, the City of Laguna Niguel is surrounded by the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Mission Viejo, and San Juan Capistrano and has direct access via Interstate 5. It is anticipated that some jobs that would result from full implementation of the Specific Plan would be filled by residents of the new residential component of the Specific Plan. Because of its centralized location, easy freeway access, and transit access, some Gateway

¹¹ Includes 187,599 sf of building space and 587,769 sf of exterior sales space on 17.78 acres of land.

¹² Based on an average of 3.3 jobs per 1,000 sf of nonresidential uses, excluding auto sales, and 0.8 employees per hotel room. The estimated number of new jobs was based on 868,827 sf of new nonresidential development and 317 new hotel rooms. Jobs generated by auto-sale uses was not included because no increase in acreage dedicated to auto-sales would occur with implementation of the proposed project (KMA 2010)

area jobs would be filled by commuters from the surrounding areas or by existing residents of Laguna Niguel. Existing vacant housing could also accommodate new residents. Therefore, the employment opportunities resulting from the Specific Plan would not result in a substantial increase in City population, nor would it significantly increase the demand for housing.

Because implementation of the Specific Plan would not result in a substantial direct or indirect population increase, the impact would be *less than significant*.

4.11.4 Cumulative Impacts

The cumulative context for population and housing growth is the City of Laguna Niguel, as represented by full build-out of the Laguna Niguel General Plan and SCAG's 2035 population projection. The proposed project would develop residential and commercial uses that would—in combination with other cumulative development in the City—increase population and housing opportunities in Laguna Niguel, which could directly and/or indirectly induce growth in the City. While population has increased beyond the estimates described in the 1992 General Plan, the 2010 City population of 62,979 is below the 2010 SCAG estimates of 69,994 persons. Therefore, there is no existing significant cumulative problem in the City with regard to population growth.

Full build-out of the proposed Specific Plan would result in a potential increase of 5,240 persons and 6,438 new jobs. The Specific Plan area represents the last available area in the City where substantial housing growth could occur, as the remainder of land zoned residential in the City is occupied by established single-family neighborhoods. Currently approved residential projects in the City would result in the construction of an additional 280 single-family dwelling units. Utilizing the average person-per-household factor of 2.60 (refer to Table 4.11-1), future residential development in the City could result in a population increase of 728 residents. In consideration of build out of the proposed Specific Plan and approved residential projects outside the Specific Plan area, the City's population could grow by 5,968 residents for a total population of 68,947 residents in 2035. As SCAG projects that the City's population would be 73,163 in 2035, build out of the proposed Specific Plan in combination with future residential development in the City would not result in a population that exceeds 2035 SCAG population forecasts.

The nonresidential uses under the Specific Plan are within the future growth specified by the City's General Plan and would not generate population not previously accounted for in the City of Laguna Niguel General Plan Environmental Impact Report (City of Laguna Niguel 1992a). Considering the proposed project in conjunction with future known and approved cumulative residential development, the cumulative impact on population growth from nonresidential uses would not exceed SCAG projections.

As such, the proposed project would not make a cumulatively considerable contribution to this impact, and the project's cumulative impact would be *less than significant*.

4.11.5 References

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4.12 PUBLIC SERVICES

This section of the PEIR analyzes the potential environmental effects on public services from implementation of the proposed project. For purposes of this PEIR, the public service analysis is divided into four subsections: (1) fire protection and emergency response, (2) police protection, (3) schools, and (4) libraries. Cumulative impacts associated with fire protection and emergency response, police protection, schools, and libraries are addressed at the end of each respective subsection.

The City's General Plan, adopted in 1992, includes Community Service Standards for fire protection, police/sheriff, library, and schools. However, due to the time that has elapsed since standards were established service standards for fire and libraries are no longer applicable. Current and applicable service standards for included in this section were provided by public service providers serving the City of Laguna Niguel.

Fire Protection and Emergency Response

This section describes the current status of fire protection and emergency response services in the City of Laguna Niguel, including a discussion of current staffing levels, equipment, response times, and performance standards that apply to these services and the ability of the City's fire protection and emergency response services to meet the current needs of the City.

No comment letters addressing fire protection and emergency response services were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from Orange County Fire Authority (OCFA) website and staff, and the City's General Plan Community Service Standards Element. Full reference-list entries for all cited materials are provided in Section 4.12.5 (References).

4.12.1 Environmental Setting

The OCFA is a Joint Powers Authority that serves as an all-risk emergency response agency for almost 1,400,000 residents in twenty-two cities in Orange County, including the City of Laguna Niguel and all unincorporated areas in Orange County. The OCFA is comprised of six divisions and eight battalions, operating out of sixty-one fire stations with 814 firefighters/fire management, 6 executive chiefs, and 252 professional staff (OCFA 2010). The OCFA does not allocate equipment based on city boundaries, but rather dispatches engines based on location in order to shorten response times, thereby reducing the threat to both property and lives. The OCFA's service area consists of 550 square miles, including 175,000 acres of wildlands. In 2009, the OCFA responded to 85,787 emergency calls reporting incidents, and dispatched 163,050 units in response to emergency calls. Of the 163,050 unit responses, 6,199 of them occurred in the City of Laguna Niguel.

The Specific Plan area is located within Division III, Battalion 6. Based on accessibility, the Specific Plan area is served by Fire Stations 9, 39, and 7 (Hernandez 2010). Only Fire Station 39, located approximately 1.79 miles from the Specific Plan area, is within the City of Laguna Niguel. Although Stations 5 and 49 are both located in the City of Laguna Niguel, first response is determined by the location of the incident

and its accessibility from an OCFA station, and not by city boundaries. Accordingly, Fire Station 9 located in Mission Viejo, approximately 0.35 mile from the Specific Plan area, east of the I-5, is the closest station serving the Specific Plan area. Fire Station 7 located in San Juan Capistrano, although located 4.71 miles away from the Specific Plan area, because of its location on Camino Capistrano, which allows easy access to the Specific Plan area, would also serve the Specific Plan area. Table 4.12-1 (Fire Stations Serving the Specific Plan Area) identifies the location of fire stations serving the Specific Plan area, the distance from the Specific Plan area, as well as staffing and equipment levels. Figure 4.12-1 (Location of Public Services Serving the Specific Plan Area) identifies the location of fire stations serving the Specific Plan Area.

Table 4.12-1 Fire Stations Serving the Specific Plan Area

<i>Station Number and Address</i>	<i>Distance from Specific Plan Area* (miles)</i>	<i>Equipment Inventory</i>	<i>Staffing</i>	<i>2009 Calls</i>
FS09 9 Shops Blvd Mission Viejo	0.35	1 PAU 1 Truck 1 Swift Water	6-Captains 6-Engineers 9 Firefighters	2,584
FS39 24241 Avila Rd Laguna Niguel	1.79	1 PAU 1 Engine	3-Captains 3-Engineers 3-Firefighters	1,599
FS07 31865 Del Obispo St San Juan Capistrano	4.17	2 Engines 1 Medic Van 1 Water Tender 1 Reserve unit: Patrol	3 Captains 3 Engineers 9 Firefighters Reserve Firefighters (varies)	4,855

SOURCES: Michele Hernandez, written correspondence from Management Analyst, Orange County Fire Authority (August 16, 2010); Orange County Fire Authority, Find Closest Fire Stations in Orange County (n.d.), http://www.ocfa.org/_uploads/maps/stationlocator-map.html (accessed October 11, 2010); Orange County Fire Authority, OCFA Fire Stations (n.d.), <http://www.ocfa.org/Menu/Departments/Operations/StationList.aspx> (accessed October 11, 2010).

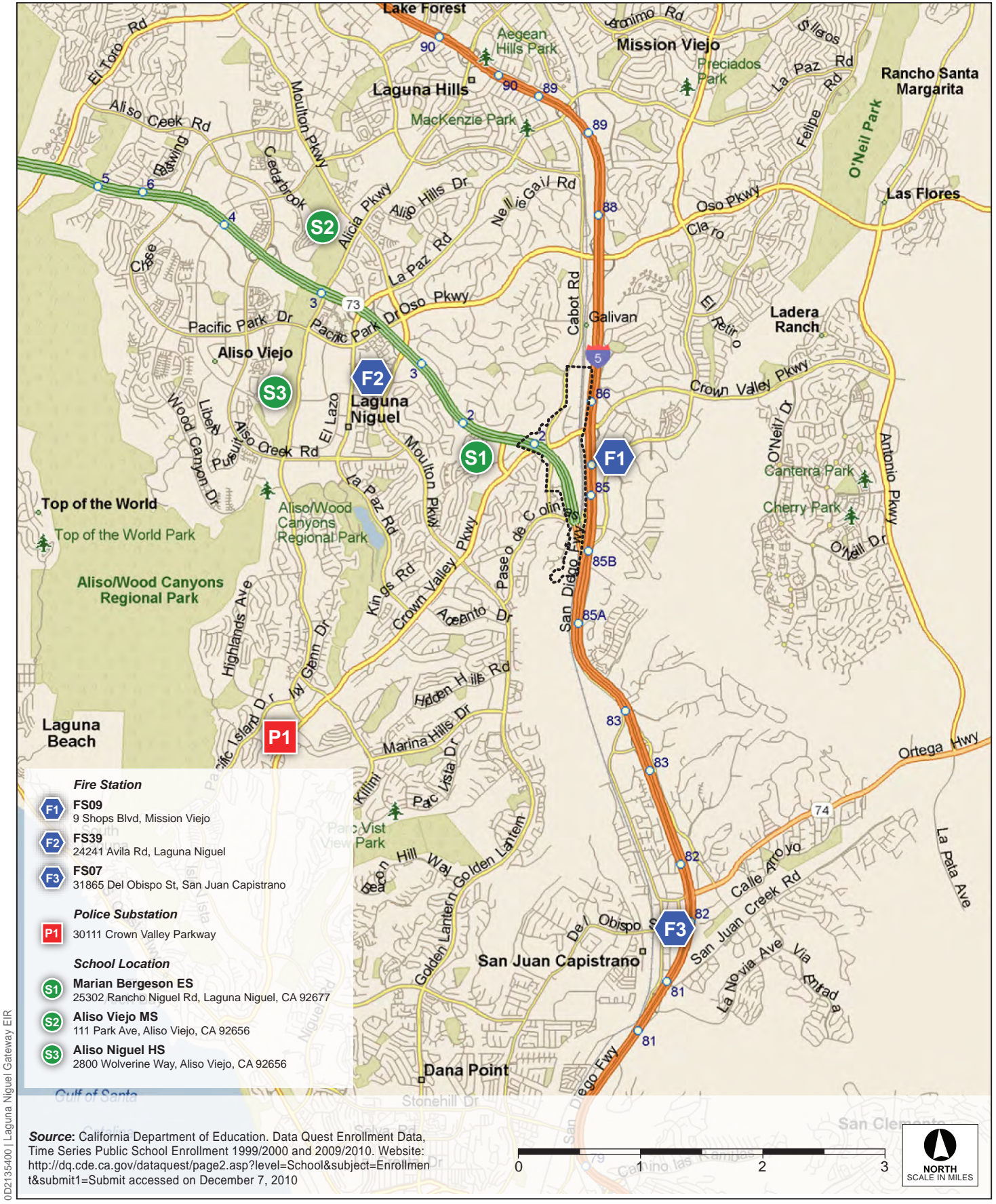
PAU = Paramedic Assessment Unit

* Distance determined from intersection of Crown Valley Parkway and Forbes Road.

Staffing at each station is determined based on the number and type of fire apparatus at the station. Paramedic Engine Units (PAUs), Engines, and Trucks are required to be staffed with one captain, one engineer and at least one firefighter at all times. Additionally, PAUs and Medic Vans must be staffed with a minimum of one paramedic firefighters at all times.

According to the OCFA 2009 Annual Report, OCFA employed 814 firefighters/fire management personnel and served a population of 1,389,189 residents (OCFA 2010). This reflects an average of 0.58 firefighters per 1,000 residents, which has remained consistent over the past 10 years (Hernandez 2010).

Nationally recognized response time targets for urban areas are 5 minutes for a basic life support unit (squad engine) and 8 minutes for an advanced life support unit (PAU). The OCFA is currently meeting these standards. The current equipment levels allow OCFA to meet their established standards of cover which calls for the first unit to respond to an emergency within 7 minutes 20 seconds of receipt of a call to on scene incidents 80 percent of the time.



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Figure 4.12-1
Location of Public Services Serving the Specific Plan Area

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The level of service provided to areas within the City is determined by OCFA. The OCFA considers a variety of factors when evaluating the level of service provided, including their adopted standards of cover and annual response capacity for individual units. As previously mentioned, the OCFA standards of cover are for the first unit responding to emergencies to arrive on scene within 7 minutes 20 seconds of receipt of the call 80 percent of the time. Additionally, a unit is reviewed for capacity as it approaches 3,500 responses per year (Hernandez 2010). According to the OCFA 2009 Annual Report, only a limited number of OCFA units (fire apparatus) exceeded 3,000 annual responses, none of which are located at stations serving the Specific Plan area (OCFA 2010). As such, Stations 9, 39, and 7 serving the Specific Plan area are operating within acceptable service levels and below their maximum capacity. (Personnel to population ratios are not evaluated when considering levels of service.) The engine at Fire Station 9 was recently upgraded to a paramedic engine. OCFA's Capital Improvement Plan includes reconstruction of Fire Station 9 to meet current fire station standards and to increase capacity for the medic unit.

4.12.2 Regulatory Framework

■ Federal

There are no federal regulations related to fire protection services applicable to the proposed project.

■ State

California Fire Code

The California Fire Code is based on the 2007 International Fire and Building Codes, and contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new and existing buildings and premises. The code contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which include regulations concerning building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

■ Regional

2010 California Fire Code (Ordinance Number 2010-160)

This ordinance adopts the 2010 California Fire Code including modification and amendments to these codes as recommended by the OCFA.

■ Local

Laguna Niguel General Plan (1992)

Seismic and Public Safety Element

Policy 3.1	Provide fire protection to ensure the public health and safety.
Action 3.1.1	Fire hazards shall be identified in the project review process and be prevented or mitigated to an acceptable level.
Action 3.1.2	New Developments shall satisfy fire flow requirements, street widths and design requirements as established by the fire and police department.
Action 3.1.3	Enforce fire inspection, building code compliance and weed abatement programs.

Consistency Analysis

Similar to existing conditions, any future development under the proposed Specific Plan would be required to follow all applicable state and local laws with respect to fire safety. Compliance with the regulations of the amended California Fire Code, as set forth in the Laguna Niguel Fire Code Ordinance, pertaining to fire protection systems and equipment, general safety precautions, and many other general and specialized fire-safety requirements for new and existing buildings and premises, would assist in ensuring consistency with the General Plan goals and policies related to new construction and site design. Additionally, as required by MM4.12-1, future development would be required to submit plans to OCFA for review, with project conditions recommended by OCFA incorporated in the project conditions of approval where deemed appropriate to ensure compliance with applicable fire codes and OCFA guidelines. Therefore, implementation of the proposed Specific Plan would not conflict with these policies.

4.12.3 Project Impacts and Mitigation

■ Analytic Method

Impacts on fire protection services are considered significant if an increase in population or building area would result in inadequate staffing levels, response times, and/or increased demand for services that would require the construction of new fire protection facilities or the expansion of existing fire protection facilities that may have an adverse physical effect on the environment. The OCFA has established objectives for response times for emergency and non-emergency events.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on public services if it would do the following:

- Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered fire protection and emergency response facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response

■ Effects Found to Have No Impact

No effects have been identified that would not have an impact with respect to fire protection.

■ Impact and Mitigation Measures

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered fire protection and emergency response facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response?
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Impact 4.12-1 **Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered fire protection and emergency response facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response. This would be a potentially significant impact. Implementation of mitigation measure MM4.12-1 through MM4.12-2 would reduce this impact to a *less-than-significant* level.**

Implementation of the proposed Specific Plan would allow for the amendment of land use designations and the potential for an increase in densities of existing and new uses in the Specific Plan area. Land use designations would be amended to accommodate a mix of uses, including residential uses which were previously not permitted within the Specific Plan area. In all cases, existing uses within the Specific Plan area would be allowed to remain under the Specific Plan.

Full build-out of the Specific Plan area could result in the addition of up to 2,994 dwelling units, in an area not previously developed with residential uses. Based on the Fiscal Impact Analysis prepared for the proposed Specific Plan, which utilizes an estimated 1.75 persons per household in the Specific Plan area, the Specific Plan could result in approximately 5,240 new residents by 2035 (KMA 2010). This increase in residential development, as well as the proposed increase in development intensity would result in an increase in the number of fire service calls to the area compared to existing conditions.

Based on accessibility, the Specific Plan area would be served by OCFA Fire Stations 9, 39 and 7. As discussed above, these stations are currently operating within established level of service standards. Specifically, units dispatched from these stations arrive on scene within 7 minutes 20 seconds, 80 percent of the time, which is the OCFA's adopted standards of cover. Furthermore, based on an annual capacity of 3,500 responses per unit, each of these stations is operating well below capacity with respect to staffing and available apparatus.

In order to ensure that the OCFA continues to arrive on scene within their established standards of cover, and that units are not operating above capacity as a result of implementation of the proposed Specific Plan, mitigation measure MM4.12-1 would require developers of future individual projects within the Specific Plan area to submit project plans for review and conditions of approval by OCFA.

MM4.12-1 Prior to approval of any subdivision or site development permit for projects within the Specific Plan area, the applicant shall submit plans to OCFA for review. Project conditions recommended by OCFA should be incorporated in the project conditions of approval, where deemed appropriate by the Community Development Department to ensure compliance with applicable fire codes and OCFA guidelines.

All future development within the Specific Plan area would also be subject to Action 3.1.1, Action 3.1.2, and Action 3.1.3 of the City's General Plan Seismic and Public Safety Element. Implementation of these actions would ensure that fire hazards are identified during the project review process be prevented or mitigated; fire flow, street widths and design requirements are satisfied as established by the OCFA; and fire inspection, building code compliance and weed abatement programs are enforced. Furthermore, all development would be required to comply with provisions of the amended 2010 California Building Code and 2010 California Fire Code, as set forth in the Laguna Niguel Fire Code Ordinance, pertaining to fire protection systems and equipment, general safety precautions, and many other general and specialized fire safety requirements for new and existing buildings and premises, such as emergency access provisions. Fire safety requirements that would be implemented in the project area include the installation of automatic opening devices in all electrically operated gates within the Project area to insure emergency access in accordance with OCFA guidelines for emergency access, and as required by Laguna Niguel Ordinance Number 2008-152, Section 2, 2-19-08.

Additionally, OCFA requests the following mitigation measure be implemented on all future development within the Specific Plan area to reduce response times to calls for service. The requested mitigation measure, incorporated in this PEIR as mitigation measure MM4.12-2 requires the installation of optical preemption devices on all traffic signals on public accessways which allows the emergency vehicle to alert the traffic signal that an emergency vehicle is approaching and requests a green in the direction, allowing for faster and safer response by the emergency vehicle.

MM4.12-2 All traffic signals on public accessways should include the installation of optical preemption devices.

Implementation of the proposed Specific Plan would result in a direct population increase by introducing new residential development in an area not previously developed with residential uses, and would increase development intensity within the Specific Plan area, potentially resulting in an increase in calls for fire services provided by the OCFA. Impacts associated with this increased demand on fire services would be mitigated through implementation of mitigation measure MM4.12-1, which requires all project developers to submit plans for review and recommended conditions of approval by OCFA. As such, impacts to fire services are considered ***less than significant*** with implementation of mitigation measures MM4.12-1 and MM4.12-2.

4.12.4 Cumulative Impacts

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered fire protection and emergency response facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response?
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As additional development occurs in the City, there may be an overall increase in the demand for fire services, including personnel, equipment, and/or facilities. The provision of adequate fire protection services is of critical importance to the City. Through implementation of MM4.12-1, all developers of individual projects within the Specific Plan area are required to submit plans to OCFA for review and recommended conditions of approval. OCFA uses a fair share approach to cumulative impacts for funding of infrastructure and equipment. Developers may be required to enter into a Secured Fire Protection Agreement with OCFA to ensure that the project will provide adequate fire protection and equipment to serve the project within the standard estimated response time.

Additionally, all future development within the City of Laguna Niguel would be subject to Action 3.1.1, Action 3.1.2, and Action 3.1.3 of the City's General Plan Seismic and Public Safety Element. Implementation of these actions would ensure that fire hazards are identified during the project review process and be prevented or mitigated; fire flow, street widths and design requirements are satisfied as established by the OCFA; and fire inspection, building code compliance and weed abatement programs are enforced. Furthermore, all development would be required to comply with provisions of the amended 2010 California Building Code and 2010 California Fire Code, as set forth in the Laguna Niguel Fire Code Ordinance, pertaining to fire protection systems and equipment, general safety precautions, and many other general and specialized fire-safety requirements for new and existing buildings and premises, such as an emergency access provisions.

As development occurs within the City, the OCFA will continue to monitor response times to ensure the OCFA is operating within the established level of service standards, and to review each unit for capacity as it approaches 3,500 responses per year. If capacity is exceeded, the OCFA will determine if additional fire protection facilities or equipment are necessary. Capital improvements would be funded through project specific conditions of approval. As such with implementation of MM4.12-1 and adherence to existing City policies and regulations, the contribution of the proposed Specific Plan to cumulative impacts on fire services would not be cumulatively considerable. This is considered to be a *less-than-significant* cumulative impact.

4.12.5 References

- Hernandez, Michele. 2010. Written correspondence from Management Analyst, Orange County Fire Authority, August 16.
- Keyser Marston Associates, Inc. (KMA). 2010. *City of Laguna Niguel Gateway Specific Plan*, Table 1 (Residential and Workforce Population Assumptions), July 15.
- Orange County Fire Authority (OCFA). 2010. *2009 Annual Report*.
<http://www.ocfa.org/pages/ocfa.asp?filename=ocfareports.asp> (accessed October 12, 2010).

- . n.d.a. Find Closest Fire Stations in Orange County. http://www.ocfa.org/_uploads/maps/stationlocator-map.html (accessed October 11, 2010).
- . n.d.b. OCFA Fire Stations. <http://www.ocfa.org/Menu/Departments/Operations/StationList.aspx> (accessed October 11, 2010).

Police Protection

This section describes the current status of police protection services in the City of Laguna Niguel, including a discussion of current staffing levels, equipment, staffing standards, number and types of calls received, crime prevention programs available, and the ability of the City's police protection services to meet the current needs of the City.

No comment letters addressing police protection services were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from the Orange County Sheriff's Department (OCSD) website and staff. Full reference-list entries for all cited materials are provided in Section 4.12.10 (References).

4.12.6 Environmental Setting

Police Services in the City of Laguna Niguel are provided by contract with the OCSD. The Sheriff's Department is responsible for providing for the protection of citizens, the enforcement of laws, and crime prevention. Law enforcement services include patrol, traffic enforcement, accident analysis and investigation, parking enforcement, general and special investigations, and the Community Support Unit. The Laguna Niguel Police Services sub-station is located within City Hall located on the 27800 block of La Paz Road. However, these offices will be relocated to the new City Hall located on the 30111 block of Crown Valley Parkway, which has a completion date of August 2011.

Staffing at the Laguna Niguel Police Services sub-station includes 1 lieutenant, 5 sergeants, 26 deputy sheriffs, and 2 investigators, for a total of 34 sworn positions at the sub-station. Additionally there are 3 community services officers, 1 investigative assistant, and 2 crime prevention specialist, all of who are nonsworn. Serving the estimated 2010 resident population of approximately 62,979 residents, the Laguna Niguel Police Services sub-station has approximately 0.54 sworn positions per 1,000 residents. This ratio is currently acceptable to the OCSD (Ferguson 2010). The Laguna Niguel Police Services sub-station also possesses the required equipment to maintain an acceptable level of service. The equipment includes patrol cars, radios, in-car computers and video systems, and supportive office equipment.

The Laguna Niguel Police Services sub-station received 18,156 calls for service in 2009 (Ferguson 2010). While deputies are often dispatched to respond to calls for service from the Laguna Niguel Police Services sub-station, deputies are most commonly in the field and respond to calls for service from their locations at the time of the call. As such, response times from call to call may vary. Additionally, deputies are dispatched by the priority of the call which is rated Priority 1 through 4, with Priority 1 calls being the most urgent. The City's General Plan Community Service Standards Element establishes a level of service standard of 4 to 6 minutes for 85 percent of Priority 1 calls. In 2009, the average response time for Priority 1 calls was 4 minutes 19 seconds and the average response time for Priority 2 calls was

8 minutes 14 seconds. Based on this average, the level of service being provided to the City by the OCSD is well within the City's established standards

4.12.7 Regulatory Framework

■ Federal and State

There are no federal or state regulations related to police protection services applicable to the proposed project.

■ Local

Laguna Niguel General Plan (1992)

Seismic and Public Safety Element

Policy 3.4 Ensure adequate law enforcement services.

Action 3.4.1 Law enforcement hazards shall be identified in the project review process and mitigated to an acceptable level.

Action 3.4.3 Require new development to incorporate defensible space into site plan and building design.

Community Service Standards Element

The Community Services Standard Element establishes a level of service standard for police services provided by the OCSD of 4- to 6-minute response time for 85 percent of the Priority 1 calls. In order to insure that this standard is met, Implementing Action 1 requires the OCSD to monitor and report annually on performance levels achieved, along with recommendations for improvements, if any. If the standard is not met, the City must review impediments with the OCSD to determine the most cost effective remedies. Additionally, if it is determined that a proposed project cannot be served within the level of service response time, mitigation measures to correct the deficiency must accompany approval, or approval will be withheld until the deficiency is corrected. Consideration shall be limited to only the development in question to the extent that it contributes significantly to the deficiency.

Consistency Analysis

Future development under the proposed Specific Plan would incorporate design measures to maximize safety and security throughout the area. While increases in population can result in more crime, the increases can also help to offset crimes by providing more eyes on the street. Further, with implementation of Action 1 of the City's Community Service Standards Element, appropriate measures would be taken to ensure that the OCSD has adequate staffing, equipment, etc., to maintain acceptable levels of service throughout the community. Consequently, the proposed project would not conflict with the applicable goals and policies of the City's General Plan.

4.12.8 Project Impacts and Mitigation

■ Analytic Method

Impacts on police services are considered significant if an increase in population in the Specific Plan area results in a reduction in service levels, as measured by the ability of the OCSD to respond to calls for service within the established Priority 1 response time standard, requiring additional staffing and equipment or the construction or expansion of new or altered police protection facilities that might have an adverse physical effect on the environment.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on public services if it would do the following:

- Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection

■ Effects Found to Have No Impact

No effects have been identified that would not have an impact with respect to police protection.

■ Impacts and Mitigation Measures

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection?
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Impact 4.12-2 **Implementation of the proposed project could result in the need for additional officers; however, the project is not anticipated to require new or physically altered police facilities in order to maintain acceptable service ratios. This impact is considered *less than significant*.**

Implementation of the proposed Specific Plan would allow for the amendment of land use designations and the potential for an increase in densities of existing and new uses in the Specific Plan area. Land use designations would be amended to accommodate a mix of uses, including residential uses which were previously not permitted within the Specific Plan area. In all cases, existing uses within the study area would be allowed to remain under the Specific Plan.

Full build-out of the Specific Plan area could result in the addition of up to 2,994 dwelling units, in an area not previously developed with residential or mixed-use land uses. Based on the Fiscal Impact Analysis prepared for the proposed Specific Plan, which utilizes an estimated 1.75 persons per household in the Specific Plan area, the Specific Plan could result in approximately 5,240 new residents by 2035.

This increase in residential and mixed-use development, as well as the proposed increase in overall development intensity would create a new urban environment that would result in an increase in the number of calls for service to the area and subsequent potential reduction in service levels to all parts of the City compared to existing conditions (Ferguson 2010).

An increase in calls for services would potentially result in increased average response times throughout the City. The City's General Plan Community Services Standard Element establishes a response-time level of service standard for police services provided by the OCSD of 4- to 6-minutes for 85 percent of the Priority 1 calls. The OCSD currently maintains an average response time of 4 minutes 19 seconds for Priority 1 calls, which is well within the City's established standard. In 2009 the OCSD experienced 18,156 calls for service in the City. With implementation of the proposed project, the resident population of the City at project build-out (in 2035) would increase by 5,240 residents or approximately 8.3 percent compared to the City's resident population in 2010 of 62,979, as reported by the 2010 U.S. Census. Assuming that calls for service incrementally increase with the increase in population, the OCSD could experience an increase by the year 2035 of approximately 1,500 calls for service annually compared to 2009, a total of approximately 19,656 calls for service a year by the year 2035. In order to maintain response times within the established level of service standard while responding to the increased calls for service, additional staffing and equipment may be necessary.

The City evaluates its police response times on an annual basis and will commit sufficient funding from project-generated tax revenues to provide adequate staffing levels such that the City's police response times can be maintained. A variety of approaches can be employed to ensure adequate staffing levels, including, but not necessarily limited to, hiring (temporary and/or full-time), authorizing overtime and/or reassignments. Therefore, increases in staffing are evaluated by the OCSD during its annual budgetary process, and personnel are hired, or overtime pay is funded for existing personnel, as needed, to ensure that adequate police protection services are provided.

In addition to an increase in residential population, implementation of the proposed project would also result in the issuance of new alcohol permits in the City, which could result in an increased need for police protection services. However, existing regulations have been established to evaluate the issuance of these permits to ensure that any potential impacts with respect to crime or hazardous conditions are reduced or eliminated. The California Business and Professions Code, Sections 23950 to 23962, lists the regulations that the California Department of Alcoholic Beverage Control (ABC) follow when reviewing liquor permit applications. The ABC may deny a permit for a number of reasons, including an undue concentration of alcohol permits as compared to other areas, or the potential issuance of a permit in a high-crime neighborhood. Further, the ABC seeks the input of the prevailing jurisdiction before issuing or denying a permit.

Full build-out under the Specific Plan could potentially cause service levels to drop below current levels of service due to the increase in population in the Specific Plan area; however, this impact would be reduced through adherence to Implementing Action 1 of the City's Community Service Standards Element, which requires the OCSD to monitor and report annually on performance levels achieved, along with recommendations for improvements, if any. If the standard is not met, the City must review impediments with the OCSD to determine the most cost effective remedies. If it is determined that a proposed project cannot be served within the level of service response time, mitigation measures to

correct the deficiency must accompany approval of individual projects, or approval will be withheld until the deficiency is corrected.

Currently, the Laguna Niguel Police Services sub-station has no plans for expansion of its personnel levels or facilities, other than its relocation to the new City Hall. It is anticipated that new facilities would not be required to accommodate any potential increases in OCSD staff at Specific Plan build-out in 2035, estimated to be up to 3 additional sworn personnel. Therefore, the provision of additional police personnel would not require new or physically altered facilities, the construction of which could result in significant environmental impacts.

In summary, future development under the proposed project is not expected to notably affect OCSD resources given that General Fund monies from increased property tax revenue associated with development under the Specific Plan, as well as other fee revenues may be used to augment equipment levels and provide for adequate staffing levels such that City’s police response times can be maintained. Therefore, persons on-site or elsewhere in the City would not be exposed to increased risks as a result of the proposed project’s additional demands on the OCSD. Consequently, impacts to police services are considered *less than significant*.

4.12.9 Cumulative Impacts

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection?
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As additional development occurs in the City, there may be an overall increase in the demand for police services, including personnel and/or equipment. The provision of adequate police services is of critical importance to the City, and funds are allocated to these services during the annual monitoring and budgeting process to ensure that police protection services are responsive to changes in the City. Funds collected in the form of plan check fees, inspection fees, and permit fees (for new development) are deposited into the General Fund and allocated to City services, as needed. Similarly, staffing levels are evaluated by the OCSD annually, and personnel are hired, as needed, to ensure that adequate police protection services are maintained. The cumulative impact, therefore, on police services in the City would be less than significant.

The proposed project’s contribution to this cumulative impact would not be cumulatively considerable because the Community Services Standard Element of the General Plan establishes a level of service standard for police services provided by the OCSD of 4- to 6-minute response time for 85 percent of the Priority 1 calls. If the standard is not met, the City must review impediments with the OCSD to determine the most cost effective remedies. Additionally, if it is determined that a proposed project cannot be served within the level of service response time, mitigation measures to correct the deficiency must accompany approval.

In addition, no new or physically altered facilities would be constructed to accommodate the proposed project, the construction of which could result in significant environmental impacts. For the reasons

identified above, the contribution of the proposed project to cumulative impacts on police protection services would not be cumulatively considerable. This is considered to be a *less-than-significant* cumulative impact.

4.12.10 References

Ferguson, Lieutenant Andy. 2010. Written correspondence with Chief of Police Services, Orange County Sheriff's Department, August 14.

Laguna Niguel, City of. 1992. *City of Laguna Niguel General Plan*. Community Service Standards.

Schools

This section describes the current status of school services in the City of Laguna Niguel including a discussion of existing school facilities, education programs, planned improvements within the Capistrano Unified School District (CUSD), and the ability of the City's school services to meet the future needs of the City.

One comment letter from the City of Mission Viejo addressing school capacity was received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from the CUSD's School Facilities Needs Analysis 2010 and the CUSD website. Full reference-list entries for all cited materials are provided in Section 4.12.15 (References).

4.12.11 Environmental Setting

The Specific Plan area would be served by the CUSD. Founded in 1965, the CUSD operates fifty-six campuses, in the cities of Laguna Niguel, San Clemente, Dana Point, San Juan Capistrano, Aliso Viejo, Mission Viejo, and Rancho Santa Margarita, as well as a portion of unincorporated Orange County. Seven elementary schools, one middle school, and no high schools are located within the City; however, school service boundaries are independent of city boundaries.

There are three schools serving the Specific Plan area, including Marian Bergeson Elementary School located in Laguna Niguel, and Aliso Viejo Middle School and Aliso Niguel High School both located in Aliso Viejo (Brockman 2010). Table 4.12-2 (Schools Serving the Specific Plan Area) includes the location, capacity, and enrollment of each of the schools serving the project site. The location of schools serving the Specific Plan area identified in Figure 4.12-1.

School	Address	Capacity	2010/11 Enrollment	Remaining Capacity
Marian Bergeson ES	25302 Rancho Niguel Rd Laguna Niguel, CA 92677	763	563	200
Aliso Viejo MS	111 Park Ave Aliso Viejo, CA 92656	1,241	1,087	154
Aliso Niguel HS	2800 Wolverine Way Aliso Viejo, CA 92656	2,200	2,926	-726

SOURCE: Cary Brockman, Email from Director of Facilities Planning, Capistrano Unified School District (December 1, 2010).

Enrollment, Capacity, and Overcrowding

The enrollment and capacity of the schools serving the Specific Plan area is provided in Table 4.12-2. As shown in Table 4.12-2, both Marian Bergeson Elementary School and Aliso Viejo Middle School are operating below capacity, while Aliso Niguel High School is currently overcrowded.

Collectively, the CUSD's school facilities in school year 2009/10 have a capacity of 39,867 students per Section 17071.10 of the Education Code. Of these 39,867 students, 22,649 are at the elementary school level, 6,410 are at the middle school level, and 10,808 are at the high school level. These capacities include students (or seats) from all new school facility construction projects funded by the State and relocatables purchased by the School District. Based on the California Basic Educational Data System enrollment data for the 2009/10 school year, enrollment at the School District is 51,781 students. As such, the district-wide student enrollment exceeds facilities capacity at all school levels by approximately 11,914 (Dolinka Group, LLC 2010, Tables 1, 2, and 3).

Projections

Projected student enrollment is determined using historical student generation rates of new residential units constructed during the previous 5 years of a type of housing similar to that of the future units. Student generation rates (SGRs) based on these calculations for single-family detached units, single-family attached units, and multi-family units are included in Table 4.12-3 (Student Generation Rates by School Level and Housing Type).

<i>School Level</i>	<i>SF Detached SGR</i>	<i>SF Attached SGR</i>	<i>MF SGR</i>
Elementary School	0.3782	0.2125	0.0607
Middle School	0.1074	0.0674	0.0234
High School	0.1039	0.0547	0.0271
Total	0.5895	0.3346	0.1112

SOURCE: Dolinka Group, LLC, Capistrano Unified School District, School Facilities Needs Analysis (May 14, 2010).

Over the next 5 years, the District projects a student enrollment increase of 1,294 based on the anticipated construction of approximately 2,590 additional residential units within the district's boundaries between 2010 and 2015 (Dolinka Group, LLC 2010). Based on this increase in enrollment and the 2009/10 enrollment of 51,781, the District could have a total enrollment of 53,075, which exceeds district-wide capacity by 13,208 students.¹³

New School Facilities Program

The CUSD is eligible to receive new construction funding under the new School Facilities Program (SFP) established by Section 17070.10 of the Education Code and may impose Alternative Fees. The amount of Alternative Fees is based on the District's projected student enrollment, and the number of projected students that could not be accommodated by excess seats distributed across District facilities at

¹³ Projected Enrollment (53,075)-District Capacity(39,867)=Unhoused Students (13,208)

each school level (unhoused students). The School Facilities Needs Analysis prepared for the District in 2010 determined that the District may adopt a fee of \$3.70 per assessable square footage that may be levied by the District on new residential development only during periods when the State does have new construction funding available. During periods when state funds for new construction are not available, a fee of \$7.39 per assessable square footage of new residential development may be imposed. Fees levied will be used to fund (i) new school facilities, (ii) expansion of existing school facilities, and (iii) other upgrades to existing school facilities, but only to the extent that such items are needed to accommodate the projected students beyond capacity, generated from future residential development and to the extent that the use of the Alternative Fees on such items is permitted by applicable law.

4.12.12 Regulatory Framework

■ Federal

There are no federal regulations related to schools that are applicable to the proposed project.

■ State

California State Assembly Bill 2926 (AB 2926)—School Facilities Act of 1986

In 1986, AB 2926 was enacted by the state of California authorizing entities to levy statutory fees on new residential and commercial/industrial development in order to pay for school facilities. AB 2926, titled the School Facilities Act of 1986, was expanded and revised in 1987 through the passage of AB 1600, which added Sections 66000 et seq. of the Government Code. Under this statute, payment of statutory fees by developers would serve as total CEQA mitigation to satisfy the impact of development on school facilities.

California Government Code Section 65995—School Facilities Legislation

The School Facilities Legislation was enacted to generate revenue for school districts for capital acquisitions and improvements.

California Senate Bill 50 (SB 50)

The passage of SB 50 in 1998 defined the Needs Analysis process in Government Code Sections 65995.5 to 65998, and provided funds for necessary new, expanded, or improved education facilities. Under the provisions of SB 50, school districts may collect fees to offset the costs associated with increasing school capacity as a result of development. There are three types of fees associated with SB 50. Level One fees are assessed based upon the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level Two fees require the developer to provide one-half of the costs of accommodating students in new schools, while the state would provide the other half. Level Three fees require the developer to pay the full cost of accommodating the students in new schools and would be implemented at the time the funds available from SB 50 are expended. School districts must demonstrate to the state their long-term facilities needs and costs based on long-term population growth in order to qualify for this source of funding. However, voter approval of Proposition 55 on March 2, 2004,

precludes the imposition of the Level Three fees for the foreseeable future. Therefore, once qualified, districts may impose Level One and Level Two fees, as calculated according to SB 50.

■ Local

City of Laguna Niguel General Plan

Growth Management, Public Facilities Element, and Community Service Standards

Level of Service Standard: Encourage Capistrano Unified School District to provide the highest level of education at the lowest student to teacher ratio possible.

Implementing Actions: Initiate a cooperative planning program with the Capistrano Unified School District and the cities it serves to identify and undertake measures which can most cost effectively provide necessary school facilities as development occurs.

Actions if the Standard Is Not Meet: Cooperate with the Capistrano Unified School District to establish phasing and funding mitigation conditions on residential development projects which will provide prorate support for needed school facilities.

City of Laguna Niguel Municipal Code

Interim School Facilities Fees

Municipal Code Section 9-1-600 to 612 (Interim School Facilities Fees) outlines the application of the Interim School Facility Fee. If the governing board of a school district makes a finding that conditions of overcrowding exist in one or more of the attendance areas within the district that will impair the functionality of education programs, and all reasonable methods of mitigating overcrowded conditions, included to but not limited to Section 9-1-602, have been evaluated and determined to be infeasible, an Interim School Facility Fee may be levied prior to the issuance of building permits for any residential development within the overcrowded attendance area.

Consistency Analysis

Based on multi-family residential SGRs, the proposed project could generate approximately 333 students through build-out of the Specific Plan. Future residential development under the proposed Specific Plan would be required to pay all school fees as applicable at the time of development based on the conditions of overcrowding at schools within the individual project's service area in accordance with the City's Municipal Code. Additionally, the District is eligible to receive new construction funding under the School Facilities Program and may impose Alternative Fees based on the availability of state funds for new school construction. Payment of these fees would ensure that necessary school facilities are provided as development occurs, consistent with the City's applicable General Plan Implementing Actions. As such, the proposed project would be consistent with applicable policies of the City's General Plan.

4.12.13 Project Impacts and Mitigation

■ Analytic Method

Impacts on schools are determined by analyzing the projected increase in the demand for schools as a result of a proposed project and comparing the projected increase with the schools' remaining capacities to determine whether new or altered facilities would be required. Impacts on schools are considered to be less than significant with payment of Alternative Fees, and/or the City's Interim School Facilities Fees, that are imposed to provide for school facilities construction, improvements, and expansion.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on public services if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools

■ Effects Found to Have No Impact

No effects were identified that would have no impact with respect to schools.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?
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Impact 4.12-3 **The proposed project would result in additional students; however it is not anticipated to require new or physically altered facilities, the construction of which could cause significant environmental impacts. The payment of applicable Interim School Facilities Fees, as required by the City's Municipal Code, as residential development occurs would reduce this impact. As such, this impact is considered *less than significant*.**

According to the CUSD, multi-family residential units would generate 0.0607 elementary school students, 0.0234 middle school students and 0.0271 high school students. Therefore, based on full residential build-out of the Specific Plan of 2,994 new multi-family residential units in 2035, approximately 182 elementary school students, 70 middle school students and 81 high school students for a total of 333 new students could be generated over build-out of the proposed Specific Plan. However, this is a worst-case scenario, as it is unlikely that the proposed project would result in the projected number of students based on SGRs because of the targeted resident population, as described in detail in Section 4.11

(Population/Housing) of this PEIR. Additionally, students would enroll over an approximately 25-year time period, which would offset the demand for school services created by the proposed project during any one year.

Based on the capacity of each of the schools serving the project site and the estimated number of elementary school, middle school and high school aged students generated from build-out of the proposed project, Marian Bergeson Elementary School and Aliso Viejo Middle School would continue to operate below capacity, and Aliso Niguel High School would continue operate above capacity with implementation of the proposed Specific Plan, consistent with existing conditions. As such, the proposed Specific Plan would contribute to existing overcrowded conditions at the high school serving the Specific Plan area. Refer to Table 4.12-4 (Capacity at Schools Serving the Specific Plan with Project).

Table 4.12-4 Capacity at Schools Serving the Specific Plan with Project

<i>School</i>	<i>Capacity</i>	<i>2010/2011 Enrollment</i>	<i>Students Generated from Specific Plan</i>	<i>Remaining Capacity</i>
Marian Bergeson ES	763	563	182	18
Aliso Viejo MS	1,241	1,087	70	84
Aliso Niguel HS	2,200	2,926	81	-807

SOURCE: Cary Brockman, Email from Director of Facilities Planning, Capistrano Unified School District (December 1, 2010).

However, assuming that students generated from the proposed project enroll in schools serving the Specific Plan area incrementally over the approximately 25-year build-out of the Specific Plan (2010 to 2035), only 66 students would be generated between 2010 and 2015. The number of students generated by the proposed Specific Plan between 2010 and 2015 would account for approximately 5 percent of the 1,294 new students projected over the next five years (Dolinka Group, LLC 2010). Therefore, the new student aged residents generated by the proposed Specific Plan and the projects contribution to existing overcrowded conditions at District schools has been accounted for in the District's School Facilities Needs Analysis.

To assist in providing facilities to serve students generated by new development, 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 purposes of funding the construction or reconstruction of school facilities. Pursuant to Section 65885(3)(h) of the California Government Code (SB 50, chaptered August 27, 1998), 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."

As described above, the CUSD is eligible to receive new construction funding under the School Facilities Program and may impose Alternative Fees. Depending on the availability of state funds for new construction, future residential development would be subject to a fee of \$3.70 per assessable square footage of new residential development when funds are available or a fee of \$7.39 per assessable square footage of new residential development when funds are not available. The Alternative Fees will be used to fund (i) new school facilities, (ii) expansion of existing school facilities, and (iii) other upgrades to

existing school facilities, but only to the extent that such items are needed to accommodate the projected student population generated from future residential development.

Additionally, the City's Municipal Code Title 9, Division 1, Article 6 (Interim School Facilities Fees), requires the payment of an Interim School Facilities Fee for new residential development occurring in a school attendance area where conditions of overcrowding exist. The payment of these school fees would offset any additional increase in education demand at the elementary, middle and high schools serving the project site, and satisfy any potentially significant impacts per CEQA. Therefore, this would be a *less-than-significant* impact.

4.12.14 Cumulative Impacts

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?
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Increases in residential development throughout the District boundaries could generate additional demand for public school classroom seating capacity in local schools. The degree to which this demand would be satisfied is dependent upon future enrollment trends. The CUSD is operating above capacity, and is projected to continue to operate above capacity. All new private development is required to pay statutory impact fees to the school district to help fund construction of additional classrooms and offset any additional increases in education demand at elementary, middle, and high schools. Given the payment of these fees, the cumulative impact of future development, including development under the proposed Specific Plan, on the CUSD would be less than significant. In addition, the incremental effect of the proposed project on this impact would not be cumulatively considerable for the same reasons. Therefore, the cumulative impact of the project on schools would be *less than significant*.

4.12.15 References

- Brockman, Cary. 2010. Email from Director of Facilities Planning, Capistrano Unified School District, December 1.
- California Department of Education (CDOE). n.d. Data Quest Enrollment Data. Time Series Public School Enrollment 1999/2000 and 2009/2010. <http://dq.cde.ca.gov/dataquest/page2.asp?level=School&subject=Enrollment&submit1=Submit> (accessed on December 7, 2010).
- Capistrano Unified School District (CUSD). n.d. 2008–2009 School Attendance Boundaries Map. <http://www.capousd-services.org/> (accessed on December 10, 2010).
- Dolinka Group, LLC. 2010. *Capistrano Unified School District, School Facilities Needs Analysis*, May 14.

Libraries

This section describes the current status of library services in the City of Laguna Niguel, including a discussion of existing library facilities and staffing, and the ability of the City's library services to meet the current needs of the City.

No comment letters addressing library services were received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from the Orange County Public Library (OCPL) website and staff. Full reference-list entries for all cited materials are provided in Section 4.12.20 (References).

4.12.16 Environmental Setting

Library services in the City of Laguna Niguel are provided by the OCPL system. The OCPL has 33 branches and one outlet located in the Orangewood Children's Home that provides a variety of services to residents throughout Orange County. Since 1987, the Laguna Niguel branch has been located at 30341 Crown Valley Parkway, approximately 3.4 miles from the Specific Plan area. This branch is currently closed for extensive remodel and renovation, and is scheduled to reopen in late fall 2011. An interim storefront library funded by the Friends of Laguna Niguel Library is open in the Laguna Niguel Town Center located at 30100 Town Center Drive. The Laguna Niguel Branch Library is open seven days a week, while the interim library is open Tuesday through Saturday.

The Laguna Niguel branch of the OCPL primarily serves Laguna Niguel residents. However, all Orange County library cardholders may check out library materials from any of the OCPL's 33 branches, as well as from other libraries with reciprocal lending privileges.

The old Laguna Niguel Branch Library was approximately 10,500 sf, and the interim library is approximately 1,200 sf. The renovated library will be approximately 14,000 sf and will house a collection of over 80,000 volumes (Corderman 2010). While the library is closed for renovation, books may be put on hold at the Aliso Viejo branch located at 1 Journey in the City of Aliso Viejo. Additionally, the Interlibrary Loan Service provides access to books, journal articles, microfilm, and other materials that are not available from the OCPL system.

The permanent Laguna Niguel branch has an average daily attendance of 600 patrons and employs 11 full-time staff. The number of full-time staff at the branch is based on the number of open hours. Depending on the season, the number of daily volunteers varies from 8 to 35. This number fluctuates, and is typically higher during the summer season in order to assist with summer reading programs (Corderman 2010).

A range of materials and databases including books, magazines, periodicals, business materials, reference documents, and community information are available for use by patrons at the Laguna Niguel Library. The branch has over 80,000 volumes in its collection. Although not all special subject collections may be available at the Laguna Niguel Library branch, special subject collections are available at other OCPL branches.

The OCPL is a special district library, and approximately 90 to 92 percent of funding comes from property taxes. The remainder of funding sources comes from the California Public Library Fund, revenue from fines and fees, donations and grants (Corderman 2010). In addition to funding the interim Laguna Niguel Library, The Friends of the Laguna Niguel Library operates a used-book store in the interim branch. The proceeds help to fund library programs and materials.

OCPL has indicated that no standard criteria exist for evaluating acceptable service levels (Corderman 2010).

4.12.17 Regulatory Framework

■ Federal

There are no federal regulations related to library services applicable to the proposed project.

■ State

There are no state regulations related to library services applicable to the proposed project.

■ Local

Community Service Standards Element

The Community Service Standards Element establishes a level of service standard for library services provided by the OCPL of 0.2 square feet (sf) of library space per capita. In order to insure that this standard is met, Implementing Action 1 requires coordination of library needs with the OCPL system and the cities of Dana Point and Mission Viejo. If the standard is not met, the City must develop and action plan with the OCPL system to maintain a desired level of service standard.

Consistency Analysis

At build-out, future development in the Gateway area could generate as many as 5,240 new Laguna Niguel residents. With a 2010 Laguna Niguel population of 62,979 residents, and considering standard population growth of the City other than in the Gateway area (see Section 4.11 of this PEIR), the total City population in 2035 is anticipated to be approximately 71,300. With a 14,000 sf library in Laguna Niguel (see discussion below), approximately 0.2 sf of library space is provided per Laguna Niguel resident, consistent with the level of service standard for Libraries in the Community Service Standards Element of the General Plan. Consequently, the proposed project would not conflict with the applicable goals and policies of the City's General Plan.

4.12.18 Project Impacts and Mitigation

■ Analytic Method

Impacts on library services are considered significant if an increase in population or building area would result in inadequate staffing levels and/or increased demand for services that would require the need for new or physically altered library facilities in order to maintain acceptable service ratios.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on public services if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries

■ Effects Found to Have No Impact

No effects have been identified that have no impact with respect to libraries.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries?
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Impact 4.12-4 Implementation of the proposed project would not result in the need for new or physically altered library facilities in order to maintain acceptable service ratios. This impact is considered *less than significant*.

Library services in the City of Laguna Niguel are provided by the OCPL system. The Laguna Niguel branch which is currently closed for extensive remodel and renovation and planned to reopen in late fall 2011, serves the City, including the Specific Plan area. Implementation of the proposed project could create a higher demand on services provided by the OCPL. However, the OCPL has indicated that with implementation of the proposed project current service levels would not be impacted.

As discussed above, the vast majority of funding for the OCPL (90 to 92 percent) comes from property taxes. As the proposed project would result in increased property tax revenues associated with future development within the Specific Plan area, a portion of which would be allocated to the OCPL, increased demand on library services would be augmented. Additionally, a new, fully funded, 14,000 sf Laguna Niguel Branch Library is scheduled to reopen in fall 2011. The renovated library is anticipated to address the existing and future demand for library services in the City, including maintenance of the level of service standard, established in the General Plan Community Service Standards Element, to provide 0.2 sf of library space per capita. Therefore, implementation of the proposed project would not require any new or physically altered library facilities to serve the proposed project, the construction of which could result in significant environmental impacts. This impact would be *less than significant*.

4.12.19 Cumulative Impacts

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries?
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Additional development in the City would increase the demand for library services. However, because the OCPL is funded largely by property taxes which is required by all property owners, and the proposed Specific Plan would result in an increase in property tax revenues as a result of new development, future development occurring both in the Specific Plan area and the City as a whole would contribute to the funding of the OCPL that would augment any increased demand on library services. As such, the incremental effect of the proposed project on libraries would not be cumulatively considerable. Thus, the cumulative impact of the project on library services would be *less than significant*.

4.12.20 References

- Corderman, Cynthia. 2010. Written correspondence with Regional Services Manager, Southern Region Orange County Public Libraries, December 13.
- Orange County Public Libraries (OCPL). n.d. Laguna Niguel Library. <http://www.ocgov.com/ocgov/OC%20Public%20Libraries/Library%20Locator/Laguna%20Niguel> (accessed December 14, 2010).

4.13 RECREATION

This section of the EIR analyzes the potential environmental effects on recreation from implementation of the proposed project. One comment letter addressing recreation was received in response to the Notice of Preparation (NOP) circulated for the proposed project.

Data for this section were taken from the Laguna Niguel Park and Recreation Master Plan (Master Plan), the Open Space Element of the City's General Plan, the City's website, and personal communication with the City of Laguna Niguel. Full reference-list entries for all cited materials are provided in Section 4.13.5 (References).

4.13.1 Environmental Setting

■ Existing Conditions

The City of Laguna Niguel contains a total of 433.06 acres of public parkland, as shown in Figure 4.13-1 (Existing Parks) and listed in Table 4.13-1 (Existing Park Acreage).

Table 4.13-1 Existing Park Acreage				
	<i>Park</i>	<i>Acres</i>	<i>Address</i>	<i>Type</i>
City Recreation Facilities				
1	Beacon Hill Park	5.0	24403 Beacon Hill Way	NP
2	Bear Brand Park	9.7	32385 Bear Brand Park Road	NP
3	Chapparosa Community Park	16.5	25191 Chapparosa Park Road	CP
4	Clipper Cove Park	4.7	29325 Clipper Way	NP
5	Crown Valley Community Park	28.0	29751 Crown Valley Parkway	CP
6	Hidden Hills Park	2.4	27802 Springwood	NP
7	Juaneño	2.6	Hidden Hills Road and Fiereze	NP
8	La Hermosa Park	0.25	24462 La Hermosa Avenue	MP
9	La Paz Sports Park	5.6	28051 La Paz Road	CP
10	La Plata Park	5.1	25006 La Plata Drive	NP
11	Laguna Niguel Skateboard and Soccer Park	4.5	27745 Alicia Parkway	CP
12	Lily Shapell	0.86	28737 Drakes Bay	NP
13	Longview Park	1.5	Old Ranch Road	MP
14	Marina Hills Park	7.5	24802 Marina Hills Drive	NP
15	Niguel Heights Park	2.7	27804 Niguel Heights Blvd.	NP
16	Niguel Road Park	2.0	30983 Killini	NP
17	Niguel Woods Park	4.1	29883 White Otter Lane	NP
18	Ocean Breeze Park	1.7	32311 ½ Charles Road	NP
19	Parc Vista Park	1.1	31114 Parc Vista Road	NP
20	Park Vista View Park	2.0	30618 Parc Vista Road	NP
21	Parc Vista Overlook	0.25	Parc Vista Road	NP

Table 4.13-1 Existing Park Acreage

	Park	Acres	Address	Type
22	Laguna Niguel Pooch Park	1.0	Golden Lantern near Fire Station No. 4	CP
23	Rancho Niguel Park	3.8	28333 Crown Valley Parkway	NP
24	Redondo View Node	1.6	25575 Redondo	MP
25	Reef View Node	3.0	25326 ½ Reef	NP
26	Ridge View Park	1.0	Ridgeview and Kingston	MP
sc	Sea Country Senior and Community Center	N/A	24602 Aliso Creek Road	SF
27	Seminole Park	2.2	30802 Seminole Place	NP
28	Yosemite Park	5.4	24481 Yosemite	NP
29	Vista Plaza Park	0.62	29541 Vista Plaza	NP
	<i>Subtotal</i>	<i>126.68</i>		
County Recreation Facilities				
30	Aliso/Woods Canyons Regional Park	N/A	28373 Alicia Parkway	RP
31	Badlands Park	5.0	31671 Isle Vista	NP
32	Laguna Niguel Regional Park	174.0	La Paz Road	RP
33	Seaview Park	1.0	22801 Talavera Drive	MP
	<i>Subtotal</i>	<i>180.0</i>		
Public School Recreation Facilities				
*	Crown Valley Elementary	6.3	Adelanto Drive	SR
*	George White Elementary	5.0	Chapparosa Park Road	SR
*	Hidden Hills Elementary	6.5	Hidden Hills Road	SR
*	Laguna Niguel Elementary	3.25	Niguel Heights Blvd.	SR
*	Malcolm Elementary	2.75	Charles Road	SR
*	Marian Bergeson Elementary	3.2	Rancho Niguel Road	SR
*	Moulton Elementary	4.0	Highlands Avenue	SR
*	Niguel Hills Middle School	10.0	Paseo Escuela	SR
	<i>Subtotal</i>	<i>41.0</i>		
Private Recreational Facilities				
	Eighty-four (84) facilities	85.38	N/A	PR
	<i>Subtotal</i>	<i>85.38</i>		
	Total	433.06		

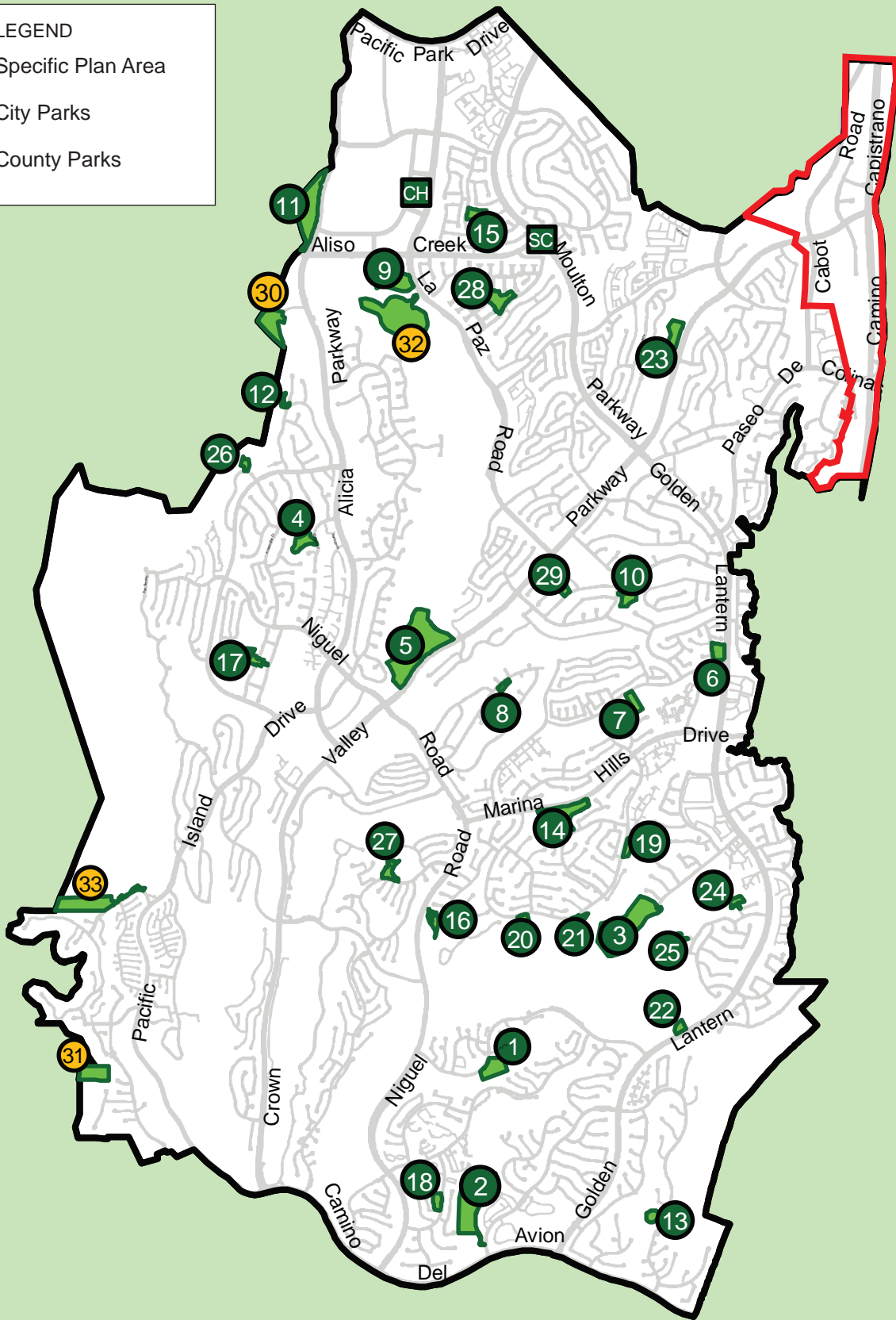
SOURCE: City of Laguna Niguel, *City of Laguna Niguel Park and Recreation Master Plan* (August 1998); Larry Longenecker, personal communication with Senior Planner, City of Laguna Niguel (December 2, 2010); City of Laguna Niguel, Local Parks (n.d.), <http://www.ci.laguna-niguel.ca.us/index.aspx?NID=23> (accessed December 9, 2010).

RP = Regional Park; CP = Community Park; NP = Neighborhood Park; MP = Mini-Park; PR = Private Park and Recreation Facilities; SR = School Recreation Facilities; SF = Special Facilities

* Refer to Figure 4.12-1 (Location of Public Services Serving the Specific Plan Area) for public school locations.

LEGEND

- Specific Plan Area
- City Parks
- County Parks



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Source: <http://www.ci.laguna-niguel.ca.us/index.aspx?NID=23>.

Figure 4.13-1
Existing Parks

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Regional Facilities

There are four facilities within the City of Laguna Niguel that are managed by Orange County Parks Department: Aliso/Woods Canyons Regional Park, Badlands Park, Laguna Niguel Regional Park, and Seaview Park. The City's Master Plan identifies Salt Creek Corridor Regional Park, which is managed by the City, and Aliso/Woods Canyons Regional Park and Laguna Niguel Regional Park, both managed by the County, as regional parks within the City.

With 174 usable acres, Laguna Niguel Regional Park, located approximately 1.5 miles west of the Specific Plan area, is the largest park facility in the City. Regional facilities within the park include, but are not limited to, picnic areas, large stretches of turf for recreation activities, and a 44-acre lake, which offers fishing and boating opportunities.

Local Parks

The City's Parks Master Plan designates seven types of recreational facilities within the City: Regional Park, Community Park, Neighborhood Park, Mini-Park, Private Park and Recreation Facilities, School Recreation Facilities, and Special Facilities. These range from small, specialized facilities that may serve a single use (views or picnic tables) to large-scale facilities covering many acres with multiple uses, such as fishing, horseback riding, and sports fields. There are currently no plans to add any new park or recreational facilities in the City.

School Recreation Facilities

School recreation facilities, which are operated by the Capistrano Unified School District (CUSD), supplement the parks and recreational amenities in the city of Laguna Niguel. These facilities, listed in Table 4.13-1, include soccer fields, baseball fields, and other open recreational space. A City permit is required for any organized play to occur on any sports field in the City, which is awarded on a first come, first served basis. A fee is required, which varies based on who is reserving the facility and whether field lights are requested. School facilities are generally available for reservation from dawn till dusk, although some facilities can be reserved later if they are equipped with lighting.

Trails and Bikeways within Specific Plan Area

There are no improved recreational facilities within the Specific Plan Area other than limited non-contiguous on-street bike lanes located along portions of some streets within the Specific Plan area. The lack of connectivity, as well as high traffic volumes and speeds along some of these streets make bike riding challenging for less experienced riders. However, field observations indicated that cyclists regularly use the lanes. Missing segments in the bike lanes in the area include a section of Crown Valley Parkway east of Forbes Road, Greenfield Drive south of SR-73, and Paseo de Colinas connecting to Camino Capistrano.

4.13.2 Regulatory Framework

■ Federal

There are no federal regulations applicable to parkland or recreational facilities.

■ State

Quimby Act

The Quimby Act was established by the California legislature in 1965 to provide parks for the growing communities in California. The Act authorizes cities to adopt ordinances addressing parkland and/or in-lieu fees for residential subdivisions for the purpose of providing parklands and recreational facilities. The Act requires the provision of 3 acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area in the City exceeds that limit, in which case the City may adopt a higher standard not to exceed 5 acres per 1,000 residents. The Quimby Act also specifies acceptable uses and expenditures of such funds.

State Public Park Preservation Act

The primary instrument for protecting and preserving parkland is the state Public Park Preservation Act. Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

California Street and Highway Code

The California Street and Highway Code assists in providing equestrian and hiking trails within the right-of-way of county roads, streets, and highways.

■ Local

Laguna Niguel Park and Recreation Master Plan

The City of Laguna Niguel 1998 Park and Recreation Master Plan addresses parks and recreational needs in the City. It provides a guide for the continued orderly development and/or management of park, recreation, and trail facilities in Laguna Niguel. The Master Plan presents a coordinated program for addressing the goals and policies of the City's General Plan based on community input and analysis of existing influences.

Laguna Niguel General Plan

The Laguna Niguel General Plan establishes goals, policies, and programs that serve as a decision-making tool to guide future growth and development in the City.

Open Space Element

- Goal 1** Well-maintained public and private open space.
- Policy 1.1** Preserve and protect the scenic and visual quality of areas designated for Open Space areas as a resource of public importance.
- Action 1.1.1** Where feasible, to secure permanent open space through dedication and/or easements as a part of the discretionary review process.
- Policy 1.2** When siting a proposed development project, locate the project in areas containing less sensitive landforms and preserve the most sensitive landforms and natural resources of the project site as open space.
- Goal 2** A system of public and private parks and recreation facilities achieved in cooperation with private community associations.
- Policy 2.1** Provide park and recreational facilities that meet the needs of senior citizens, young adults, children, disabled individuals, and families.
- Action 2.1.1** Develop a Senior Center with adequate parking and public transportation access.
- Action 2.1.2** Develop recreation programs that provide spontaneous games and more non-organized activities to meet the needs of teenagers.
- Action 2.1.3** Develop park plans that provide facilities and programs for people with disabilities.
- Policy 2.2** Plan for new high-quality recreation facilities and programs.
- Action 2.2.1** Where feasible, establish new indoor and outdoor recreation facilities in existing and planned parks and recreation facilities.
- Action 2.2.2** Establish a linked trail system and provide bikeways.
- Action 2.2.3** Conduct a feasibility study to explore the potential for a municipal golf course.
- Action 2.2.4** Conduct a feasibility study to explore the potential for public or private equestrian facilities that would provide convenient access to the City's equestrian trail system.
- Policy 2.3** Facilitate cooperative use of recreational facilities and programs.
- Action 2.3.1** Coordinate programs with organizations such as: YMCA, youth sports, schools,

homeowners' associations, and religious organizations.

Action 2.3.2 Encourage and expand joint use of the Capistrano Unified School District park and recreation facilities.

Policy 2.4 Continue effective park and recreation area maintenance programs.

Action 2.4.1 Continue an effective maintenance program to properly maintain publicly owned playing fields and recreational facilities.

Policy 2.5 Ensure a flexible park master planning process that is responsive to community input.

Action 2.5.1 Involve the community and community service organizations in comprehensive park and recreation planning processes.

Action 2.5.2 Consider physical, social, and economic factors to determine changing needs and levels of demand in the park and recreation planning process.

Goal 3 A trail system that meets the bicycling, hiking, and equestrian needs of residents.

Policy 3.1 Implement the Bikeway, and Hiking and Equestrian Plans.

Action 3.1.1 Require the dedication of right-of-way and construction of public trails to City standards as a condition of approval of development projects, where feasible.

Policy 3.2 Identify areas where trails can be located off street and separated from vehicular traffic wherever possible. Class I bike trails shall not be located on or in conjunction with sidewalks intended for pedestrian use.

Policy 3.3 Expand existing regional trail facilities where attractive opportunities exist or can be created.

Policy 3.4 Plan bicycle routes to facilitate access to open space areas and recreational facilities, as well as other uses such as schools, neighborhoods, and commercial centers.

Action 3.4.2 Locate bikeways along designated scenic corridors wherever environmentally, physically, and economically feasible.

Action 3.4.3 Provide bicycle trail information to the public.

Action 3.4.4 Encourage developers to provide local bicycle trails and rack facilities within their projects as conditions of development.

- Goal 4** Conservation and enhancement of visual resources along scenic highway corridors.
- Policy 4.1** Coordinate with the County of Orange and the Cities of Orange County in requiring scenic corridors to protect existing scenic qualities of the corridors.
- Action 4.1.2** Incorporate pedestrian and bicycle trails into the right-of-way of landscaped corridors where feasible.

Public Facilities Element

- Goal 7** A quality school system with adequate facilities and funding to educate the youth of Laguna Niguel.
- Policy 7.3** Collaborate with the school district in achieving joint use of school recreation facilities.

Laguna Niguel Municipal Code (LNMC)

Local Park Code

LNMC Section 9-1-5 includes seven objectives and associated policies that are set forth for the purpose of implementing the Open Space Element of the City's General Plan.

1. To preserve, enhance and improve the quality of the physical environment of the city
2. To provide a procedure for the acquisition and development of local park facilities
3. To secure for the citizens of the city the social and physical advantages resulting from the provision of orderly park, recreation and open space facilities
4. To establish conditions that will allow parks and recreation areas to be provided and to exist in harmony with surrounding and neighborhood land uses
5. To ensure that adequate park and recreation facilities will be provided
6. To ensure that park and recreation facilities are provided and maintained in a manner that will permit their maximum use and enjoyment by the residents of the surrounding areas
7. To provide regulations requiring 3 acres of land or the proportionate share thereof for each 1,000 persons residing within the city be supplied by persons proposing to establish dwelling units

Any person who proposes to divide real property for the purpose of creating a residential subdivision or a parcel map for residential use shall pay a park fee or provide park land in accordance with the requirements of the Local Park Code. Table 4.13-2 (Parkland Development Requirements) shows the amount of parkland required to compensate for new residential development if no fees are paid and compliance with the Local Park Code is met solely through the creation of new parkland. In order to calculate the required parkland under these conditions, the number of proposed dwelling units per gross acre shall be multiplied by the park land acres per dwelling unit value that corresponds with the appropriate density classification listed in the table below.

<i>Dwelling Units per Gross Acre</i>	<i>Persons per Dwelling Unit</i>	<i>Park Land Acres per Dwelling Unit</i>
Up to 6.5	3.21	0.0096
6.6 to 15.5	2.59	0.0078
15.6 to 25.5	1.99	0.0060
25.6 and up	1.88	0.0056

SOURCE: City of Laguna Niguel, *City of Laguna Niguel Municipal Code*, Section 9-1-5 (Local Park Code) (November 2, 1993).

Parks and Recreational Facilities

LNMC Title 13 covers Parks and Recreational Facilities, which addresses use and regulations for recreational areas, parks, glider flying, camper trucks and trailers, and skateboard parks.

Consistency Analysis

The Laguna Niguel Gateway Specific Plan is intended to facilitate a well-designed mix of projects that combine residential and non-residential uses with more open and green space. The Specific Plan is designed to be consistent with the policies contained in the General Plan, including those related to open space, parks, and recreation. New projects constructed in accordance to the standards contained within the Specific Plan area will provide for new private open space and an increase in public and private landscaping. Because the overall project is designed to enhance and promote the open space, parks, and recreation resources of the Specific Plan area, implementation of the proposed project would not conflict with the identified policies.

4.13.3 Project Impacts and Mitigation

Analytic Method

Impacts on parks and recreation services are considered significant if an increase in population or building area would require the need for new park facilities in order to maintain acceptable service ratios. The City of Laguna Niguel, in accordance with the Quimby Act, limits park acreage credit to local and community parks. Therefore, since Laguna Niguel Regional Park is not a local or community park, its 174 acres will be subtracted from the 433.06 total acres identified in Table 4.13-1, and 259.06 acres will be used as the baseline park acreage for this analysis (Laguna Niguel 2010). The 2010 Census reported the population of Laguna Niguel as 62,979 people. This creates a current park ratio of 4.1 acres per 1,000 residents. The City's Open Space Element of the General Plan requires parkland dedication or in-lieu fees equal to 3 acres per 1,000 residents when establishing future parkland, the same as the standard set forth in the Quimby Act. Based on these criteria, the impact of the project on park services is evaluated.

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on recreation if it would do any of the following:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment

■ Effects Found to Have No Impact

No effects have been identified that would not have an impact with respect to recreation.

■ Impacts and Mitigation Measures

Threshold	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
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Impact 4.13-1 **Implementation of the proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. This would be a potentially significant impact. Implementation of MM4.13-1 and compliance with the City's Local Park Code would reduce this impact to a *less-than-significant* level.**

The City's current park ratio per 1,000 residents is 4.1 acres, which is above the City's standard of 3 acres per 1,000 residents. The Specific Plan calls for adding 2,994 dwelling units to the plan area, which would potentially increase the population of Laguna Niguel by 5,240 people as described in Chapter 3 (Project Description). The addition of 5,240 residents to the current City population of 62,862 residents would generate a citywide population of 68,102 residents at full buildout. The proposed project's increase in residential population would result in a park ratio of 3.8 acres per 1,000 residents for the City, assuming no expansion of the City's recreation facilities. Although this ratio is above the City's standard of 3 acres per 1,000 residents, the associated population increase could increase the use of existing neighborhood and regional parks and other recreational facilities in the City, which would potentially lead to the physical deterioration of the existing facilities.

However, future development within the Specific Plan area would be required to satisfy the Development Standards set forth in Chapter 4 (Allowable Uses, Development Standards, and Guidelines) of the Specific Plan, including the requirements set forth in to Section 4.5.4 (On-Site Open Space). Retail Commercial (RC), Mixed-Use (MU) and Office development would be required to provide a publically accessible open space equal to seven percent of the project area. This open space can be provided in the form of parks, squares, paseos, courtyards and plazas. Development of publicly accessible open space ensures the creation of a green and pedestrian friendly network throughout the within the Specific Plan area and will provide for recreation amenities within the Specific Plan area.

Condominium and other residential subdivision projects developed within the Specific Plan area would be required to comply with the requirements of LNMC Sections 9-1-500 through 512 and 9-1521 through 530, which implements the City's Local Park Code. Specifically, the code requires that any person who proposes to divide real property for the purpose of creating a residential subdivision or a

parcel map for residential use shall pay a park fee or provide park land in accordance with the requirements of the code (City of Laguna Niguel 2010). This requirement could be met through land dedication or payment of park fees, or a combination of both.

Chapter 6, Plan Implementation, of the proposed Gateway Specific Plan, includes (in Table 6.5) a high-priority Action Item regarding local park provision, with an Action Step that includes establishment of local park requirements for residential projects in the Gateway area, both apartment and ownership units. Until such time as the Action Item is completed, the following mitigation measure MM4.13-1 shall apply:

MM4.13-1 Prior to issuance of grading or building permits for any project with residential rental units, the project applicant shall dedicate required parkland and/or pay a parkland in-lieu fee, in accordance with the amount-of-parkland and/or in-lieu fee provisions of LNMC Sections 9-1-500 through 9-1-512 and 9-1-521 through 9-1-530, as deemed appropriate by the decision making authority for the project, and included as a project condition of approval.

While dedicated parkland directly increases the available recreation space within the City for residents, the payment of park fees from new development could be allocated to fund the acquisition and/or development of future parks or facility renovations associated with increased use of public facilities.

With respect to the potential for new residents generated by the project to use local parks in nearby cities, Laguna Niguel has an existing and nearby regional resource that would satisfy most, if not all, local park needs. Laguna Niguel Regional Park, with 174 usable acres, provides a wide range of regional facilities available for the residents of the City, such as large open recreational areas, picnic facilities, tennis, volleyball and horseshoe facilities, multiple tot-lot facilities, as well as fishing and boating opportunities on a 44-acre lake. In addition to Laguna Niguel Regional Park, there are a wide variety of City, County, educational, and private recreational facilities within the City, as detailed in Table 4.13-1. The proposed project also includes improved recreational amenities, such as connecting Oso Creek Trail to Colina Bluff Trail. New residents would be able to utilize this new trail connectivity for recreational purposes and to connect with other recreational resources in the City. Also, per Specific Plan guidelines, developers within the Specific Plan area will utilize open space and streetscape improvements in the design of their projects. These improvements include landscaped medians, sidewalks, pedestrian-oriented street lights, street furniture, trees, shrubs, groundcover, and other amenities. Due to the abundance and variety of recreation opportunities within the City, as well as recreational improvements as part of the proposed project, it is assumed that residents would not substantially increase the use of existing neighborhood and regional facilities, such that substantial physical deterioration of the facility would occur or be accelerated.

Additionally, the increase in population associated with buildout of the Specific Plan would not cause the parkland ratio to fall below the City's standard of 3 acres per 1,000 residents. Implementation of MM4.13-1 and adherence to existing applicable Local Park Code regulations, as well as the on-site open space requirements established in the Specific Plan, would ensure that parks and open space are acquired, developed, improved, and expanded as future residential projects are constructed in the Specific Plan area. Therefore, this impact would be *less than significant*.

Threshold	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
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Impact 4.13-2 **Implementation of the proposed project would include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. This would be a potentially significant impact. Implementation of mitigation measures identified in Section 4.1 through Section 4.15 would reduce this impact to *less-than-significant* levels.**

The Laguna Niguel Gateway Specific Plan calls for the construction of a new multi-use trail along Forbes Road, both north and south of Crown Valley Parkway, connecting the existing Oso Creek Trail with the Colinas Bluff Trail. Three bridges are proposed as part of this multi-use trail system:

1. A multi-purpose trail bridge over Crown Valley Parkway to allow pedestrian, bicycle and equestrian crossing of Crown Valley Parkway other than at-grade, as well as creation of an iconic gateway structure for the area. This bridge is identified as a medium priority action item in Chapter 6 (Plan Implementation) of the Specific Plan.
2. A multi-purpose trail bridge over Oso Creek, connecting the multi-use trail on the east side of Oso Creek, adjacent to south Forbes Road, to the west side of Oso Creek. The crossing would occur on South Forbes Road, approximately at the location of the existing transit station. This bridge is identified as a medium priority action item in Chapter 6 (Plan Implementation) of the Specific Plan.
3. A bridge over Oso Creek located north of Crown Valley Parkway to connect development on the east side of Forbes Road with open spaces and potential park improvements to the west. The bridge and potential park improvements are identified as low priority action items in Chapter 6 (Plan Implementation) of the Specific Plan.

These proposed improvements can be seen on Figure 4.13-2 (Proposed Specific Plan Area Trail System). The Specific Plan identifies these regional trails and provides for additional trail rights-of-way as part of the proposed street system improvements. Further, the Specific Plan contains policies calling for new development to install bikeways and pedestrian links to help minimize the potential traffic impacts.

The Open Space and Streetscape Improvement Plan, included as part of the Specific Plan, includes open space, streetscape, and recreation regulations and standards for development within each of the various segments. The potential construction of these recreational amenities, including the trail and bikeway improvements discussed above, would occur as part of individual development projects in the future. While direct physical effects could result as part of the individual construction scenarios, future development allowed under the proposed Specific Plan would be subject to individual environmental clearance to ensure adequate review of potential impacts and would be required to adhere to applicable local regulations and on-site open space requirements established in the Specific Plan, which would require the dedication of publically accessible open space or the payment of in-lieu fees for residential subdivisions. Construction of future projects, including dedication of open space and recreational facilities would likely be subject to further CEQA review, at a minimum. Therefore, it is likely that all on-site future construction of recreational facilities would be adequately mitigated either through implementation of code requirements and/or mitigation measures contained within Chapter 4,

Sections 4.1 through 4.15 of this EIR, or through the implementation of future mitigation measures at the discretion of the City during individual environmental clearance. Construction of these recreational facilities will not result in significant impacts, but will contribute to overall construction impacts as described in Sections 4.1 through 4.15 of this EIR. The long-term impact of adding new trails, paseo, courtyard, and other open space areas will ensure that the increased population associated with buildout of the Specific Plan does not result in an adverse impact to existing City recreational facilities. Therefore, future construction of recreational amenities and features associated with implementation of the Specific Plan would be required to implement the identified mitigation measures of this EIR; and would be subject to further CEQA review, as well as additional mitigation measures to reduce potential impacts would be identified if required. As such, this impact would be considered *less than significant*, and no further mitigation would be required.

4.13.4 Cumulative Impacts

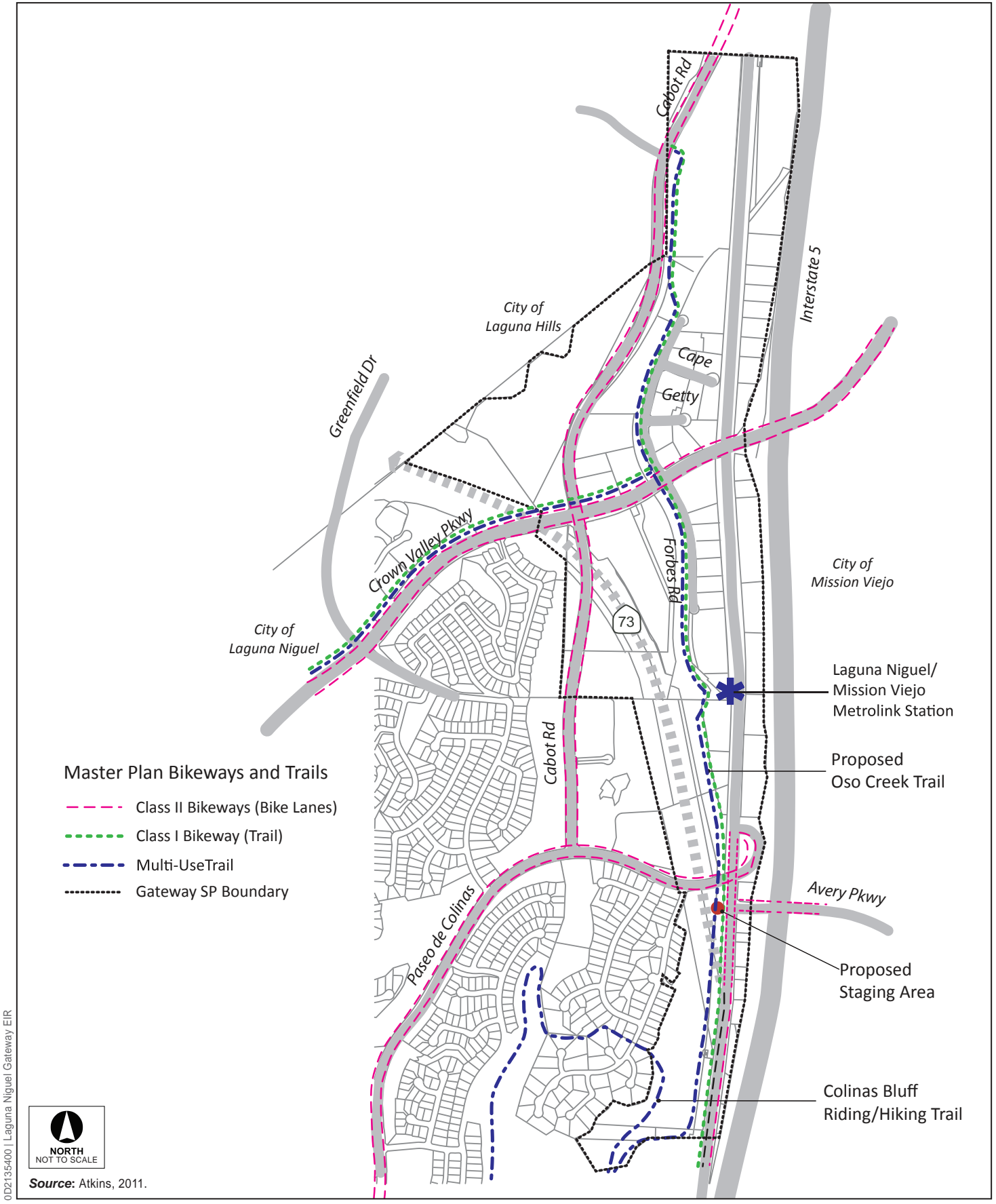
Threshold	Would the proposed project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
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The geographic context for the analysis of cumulative recreation impacts includes the City of Laguna Niguel. The analysis accounts for all anticipated cumulative growth within this geographic area, as represented by development of the related projects within the City of Laguna Niguel provided in Table 3-3 (Cumulative Projects) in Chapter 3.

Project development, in combination with other cumulative residential development within the City of Laguna Niguel, would directly increase the population. Increases in population would generate a higher demand for recreational facilities and programs, and reduce the existing parkland per resident ratio. The Open Space Element of the City’s General Plan establishes that the parkland standard for the creation of future parkland is a minimum of three usable acres of parkland for every 1,000 residents. This standard could be provided through park fees, land dedication, or a combination of both as described in Section 9-1-5 of the City’s Municipal Code. Therefore, similar to the proposed project, cumulative projects in the City would not likely result in impacts to recreation opportunities because new development projects are required to either provide adequate parkland onsite or pay applicable in-lieu park fees. Because there are mechanisms in place (e.g., the Quimby Act through enforcement of the City’s Zoning Ordinance) to ensure that new development provides its fair-share of park and recreational opportunities for future residents, the cumulative impact would be less than significant. The proposed project’s contribution would not be cumulatively considerable and would also be *less than significant*.

Threshold	Would the proposed project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?
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The geographic context for the analysis of cumulative recreation impacts includes the City of Laguna Niguel. The analysis accounts for all anticipated cumulative growth within this geographic area, as represented by development of the related projects within the City of Laguna Niguel provided in Table 3-3 (Cumulative Projects) in Chapter 3.



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Source: Atkins, 2011.

Figure 4.13-2
Proposed Specific Plan Area Trail System

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Development of other related projects in the City of Laguna Niguel could result in the development of new recreational facilities, the construction of which may cause a significant effect on the environment, particularly with regard to air quality and traffic during construction. Improvements to existing recreational facilities could also result in significant environmental impacts. With implementation of best management practices as well as compliance with the City's noise ordinance and limitation of construction hours as contained in the Municipal Code, it is likely that the development of most new recreational facilities would be mitigated to less-than-significant levels. The proposed project could ultimately require the construction of new parkland, either through land dedication, the payment of fees to improve existing or create new parks, or both. As with development within the Specific Plan area, all feasible mitigation measures would be implemented to reduce or avoid significant construction related impacts, and these impacts would be short term. As a result, the proposed project's contribution to cumulative impacts associated with construction of future parks and recreational facilities is *less than significant*.

4.13.5 References

- Laguna Niguel, City of. 1992. *City of Laguna Niguel General Plan*. Open Space Element, August 4.
- . 1993. *City of Laguna Niguel Municipal Code*. Section 9-1-5 (Local Park Code), November 2.
- . 1998. *City of Laguna Niguel Park and Recreation Master Plan*, August.
- . n.d. Local Parks. <http://www.ci.laguna-niguel.ca.us/index.aspx?NID=23> (accessed December 9, 2010).
- Longenecker, Larry. 2010. Personal communication with Senior Planner, City of Laguna Niguel, December 2.

4.14 TRANSPORTATION/TRAFFIC

This section of the PEIR analyzes the potential environmental effects on transportation/traffic from implementation of the proposed Specific Plan. Nine comment letters addressing transportation/traffic were received in response to the Notice of Preparation (NOP) circulated for the proposed project. All comments received in response to the NOP circulated for the proposed project were taken into consideration during preparation of this Environmental Impact Report, and if relevant, have been addressed in this section or others within this document.

Data for this section were taken from City's General Plan Circulation Element and Growth Management Element, and the Traffic Study for the Laguna Niguel Gateway Specific Plan Update prepared by Iteris, Inc. dated May 2011 (Appendix E [Traffic Study]). Full reference-list entries for all cited materials are provided in Section 4.14.5 (References).

4.14.1 Environmental Setting

This section provides an assessment of existing conditions in and around the project study area, including a description of the existing street and highway system, traffic volumes on these facilities, and operating conditions at selected intersections. Due to the nature of transportation and traffic issues, the project study area as it relates to this PEIR section is larger than the Specific Plan area.

To understand the operations of the existing mobility system in the project study area, data were collected through various sources, including field reconnaissance of the area, peak period and daily vehicle traffic counts, and review of other sources including recent and ongoing studies in the area and data supplied from other public agencies, such as the Orange County Transportation Authority (OCTA). The analysis of the existing traffic conditions in the vicinity of the Specific Plan area concentrated on the weekday AM and PM peak periods (7:00 to 9:00 AM and 4:00 to 6:00 PM); however, daily roadway segment capacity analyses is also provided as described below.

Field reviews of the existing mobility system were conducted during typical weekday morning and evening peak hours. Observations included the patterns of traffic in the study area, areas with significant congestion, and conflict points between different modes in the system.

■ Regional Highway and Street Network

Several significant streets are located within the study area and provide regional and local circulation, as well as access to/from the area land uses. These are described in the following paragraphs and are illustrated in Figure 4.14-1 (Existing Roadway Network).

Freeways

- **The San Diego Freeway (Interstate 5 [I-5])** is a major north/south route for regional interstate travel between San Diego and Los Angeles, and is located directly east of the City and the Specific Plan area. It has four through lanes plus HOV lanes and some auxiliary lanes in each direction through the study area. There are full interchanges located at Crown Valley Parkway and Avery

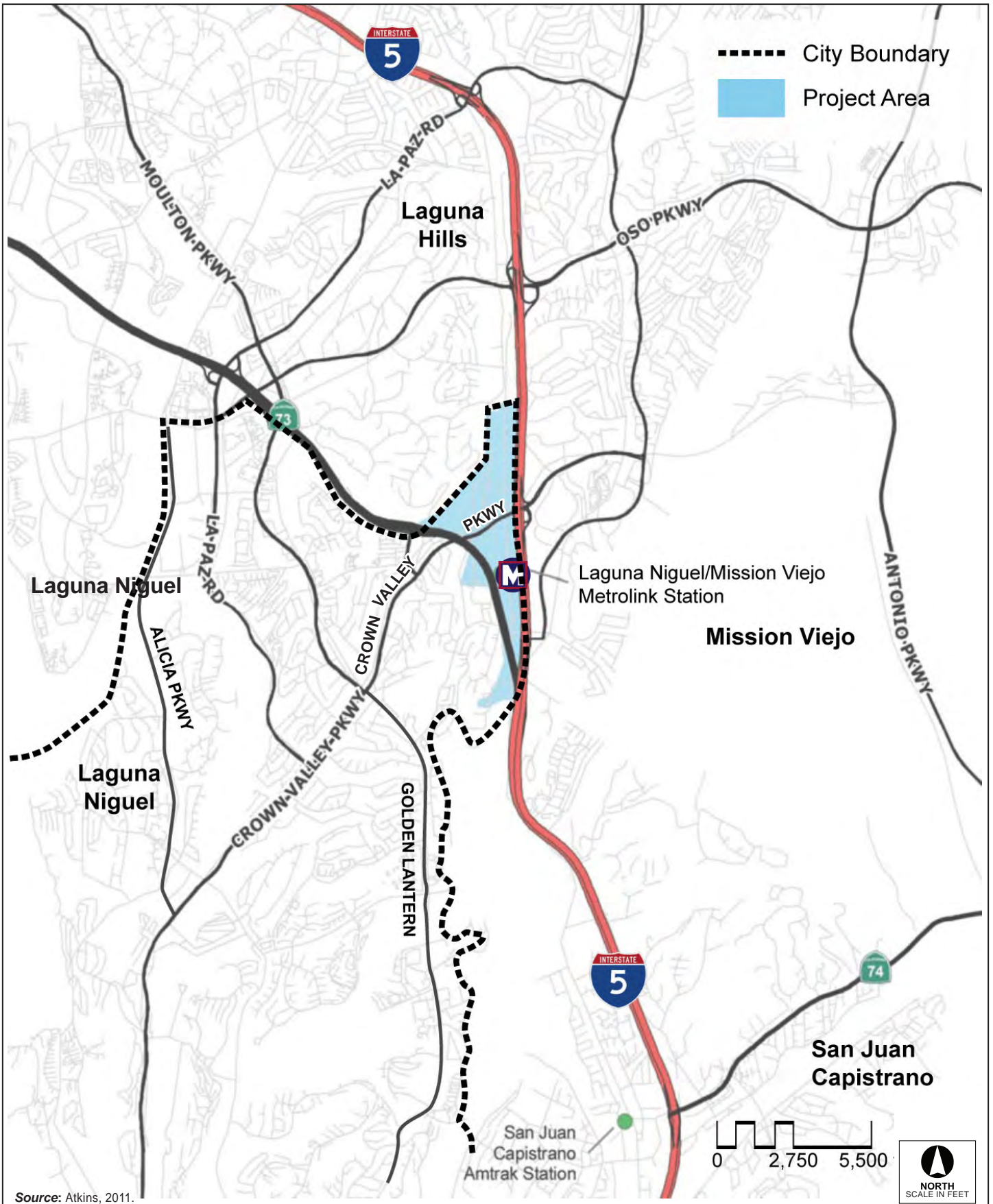
Parkway. Peak hour traffic demand at the interchanges currently causes significant congestion during the peak commute hours.

- **San Joaquin Hills Transportation Corridor (State Route 73 [SR-73])** is a 15-mile controlled-access tollway extending north from its interchange with I-5 south of Avery Parkway to SR-55 and I-405 near Costa Mesa. SR-73 provides three travel lanes in each direction and has a full access interchange at Greenfield Drive, west of the Specific Plan area.

Local Network

Several streets in the Specific Plan area provide local mobility for the area and while some extend between communities, they do not provide substantial regional mobility. These include the following streets:

- **Crown Valley Parkway** is a six-lane, east/west Major Arterial that bisects the Specific Plan area and provides direct access to I-5. It is used as a primary access to the area by both residents of Laguna Niguel and Mission Viejo, but also many of the businesses in the area and Saddleback College located to the east. The number of lanes varies along Crown Valley Parkway depending on the segment (six to eight through lanes total) and sidewalks are provided along some portions of the street, including the south side of the street between Cabot Road and the northbound I-5 ramps. In the City's General Plan Circulation Element, Crown Valley Parkway between I-5 and Greenfield Drive is listed as an Augmented Major Arterial indicating that additional lanes with enhanced intersections would be provided along this section of the street. The Average Daily Traffic (ADT) volumes along Crown Valley Parkway vary significantly from about 40,000 vehicles per day (vpd) to almost 65,000 vpd at the I-5 interchange. The capacity of Crown Valley Parkway in the study area is between 56,000 and 65,000 vpd. The City's bicycle master plan lists Crown Valley Parkway as a bicycle facility. Dedicated bike lanes are currently provided along Crown Valley Parkway to the west of the I-5 interchange.
- **Avery Parkway** is a Primary Arterial extending east from Camino Capistrano. In the study area it has four through lanes plus turn lanes and has a full interchange with I-5. Avery Parkway, in addition to providing local access to the study area, also is a key access for Saddleback College and Capistrano Valley High School to the east. The ADT volumes along Avery Parkway are about 26,000 vpd and 35,000 vpd at the I-5 interchange. The capacity of Avery Parkway in the study area is about 36,000 vpd.
- **Cabot Road** is a four-lane Primary Arterial extending north from Paseo De Colinas through the study area connecting Paseo De Colinas with Crown Valley Parkway and Oso Parkway to the north. Bike lanes are provided along Cabot Road through the study area and sidewalks are located along both sides of Cabot Road to the south of Crown Valley Parkway and on the west side only to the north. The existing ADT along Cabot Road is about 15,000 to 16,000 vpd. The current capacity of the road is about 37,500 vpd.
- **Paseo De Colinas** is a four lane, Primary Arterial that extends westerly from its intersection with Camino Capistrano. To traverse the railroad tracks, a loop ramp is provided over the tracks between the connection with the Camino Capistrano and Cabot Road. Bike lanes are provided along Paseo De Colinas west of Cabot Road, but narrow pavement width over the bridge limits the lanes between Cabot and Camino Capistrano. Sidewalks are located along the north side of the street through the study area and along the south side west of Cabot Road. The existing ADT along Paseo De Colinas is 17,000 and 24,000 vpd. The capacity is about 37,500 vpd.



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Source: Atkins, 2011.

Figure 4.14-1
Existing Roadway Network

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- **Greenfield Drive** is a four lane, Primary Arterial between SR-73 and Crown Valley Parkway. To the north of SR-73 and the south of Crown Valley Parkway it is a two-lane local street. Greenfield Drive provides direct access to SR-73 at its full interchange and indirect access to I-5 via Crown valley Parkway. On-street bike lanes are included along a portion of Greenfield Drive. Sidewalks are provided along both sides of the street. The existing ADT along Greenfield Drive is about 18,000 vpd. The capacity is about 37,500 vpd.
- **Camino Capistrano** is a two-lane, Secondary Arterial extending south from the northeast corner of the Specific Plan area. Camino Capistrano provides access to numerous businesses in the area and access to the Metrolink train station. Access to/from I-5 from Camino Capistrano is provided via Avery Parkway. Other than Paseo De Colinas, no direct connection is currently available between Camino Capistrano and any other key street in the Specific Plan area. On-street parking is located along much of the street with diagonal parking provided near the station (however much of this parking is dedicated to the local businesses). Sidewalks are provided along the east side of the street through the Specific Plan area along the business frontages and along the west side near the train station and the on-street parking. Bike lanes are also provided on Camino Capistrano. The existing ADT along Camino Capistrano in the study area is between 6,000 and 28,000 vpd. The capacity of the street ranges from about 13,000 to 30,000 vpd.

Local Streets in the Specific Plan area include Forbes Road, Getty Drive, and Cape Drive. These are all two-lane streets and provide access to the adjacent land uses. Forbes Road to the south provides access to the Metrolink train station drop off on the west side of the tracks and the 296-space parking lot. Area access to all of these streets is provided via the signalized intersection of Forbes Road and Crown Valley Parkway. On-street parking is allowed along most of all three streets.

Street Standards

Current street standards for the roadways in the study area are listed in Table 4.14-1 (Existing Study Area Street Standards). The table also provides a comparison of the existing street conditions to the standards.

■ **Planned Roadway Improvements**

Several roadway projects have been conducted or are being forwarded to improve traffic operations in the immediate vicinity of the Specific Plan area, as well as for the surrounding region. Projects that would directly affect access, circulation, and traffic operations in the study area include the following:

OCTA studied the I-5 corridor as part of the South County Major Investment Study (SCMIS). The SCMIS developed a program for the expansion and enhancement of transportation facilities to improve circulation and mobility for the region. The program contained several recommended measures including reducing auto use; implementing Smart Street concepts; improving highway, arterial, and transit operations; enhancing the attractiveness of alternative modes (including bicycle travel); and implementing Advanced Traffic Management Systems.

Two improvement projects included in the SCMIS were the addition of one general purpose through lane in each direction of the I-5 north of Avery Parkway and the study of options for new interchanges or modifications to the Crown Valley Parkway and Avery Parkway interchanges with the I-5 and enhanced/direct access to Saddleback College from the I-5. Improvements to the Avery Parkway interchange are currently being studied with a selected alternative expected to be identified in mid-2011.

Table 4.14-1 Existing Study Area Street Standards

<i>Street</i>	<i>Classifications</i>	<i>ROW</i>	<i>Lanes</i>	<i>ADT Capacity</i>
City of Laguna Niguel Standards				
—	Major Arterial	120 feet	6 divided	8 lanes—75,000 7 lanes—65,700 6 lanes—56,300
—	Primary Arterial	100 feet	4 divided	37,500
		80 feet	4 undivided	25,000
		60 feet	2 undivided	12,500
Study Area Streets				
Crown Valley Parkway	Major	112 to 122 feet	8 lanes east of I-5 3 WB/4-EB east of Cabot 6 lanes west of Cabot	56,300 to 75,000
Avery Parkway	Primary	100 feet	4 divided	36,000
Cabot Road	Primary	90 to 100 feet	4 divided	37,500
Paseo De Colinas	Primary	100 feet	4 divided	37,500
Greenfield Drive	Primary	100 feet	4 divided	37,500
Camino Capistrano	Secondary	90 to 100 feet	2 lanes undivided plus selected turn lanes	12,500 to 30,000
Forbes Road	Local	—	2 lanes undivided	12,500
Vista Viejo	Local	—	2 lanes undivided	12,500
Getty Drive	Local	—	2 lanes undivided	Up to 7,500
Cape Drive	Local	—	2 lanes undivided	Up to 7,500

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

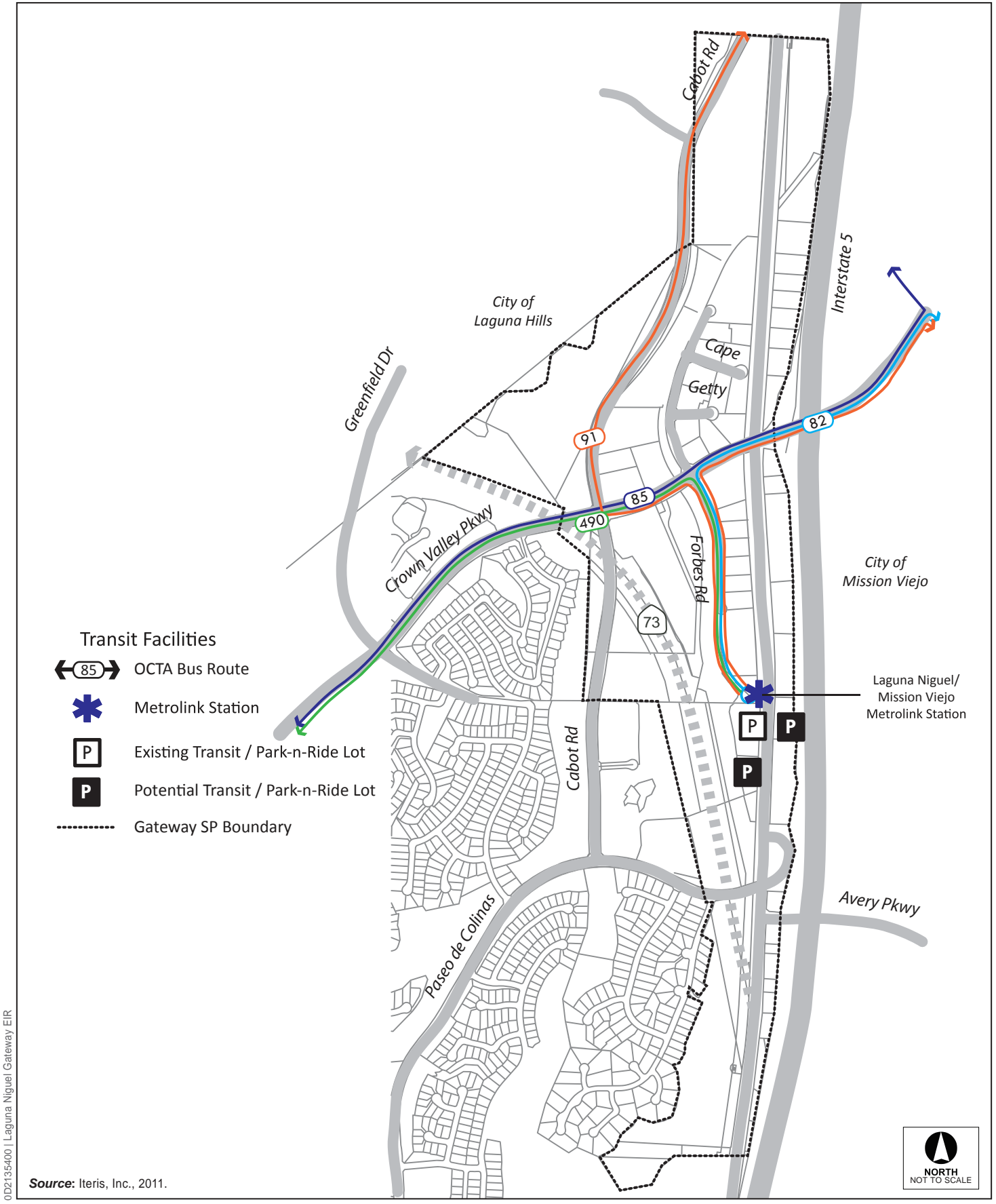
The City of Laguna Niguel has begun a project to widen Crown Valley Parkway from east of Cabot Road to the I-5 Northbound ramps. The ultimate widening of Crown Valley Parkway would culminate in the roadway having four through lanes in each direction plus turn lanes and Class II bicycle lanes. This project would begin the first phase of that widening by expanding the south side of the roadway between Cabot Road and I-5. The remainder of the widening would occur as funding becomes available and/or as needed to support area development.

OCTA is currently working on the environmental clearances for the widening of I-5 between El Toro Road and SR-73 to provide additional mainline capacity. The goal is to ultimately provide an additional through lane along both sides of the highway.

Full details of committed improvements may be found in Section 7 of the Traffic Study (Appendix E).

■ Transit

The study area is served by both Metrolink rail service and OCTA bus service, although both provided limited scheduled service. The existing transit routes are discussed below and are illustrated in Figure 4.14-2 (Transit Facilities).



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Source: Iteris, Inc., 2011.



Figure 4.14-2
Transit Facilities

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Metrolink Train Service

The Laguna Niguel/Mission Viejo station is located between Forbes Road and Camino Capistrano to the south of Crown Valley Parkway. The station is accessible from both the east and west sides by pedestrians with drop-off areas provided on both sides.

During a typical weekday, there are fifteen daily trains (between 4:10 AM to 6:30 PM) to and fourteen daily trains (between 6:30 AM and 7:45 PM) from Los Angeles (Union Station) and Oceanside. On Saturday and Sunday there are three northbound (between 9:30 AM and 5:10 PM) and three southbound (between 9:10 AM and 6:00 PM) trains per day running between the Laguna Niguel station and Union Station to the north and Oceanside to the south. All of these trains stop at the Laguna Niguel station.

OCTA and Metrolink plan to expand service to the station with 30-minute headways with the Metrolink Service Expansion Program (MSEP). Trains began to be added starting in early 2011 and will continue to be added over time until the 30-minute headway is reached. This change is expected to increase train ridership and encourage use of the Metrolink service by those whose needs may currently be outside of the Metrolink service schedule for this station. The enhanced service also makes the Gateway Specific Plan area more attractive for transit-oriented development. In anticipation of the MSEP, a dedicated turnback track was installed in 2010 adjacent to Camino Capistrano to accommodate train staging, with the Laguna Niguel/Mission Viejo station being the southernmost station with double-tracking.

OCTA Bus Service

Limited OCTA bus service is provided to the Specific Plan area via four routes—Routes 82, 85, 91, and 490. The following describes the general service provided by each route.

- **Route 82**—Foothill Ranch to Laguna Niguel Service between Foothill Ranch Towne Centre and Saddleback College. Service extends to/from the Metrolink station with 7 buses stopping at the station between 6:25 and 9:30 AM and 9 buses stopping between 2:15 and 6:15 PM. Weekend service is not provided to the station.
- **Route 85**—Mission Viejo to Dana Point Service extends between Portola Plaza and Dana Point Harbor with service to the Specific Plan area provided along Crown Valley Parkway. Buses operate between approximately 5:30 AM and 10:30 PM with buses approximately every half hour. Weekend service is provided between approximately 7:00 AM and 6:00 PM with buses about 50 minutes apart.
- **Route 91**—Laguna Hills - San Clemente via Paseo De Valencia/Camino Capistrano/Del Obispo St.: Service extends between the Laguna Hills Transportation Center/Park and Ride and the San Clemente Metrolink station with service to the study area provided along Cabot Road and Crown Valley Parkway. Buses stop at the Mission Viejo/Laguna Niguel Metrolink station between approximately 5:30 AM and 10:30 PM with buses approximately every 35 minutes. Weekend service is provided between approximately 7:30 AM and 7:45 PM with buses about 45 minutes apart.
- **Route 490**—Laguna Niguel/Mission Viejo Metrolink Station to Aliso Viejo Service extends between the Metrolink station and Aliso Viejo with 6 buses between 6:30 and 8:50 AM and 5 buses between 3:50 and 6:20 PM. The service route for this bus is along Crown Valley Parkway to the west and Forbes Road. No weekend service is provided on the route.

■ Parking

Parking within the Specific Plan area is currently accomplished by a mixture of on-street and off-street parking facilities. Each development generally has its parking areas configured to suit the nature of the business use. Some businesses such as auto repair, auto sales, and companies with delivery trucks utilize some on-street parking due to the lack of on-site parking facilities. One major parking facility in the Specific Plan area is the Metrolink parking lot located at the south end of Forbes Road.

Currently, parking facilities for the Laguna Niguel/Mission Viejo Metrolink station consist of a 296-space parking lot accessed from south Forbes Road and limited on-street parking along portions of Camino Capistrano. OCTA projects a total future parking demand of 1,200 spaces to accommodate ridership demand at the station. The 1,200 parking spaces can be accommodated on Forbes Road, in the general location of the existing parking lot, as well as property on Camino Capistrano. Surface-level parking may be provided in the short term and structured parking may be warranted in the future, as demand for station parking grows. Existing and planned on-street parking is illustrated on Figure 4.14-3 (Existing and Planned On-Street Parking Locations).

■ Bicycles, Pedestrians, and Trails

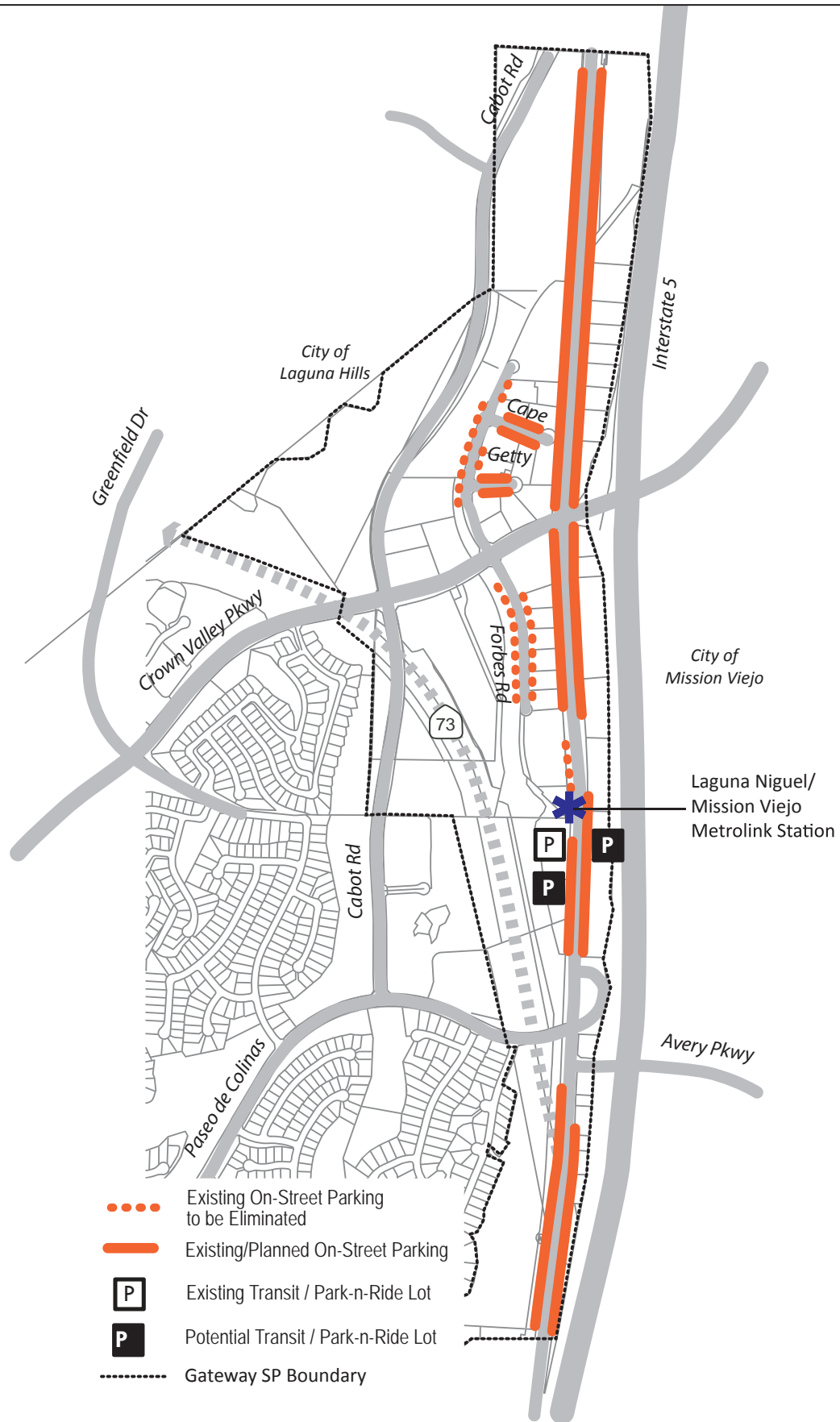
Bicycles

Bikeways are an important component of a comprehensive transportation system to provide the opportunity for recreational use and as an alternative means of travel within the community and the region. In Laguna Niguel, bikeways will be more heavily used as the City's Bikeways Plan is fully implemented.

Limited noncontiguous on-street bike lanes are located along portions of some streets within the Specific Plan area. These include Crown Valley Parkway, Paseo De Colinas, Cabot Road, and portions of Camino Capistrano and Greenfield Drive. High traffic volumes and speeds along some of these streets make bike riding challenging for less experienced riders. However, field observations indicated that the lanes are regularly used by cyclists. The City's General Plan and the Bicycle and Trails Master Plan propose to extend a Class I bikeway (off-street trail) through the Specific Plan area with a facility along or near Forbes Road that would extend from the City of San Juan Capistrano, north to either Camino Capistrano and/or Cabot Road, and on the north side of Crown Valley Parkway to Greenfield Drive. The existing and planned trail system in the Specific Plan area is illustrated on Figure 4.14-4 (Existing and Planned Bicycle and Trail System).

Missing segments of bike lanes in the area include a section of Crown Valley Parkway east of Forbes Road, Greenfield Drive south of SR-73, and Paseo De Colinas connecting to Camino Capistrano. Where sidewalks are provided, the width is generally wide enough for inexperienced riders to use the sidewalk if needed to avoid heavy traffic. Traffic signals in the area generally provide enough time for crossing when auto traffic is present; however, push buttons and/or automatic detection for bicycles are not present at all traffic signals in the Specific Plan area.

Source: Iteris, Inc., 2011.

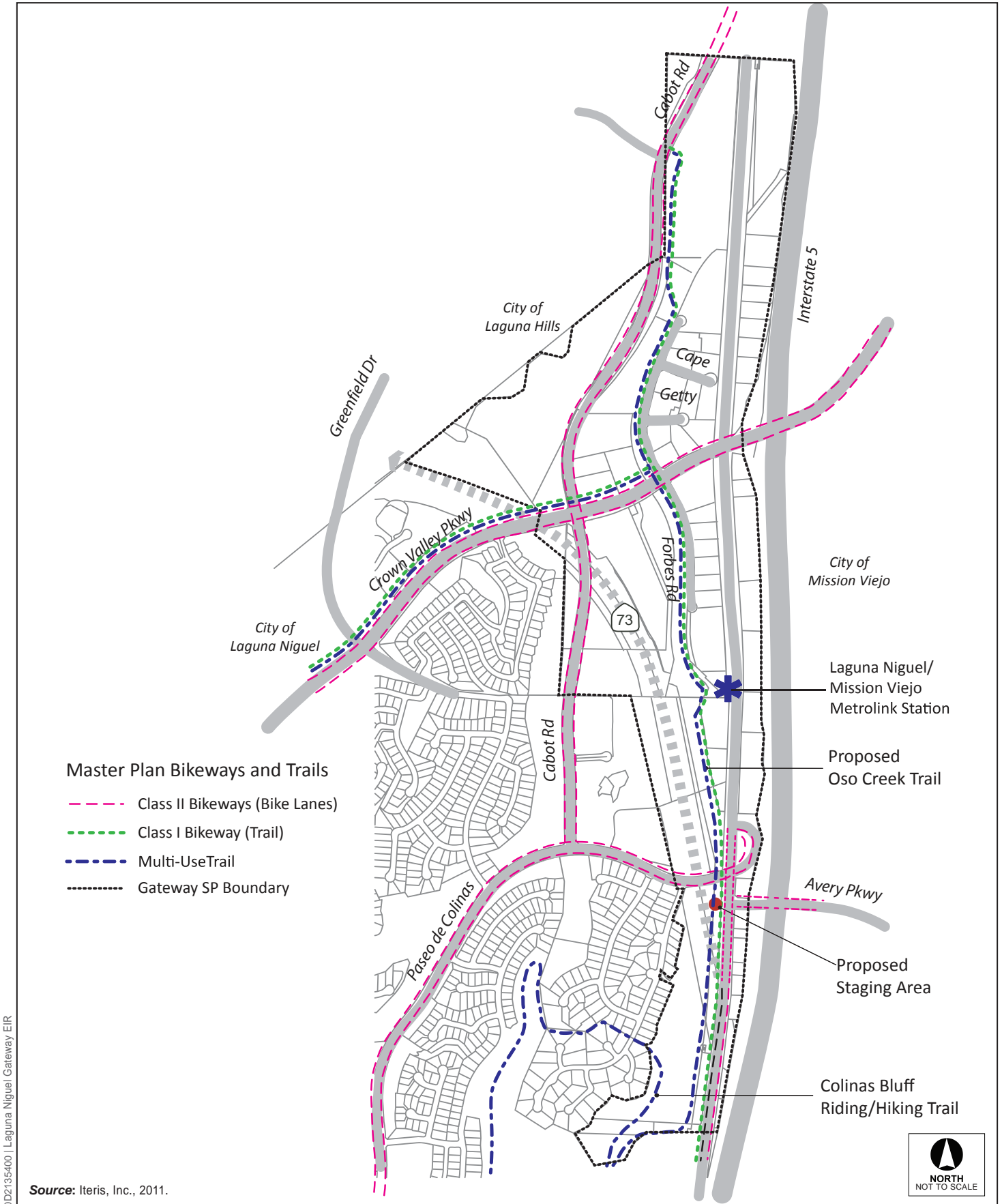


- Existing On-Street Parking to be Eliminated
- Existing/Planned On-Street Parking
- Existing Transit / Park-n-Ride Lot
- Potential Transit / Park-n-Ride Lot
- - - Gateway SP Boundary



Figure 4.14-3
Existing and Planned On-Street Parking Locations

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Source: Iteris, Inc., 2011.



Figure 4.14-4
Existing and Planned Bicycle and Trail System

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In the General Plan there is a recommendation to add a bicycle underpass at the intersection of Crown Valley Parkway with Moulton Parkway. This intersection experiences high peak-hour volumes during the weekdays and is also heavily traveled on the weekends.

Pedestrians

Sidewalks, crosswalks, and pedestrian walk lights are provided through much of the Specific Plan area. Some missing sidewalk connections along selected streets make connections on foot between some uses difficult. Sections where sidewalks do not currently exist include north side of Crown Valley Parkway between Cabot Road and the I-5 ramps, the east side of Cabot Road north of Crown Valley Parkway, both sides of Camino Capistrano north of the Metrolink station, and the west side of Camino Capistrano between Paseo De Colinas and the Metrolink station.

Adequate sidewalk widths are provided at nearly all locations where sidewalks are present. Topography in the area limits some connections, as well as geographic features such as the Oso Creek and Galivan retarding basin. The railroad tracks along Camino Capistrano also limit east/west, at-grade crossings. Development in the Specific Plan area has historically occurred in a piecemeal fashion; therefore, there is not a continuous network of sidewalks or pathways.

Equestrians

Equestrian access to the Specific Plan area is planned as part of the City's Trails Master Plan. However, segregated access and travel through the Specific Plan area is currently limited. In the future, access would be from the proposed Oso Creek trail. A key impediment to north/south travel through the Specific Plan area is crossing Crown Valley Parkway. A bridge connecting the Oso Creek trail along north and south Forbes Road is proposed to accommodate equestrians as well as bicyclists and pedestrians.

4.14.2 Regulatory Framework

■ Federal

There are no federal regulations related to transportation/traffic that apply to the proposed Specific Plan Update area.

■ State

Statewide Transportation Improvement Program

Caltrans administers transportation programming for the state. Transportation programming is the public decision-making process that sets priorities and funds projects envisioned in long-range transportation plans. It commits expected revenues over a multi-year period to transportation projects. The Statewide Transportation Improvement Program (STIP) is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

■ Regional

Orange County Congestion Management Plan

The passage of Proposition 111 in June 1990 increased the gas tax for the purpose of funding transportation-related improvements statewide. In order to be eligible for the revenues associated with Proposition 111, the Congestion Management Program (CMP) legislation (originally AB 471, amended by AB 1791) required California's urbanized areas—areas with populations of 50,000 or more—to adopt a CMP.

The following year, Orange County's local governments designated OCTA as the Congestion Management Agency (CMA) for the County. As a result, OCTA is responsible for developing, monitoring, and biennial updating of Orange County's CMP. Orange County adopted its most recent CMP in 2007. The CMP addresses the impact of local growth on the regional transportation system. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management program, the Land Use Analysis program, and local conformance for all the county's jurisdictions.

The goals of Orange County's CMP are to support regional mobility and air quality objectives by reducing traffic congestion, provide a mechanism for coordinating land use and development decisions that support the regional economy, and determine gas tax fund eligibility. To meet these goals, the CMP contains a number of policies designed to monitor and address system performance issues. OCTA developed the policies that makeup Orange County's CMP with local agencies, the California Department of Transportation, and the South Coast Air Quality Management District.

The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (CMPHS). Per the CMP guidelines, this number is based on the desire to analyze any impacts that would be 3 percent or more of the existing CMP highway system facilities' capacity. The CMPHS includes specific roadways, which include State Highways and Super Streets, which are now known as Smart Streets, and CMP arterial monitoring locations/intersections.

Orange County Growth Management Plan

In August 1988, Orange County adopted a Growth Management Plan, which presents a conceptual framework for coordinating traffic facilities and public facilities and services with new development. The Growth Management Plan also spawned several plans and programs, including the Development Monitoring Program, which evaluates the extent of new development and compliance with phasing requirements, and the Facilities Implementation Plans, which evaluate public facility needs and propose financing mechanisms.

The most comprehensive legislation affecting growth management is Measure M, approved by the County voters in November 1990, and re-approved in 2006. The measure requires each jurisdiction in the County to adopt a Growth Management Element with specific contents and guidelines.

■ Local

Laguna Niguel General Plan

Circulation Element

- Goal 1** An adequate transportation/circulation system that supports regional and local land uses at adopted level of service (WS) standards and complies with requirements of the Countywide Traffic Improvement and Growth Management Program (Measure M) (GME Goal 1A).
- Policy 1.1** Develop and maintain a road system that is based upon and is in balance with the Land Use Element of the General Plan.
- Policy 1.2** Make all feasible transportation improvements in order to meet a target level of service (LOS) standard of “C” and a threshold standard of LOS “D.” The City recognizes that not all intersections within the City can meet this target LOS. Therefore, the City will establish a critical intersection list which consists of intersections which do not meet the target LOS of “C,” at peak periods only, but do not exceed the City’s threshold LOS standard of “D.” In order for an intersection to be placed on the City’s critical intersection list, the City Council must find that the improvements necessary to meet target LOS “C” are not feasible because of one or more of the following reasons: (1) the cost of the necessary improvements exceeds available funding sources; (2) the design of the necessary improvements is not compatible with the surrounding land uses; or (3) the design of the necessary improvements is contrary to other established City policies (GME Policy 1.1).
- Policy 1.3** Make all feasible transportation improvements in order to meet the threshold level of service unless the City determines that the unacceptable level of service is a direct result of regional traffic and that the improvements necessary to achieve the threshold level of service: (1) exceed the available funding sources; (2) are not compatible with the surrounding land uses; or (3) the design of the improvements is contrary to other established City policies (GME Policy 1.2).
- Policy 1.4** Each signalized intersection that has been improved to its maximum feasible configuration and still does not meet the threshold level of service shall be placed on the deficient intersection list (GME Policy 1.3).
- Policy 1.5** Allow adjustment of stated requirements if necessitated by unusual or extraordinary circumstances including, but not limited to, such conditions as an arterial highway temporarily accommodating traffic usually carried by a freeway while freeway improvements are being constructed (GME Policy 1.4).

- Policy 1.6** Measure traffic LOS using the current guidance regarding traffic level of service policy implementation established by the Local Transportation Authority (GME Policy 1.5).
- Policy 1.7** Require necessary conditions of approval on development projects to achieve traffic LOS standards prescribed in this Element (GME Policy 2.1).
- Action 7.1.1** Require that proposals for major new developments include a traffic impact analysis which identifies measures to mitigate any identified project impacts according to the traffic LOS standards prescribed in this Element.
- Action 7.1.2** Utilize the citywide traffic forecasting model to determine immediate and cumulative impacts of proposed developments on the City's transportation system. Monitor and update the traffic model database annually.
- Policy 1.8** All new development shall be required to participate in the City's transportation fee program(s). These fee programs shall be designed to ensure that all development projects fund their pro rata share of the necessary long-term transportation improvements identified in this Element or its Technical Appendix.
- As part of the City's transportation fee program(s), criteria will be developed to establish funding priorities. This program will also establish phasing guidelines to be consistent with the Comprehensive Phasing Plan (GME Policy 2.2).
- Policy 1.9** All development projects contributing one percent or more to the critical movement at an intersection that is either projected to operate, or currently operates below the target level of service as a result of project implementation, shall fund all required feasible transportation improvements necessary to achieve the target LOS or, if the intersection exceeds the target LOS prior to project approval, mitigate the impacts of the project so that the intersection ICU is returned to its level of operation prior to project approval. Even for intersections where the target LOS is "D," in the interim, prior to build-out, the City may require mitigation to maintain a LOS of "C."
- Necessary feasible improvements to mitigate an intersection to its level of operation prior to project approval shall be targeted for completion prior to issuance of Certificates of Use and Occupancy for the approved project. If the City determines that the cost of the improvement(s) is not feasible, the City shall require that any feasible short-term improvements be made prior

to Certificates of Use and Occupancy and all permanent transportation improvements made within three years of the issuance of the first building permit, or within five years of the first grading permit.

Any project which has complied with this policy by funding a specific transportation improvement project, which is included in the City's transportation fee program, shall be given credit for the fees required as part of the transportation fee program as established in Policy 1.8 (GME Policy 2.3).

- Policy 1.10** Those intersections on the deficient intersection list shall be exempted from the requirements of Policy 1.9 (GME Policy 2.4).
- Policy 1.11** Review and evaluate existing traffic mitigation fees and develop new fees, if necessary, to fund the improvements identified in this Element or its Technical Appendix, in cooperation with other jurisdictions (GME Policy 2.5).
- Policy 1.12** Prohibit the use of Measure M tax revenues to replace private developer funds which have been committed for normal project or subdivision obligations (GME Policy 2.6).
- Policy 1.13** Phase development in accordance with the Comprehensive Phasing Program adopted by the City, which shall provide an overall build-out land use development plan which can be supported by implementation of the planned circulation system (GME Policy 2.7).
- Policy 1.14** Periodically evaluate programs designed to mitigate development impacts and the phasing of development and feasible transportation improvements (GME Policy 2.8).
- Policy 1.15** Identify and promote Measure M priorities of importance to the City of Laguna Niguel, both within and outside the City (GME Policy 4.1).
- Policy 1.16** Cooperate with nearby cities and the County of Orange, especially within GMA 10, in making transportation improvements of mutual interest and priority (GME Policy 4.2).
- Policy 1.17** To the maximum extent possible, integrate Congestion Management Program and Measure M Growth Management requirements into a single set of development incentives/guidelines/regulations (GME Policy 4.4).
- Policy 1.18** Develop circulation system standards for roadway and intersection classifications, right-of-way width, pavement width, design speed, capacity, maximum grades, and associated features such as medians and bicycle lanes.
- Action 1.18.1** Prepare and maintain a circulation facility design manual containing roadway standards which specify right-of-way, number of lanes,

typical cross-sections and parking restrictions according to designated arterial classifications. The manual should be consistent with the County’s design manual except where exceptions are required for the City. Included will be design guidelines for driveway placement, intersection site distance, stop sign installation, medians, landscaping, bike lanes, bike paths, sidewalks, and equestrian trails.

- Policy 1.19** Coordinate roadway improvements with applicable county, state, and federal transportation plans and proposals.
- Policy 1.20** Require the construction of dual left-turn lanes where peak hour traffic volumes are in excess of 400 for a left-turn movement.
- Policy 1.21** Where feasible, design new left-turn lanes and retrofit existing left-turn lanes, so the left-turn lane is equal in length to the projected 2010 peak hour left-turn volumes.
- Policy 1.22** Provide for the safe and expeditious transport of hazardous materials.
- Policy 1.23** Limit driveway access on arterial streets to maintain a desired quality of flow.
- Policy 1.24** Design local and collector streets to discourage their use as thru traffic routes.
- Policy 1.25** Develop a circulation system which highlights scenic areas.

Goal 2

A network of regional transportation facilities which ensures the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and which accommodates the regional travel demands of developing areas outside the city.

- Policy 2.1** Support the completion of the Orange County Master Plan of Arterial Highways.
- Policy 2.3** Support the implementation of the San Joaquin Hills Transportation Corridor (SJHTC).
- Policy 2.5** Support the addition of capacity improvements such as high-occupancy vehicle lanes, general purpose lanes, and auxiliary lanes to Interstate 5 (I-5).
- Policy 2.6** Maintain a proactive and assertive role with appropriate agencies dealing with regional transportation issues affecting the City.
- Policy 2.7** Work with adjacent cities to ensure that the traffic impacts of development projects in these cities do not adversely impact the City of Laguna Niguel and that traffic impacts of Laguna Niguel projects do not adversely impact neighboring cities.

- Policy 2.8** Coordinate with Caltrans on all plans, activities, and projects that might affect state facilities.
- Goal 3** A circulation system that maximizes efficiency through the use of transportation system management and demand management strategies.
- Policy 3.1** Encourage new development which facilitates transit services, provides for non-automobile circulation and minimizes vehicle miles traveled.
- Policy 3.2** Implement traffic signal coordination on arterial streets where practical, and integrate signal coordination efforts with those of adjacent jurisdictions.
- Policy 3.3** Implement intersection capacity improvements where feasible and justified by traffic demand.
- Policy 3.4** Encourage the implementation of employer Transportation Demand Management (TDM) requirements included in the City's adopted TDM ordinance and in the Southern California Air Quality Management District's Regulation XV Program.
- Policy 3.5** Support the development of additional regional public transportation facilities and services.
- Policy 3.6** Promote ridesharing through publicity and distribution of information to the public.
- Goal 4** An efficient public transportation system that provides mobility to all City residents, employees, and visitors.
- Policy 4.1** Support the efforts of the Orange County Transit Authority (OCTA) to provide additional local and express bus service to Laguna Niguel.
- Policy 4.2** Work with the Orange County Transit Authority and the City of Mission Viejo to encourage a commuter rail station in the Galivan Basin.
- Policy 4.3** Encourage employers to reduce vehicular trips by offering employee incentives.
- Policy 4.4** Promote new development that is designed in a manner that (1) facilitates provision or expansion of transit service, (2) provides on-site commercial and recreational facilities to discourage mid-day travel, and (3) provides non-automobile circulation within the development.
- Action 4.4.1** Require new development to fund transit facilities, such as bus shelters and turnouts.
- Policy 4.5** Encourage developers to work with agencies providing transit service with the objective of maximizing the potential for transit use by residents and/or visitors.

- Policy 4.6** Encourage the provision of safe, attractive, and clearly identifiable transit stops and related high-quality pedestrian facilities throughout the community.
- Goal 5** An efficient bicycle, equestrian and pedestrian circulation system that encourages these alternative forms of transportation.
 - Policy 5.1** Require proposed developments, whenever feasible, to dedicate easements for Class I bikeways and to provide additional right-of-way for Class II bike lanes in the project vicinity on all major or primary roadways or other roadways where deemed appropriate.
- Goal 8** A truck circulation system that provides effective transport of commodities while minimizing the negative impacts throughout the City.
 - Policy 8.1** Provide primary truck routes on selected arterial streets to minimize the impacts of truck traffic on residential areas.
 - Policy 8.2** Provide appropriately designed and maintained roadways for the primary truck routes.
 - Action 8.2.1** Prepare a program to undertake the placement of signs for designated truck routes.
 - Policy 8.3** Provide loading areas and accessways that are located to avoid conflicts with non-truck traffic.
 - Action 8.3.1** Adopt standards which identify appropriate access to loading areas.
- Goal 9** Support the location of a commuter rail system within the Galivan Basin that meets the needs of current and future residents.
 - Policy 9.1** Coordinate with Amtrak and Los Angeles-San Diego (LOSSAN) Corridor Commuter Rail to expedite commuter rail service to and from the City.
 - Policy 9.2** Work with the appropriate entities to evaluate development of a commuter rail station in Laguna Niguel.
 - Action 9.2.1** Schedule ongoing discussions with Mission Viejo and Laguna Hills regarding rail service for Laguna Niguel and these communities.
- Goal 10** Provide public transportation for residents to airport facilities in the region.
 - Policy 10.1** Work with the Orange County Transit Authority (OCTA) and other appropriate agencies to provide express transportation to regional airports.

Consistency Analysis

Generally, the proposed project is consistent with applicable policies of the Circulation Element. The proposed project is intended to provide a live-work community that would reduce daily vehicle trips,

thereby encouraging alternative transportation via rail, bus, pedestrian and bicycle traffic. The transportation impacts of the proposed project have been assessed and the proposed project encourages coordination with agencies outside the City's jurisdiction. The walkability of the surrounding area, as well as the easy access to transit facilities would promote objectives relating to traffic reduction and increased reliance on alternative modes of transportation included in the Circulation Element and the Growth Management Element of the City's General Plan.

Policy 1.2 establishes a target level of service (LOS) C with a threshold standard of LOS D. Intersections where this target cannot be met are placed on a critical intersection list; however, these intersections cannot exceed the threshold LOS D. Policy 1.3 requires the City to make all feasible transportation improvements to meet the threshold level of service unless the City determines that the unacceptable LOS is a direct result of regional traffic and that the necessary improvements exceed the available funding source, are incompatible with surrounding land uses, or contrary to other established City policies.

At project build-out in 2035, the target LOS C established in Policy 1.2 would not be met at two intersections within the City of Laguna Niguel: Crown Valley Parkway/Greenfield Drive and Crown Valley Parkway/Moulton Parkway. As shown in Table 4.14-9 (Existing Weekday Peak-Hour Intersection Operating Conditions), below, the intersection of Crown Valley Parkway and Greenfield Drive has an existing AM and PM peak-hour LOS of A and B, respectively, and the intersection of Crown Valley Parkway and Moulton Parkway operates at LOS A in both the AM and PM peak hours.

As shown in Table 4.14-17 (Year 2035 Proposed Project Weekday Peak-Hour Intersection Operating Conditions), below, both intersections would operate at LOS D, in both the AM and PM peak hours, at project build-out in 2035. The existing and future intersection LOS calculations include traffic generated by the project as well as regional traffic passing through the intersections. At build-out, the proposed project would generate 22.3 percent of the total daily traffic at the intersection of Crown Valley Parkway and Greenfield Drive, and would generate 10.5 percent of the total daily traffic at the intersection of Crown Valley Parkway and Moulton Parkway.

To demonstrate the direct project impacts on the two intersections, the regional traffic was taken out of the intersection LOS calculations. Looking only at the project-related traffic at project build-out, both intersections would continue to operate at or above the Policy 1.2 target LOS C. The intersection of Crown Valley Parkway and Greenfield Drive would operate at LOS C in both the AM and PM peak hours and the intersection of Crown Valley Parkway and Moulton Parkway would operate at LOS B in both the AM and PM peak hours.

Nonetheless, in accordance with Policy 1.2, any intersection that would not meet the target LOS C shall be placed on a critical intersection list. In order for an intersection to be placed on the City's critical intersection list, the City Council must find that the improvements necessary to meet target LOS C are not feasible.

The City's General Plan EIR, certified in June 1992, identified four intersections within the City as candidates for the City's critical intersection list, including the two intersections discussed above: Crown Valley Parkway/Greenfield Drive and Crown Valley Parkway/Moulton Parkway, that are projected in this EIR to not meet the City's target LOS C at project build-out in 2035.

Improvements necessary to the two intersections to meet the target LOS C in 2035 would likely be infeasible, primarily due to the high cost and substantial acquisition of private property likely required to widen both the street segments and intersections. Another issue included in General Plan Policy 1.2 is compatibility of the improvements with the surrounding land uses. In this case, wider, more vehicle-oriented streets may be incompatible with the suburban residential, commercial, and open space land uses that abut them.

As required by the Specific Plan Development Entitlement Management System (DEMS), the City shall evaluate traffic conditions along Crown Valley Parkway with every related discretionary application, and at least every five years, and a determination of whether the intersections of Crown Valley Parkway/Greenfield Drive and Crown Valley Parkway/Moulton Parkway should be placed on the City's critical intersection list shall be evaluated as appropriate, consistent with General Plan Policy 1.2. Therefore, implementation of the proposed project would not conflict with the above-listed policies.

Laguna Niguel Municipal Code

Title 7, Division 2, Article 2 of the Laguna Niguel Municipal Code prescribes standard Specifications for Public Works Construction, including roadways, signals, lighting, and pavement markers. Division 3, Article 3 includes regulations for excavation, filling, and obstruction of highways and the requirements for obtaining permits or a bond in lieu thereof to dig into, fill, or remove portions of city roadways. This Article also contains regulations for depth of utility infrastructure and resurfacing and compaction requirements. Article 4 prescribes safety measures for protection during construction. Division 4 covers turning movements; vehicle size, weight, and load; bicycle, pedestrian, and skateboard facilities; stopping, standing, and parking regulations; abandoned vehicles; and temporary street closures.

4.14.3 Project Impacts and Mitigation

■ Analytic Method

Analysis of the transportation related impacts of the proposed Specific Plan Update follows the methodologies and processes outlined by the City of Laguna Niguel for the intersections and arterial streets, and the guidelines for analyzing highways and ramps set forth by Caltrans.

Data Collection

To understand the operations of the existing mobility system in the study area, data were collected through various sources including field reconnaissance of the area, peak period and daily vehicle traffic counts, and review of other sources, including recent and ongoing studies in the area and data supplied by other public agencies, such as OCTA, Caltrans, and the City of Mission Viejo. The analysis of the existing traffic conditions in the vicinity of the proposed Specific Plan area concentrated on the weekday AM and PM peak periods (7:00–9:00 AM and 4:00–6:00 PM). In addition, daily analysis is also provided for street segments identified in Table 4.14-2 (Analyzed Street Segments).

No.	Street	From	To
1	Crown Valley Parkway	Glen Rock Drive	Greenfield Drive
2	Crown Valley Parkway	Greenfield Drive	Cabot Road
3	Crown Valley Parkway	Cabot Road	Forbes Road
4	Crown Valley Parkway	Forbes Road	I-5 SB Ramp
5	Crown Valley Parkway	I-5 NB Ramp	Puerta Real
6	Crown Valley Parkway	Puerta Real	Medical Center
7	Crown Valley Parkway	Los Altos	Marguerite Parkway
8	Avery Parkway	Camino Capistrano	I-5 SB Ramp
9	Avery Parkway	I-5 NB Ramp	Marguerite Parkway
10	Paseo De Colinas	El Sur	Cabot Road
11	Paseo De Colinas	Cabot Road	Camino Capistrano
12	Camino Capistrano	n/o Paseo De Colinas	—
13	Camino Capistrano	Paseo De Colinas	Avery Parkway
14	Camino Capistrano	s/o Avery Parkway	—
15	Forbes Road	n/o Crown Valley Parkway	—
16	Forbes Road	s/o Crown Valley Parkway	—
17	Cabot Road	Oso Parkway	Vista Viejo
18	Cabot Road	Vista Viejo	Crown Valley Parkway
19	Cabot Road	Crown Valley Parkway	Paseo De Colinas

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

Field reviews of the existing mobility system were conducted during typical weekday morning and evening peak hours. Observations included the patterns of traffic in the study area, areas with significant congestion, and conflict points between different modes in the system. In addition, general physical conditions of the streets were also documented including the locations and length of turn lanes, traffic control, provision of pedestrian and bicycle facilities, and general parking use where applicable.

The traffic count data was collected from various sources, including data provided by Caltrans and the City of Mission Viejo. For intersections and streets within the City of Laguna Niguel traffic counts were conducted in May 2010 during the weekday AM and PM peak hours.

Intersections

Intersection operating conditions in the study area were analyzed using two methodologies. Per the City of Laguna Niguel, the “Intersection Capacity Utilization” (ICU) methodology was used to provide the primary analysis results for intersections within the City of Laguna Niguel as well as the City of Mission Viejo. However, per the City’s and Caltrans’ request, the Highway Capacity Manual (HCM) delay-based methodology for signalized intersections was also used to impacts to Caltrans facilities in order to meet Caltrans requirements. Both the ICU and HCM methodologies are applied to all the project study

intersections. This recognizes that the proposed project would affect intersections under the jurisdiction of Mission Viejo and Caltrans, and the appropriate significance criteria are applied to each intersection.

The ICU methodology compares the amount of traffic a through or turn lane is able to process (the capacity) to the level of traffic during the peak hours (volume). The critical v/c ratios for each intersection approach are combined to determine the ICU value (v/c ratio) for the entire intersection. The HCM method calculates the average delay, in seconds, per vehicle for each approach and for the intersection as a whole during the peak hour.

Roadway Segments

Roadway segments were analyzed by calculating the v/c ratio for the selected segments based on the daily volume of traffic on the roadway and the City's General Plan daily traffic capacity for the corresponding facility size, configuration, and type. The v/c ration was then categorized based on the OCTA's LOS threshold standards and was utilized to determine levels of significance.

Analyzed Intersections and Roadway Segments

To evaluate traffic operations in the study area, weekday AM and PM peak-hour capacity analyses were conducted at the following 21 locations. The agency responsible for each intersection is also listed:¹⁴

1. Avery Parkway/Marguerite Parkway (M)
2. Avery Parkway/I-5 Northbound ramps (C)
3. Avery Parkway/I-5 Southbound ramps (C)
4. Avery Parkway/Camino Capistrano (L)
5. Crown Valley Parkway/Marguerite Parkway (M)
6. Crown Valley Parkway/Bellogente (M)
7. Crown Valley Parkway/Los Altos (M)
8. Crown Valley Parkway/Medical Center (M)
9. Crown Valley Parkway/Puerta Real (M)
10. Crown Valley Parkway/Kaleidoscope (M)
11. Crown Valley Parkway/I-5 Northbound ramps (C)
12. Crown Valley Parkway/I-5 Southbound ramps (C)
13. Crown Valley Parkway/Forbes Road (L)
14. Crown Valley Parkway/Cabot Road (L)
15. Crown Valley Parkway/Greenfield Drive (L)
16. Crown Valley Parkway/Moulton Parkway (L)
17. Paseo De Colinas/Camino Capistrano (L)
18. Paseo De Colinas/Cabot Road (L)
19. Greenfield Drive/SR-73 Northbound ramps (C)
20. Greenfield Drive/SR-73 Southbound ramps (C)
21. Rapid Falls Road/Cabot Road (L/LH)

¹⁴ C = Caltrans; L = City of Laguna Niguel; LH = City of Laguna Hills; M = City of Mission Viejo

Daily roadway segment capacity analyses were also conducted for 19 segments along six key roadways in the study area. Table 4.14-2 lists the roadway segments that were selected for analysis.

Microsimulation Analysis

The microsimulation analysis allows for the evaluation of the interactions between the closely spaced intersections in the area by incorporating more detailed characteristics of intersection operations and allows for evaluation of vehicle progression, traffic signal timing and coordination, queuing and storage conditions, driver behaviors such as lane changing, as well as potential issues related to conflicts of passenger vehicles, stopping buses, and pedestrian crossings.

Highway Segments and Ramps

The analysis of the Caltrans highway sections, weaving areas, and ramp merge and diverge sections that would be affected by the Specific Plan was conducted using the methodologies included in the HCM 2000, per Caltrans recommendations. The manual lists specific analysis methods and LOS standards for each of the above design conditions and was utilized to determine levels of significance..

Level of Service

The efficiency of traffic operations on a roadway is measured in terms of LOS. The LOS concept for intersections is a measure of average operating conditions during an hour. It is based on either a v/c ratio (ICU methodology) or average vehicular delay (HCM methodology) for signalized locations. LOSs range from A to F, with A representing excellent (free-flow) conditions and F representing extreme congestion. Intersections where vehicular volumes are at or near capacity and/or intersection operations are inefficient drivers can experience greater congestion (higher v/c ratios) and longer vehicle delays. Because traffic flow on arterial street networks is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods.

Table 4.14-3 (Signalized Intersection Level of Service Definitions) describes the level of service concept and the operating conditions expected for signalized intersections under each level of service. The LOS standards for Highways are presented in Table 4.14-4 (Freeway Section Level of Service Definitions). The LOS thresholds for ramp weaving sections and for ramp merge and diverge areas are presented in Table 4.14-5 (Weaving Section and Ramp Merge/Diverge Area Level of Service Definitions). Finally, the LOS standards for OCTA's analyses are presented in Table 4.14-6 (OCTA CMP Level of Service Definitions).

Congestion Management Programs







For this analysis, the Orange County CMP requires the analysis of operating conditions on any of the CMP-designated roadway segments or intersections in the County. CMP standards state that the level of service on the CMP network at build-out of the proposed development will be (1) LOS E or better or (2) will not result in a cumulative increase of more than 0.10 in v/c ratio if the established LOS standard is worse than LOS E. The CMP LOS designations are listed in Table 4.14-6.

Table 4.14-3 Signalized Intersection Level of Service Definitions

LOS	Interpretation	Signalized Intersection v/c Ratio	HCM Intersection Average Delay (seconds)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.00–0.60	< 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.61–0.70	> 10 and < 20
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.71–0.80	> 20 and < 35
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.81–0.90	> 35 and < 55
E	Poor operation. Some long-standing vehicular queues develop on critical approaches.	0.91–1.00	> 55 and < 80
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 1.00	> 80

SOURCE: Transportation Research Board, *Highway Capacity Manual 2000* (Washington, D.C., 2000).

Table 4.14-4 Freeway Section Level of Service Definitions

Level of Service	Description	Maximum Density (passenger cars/mile/lane)
A 	Free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to move within the traffic stream.	11
B 	Represents reasonably free-flow and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort to drivers is still high.	18
C 	Provides for flow with speeds at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	26
D 	Is the level where speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver with the traffic stream is more noticeably limited, and driver experiences reduced physical and psychological comfort levels.	35
E 	Operations at or near capacity. Operations at this level or more volatile, because there are virtually no gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream.	40
F 	Describes breakdown in vehicular flow. Such conditions generally exist within queues forming behind breakdown points.	> 40

SOURCE: Transportation Research Board, *Highway Capacity Manual 2000* (Washington, D.C., 2000).

Within the study area there are three CMP intersections and two CMP highways. The intersections are:

- Crown Valley Parkway at Moulton Parkways
- Crown Valley Parkway at I-5 Southbound Ramps
- Crown Valley Parkway at I-5 Northbound Ramps

Table 4.14-5 Weaving Section and Ramp Merge/Diverge Area Level of Service Definitions

<i>Level of Service</i>	<i>Weaving Sections (passenger cars/mile/lane)</i>	<i>Merge/Diverge Sections (passenger cars/mile/lane)</i>
A	≤ 10	≤ 10
B	>10 and ≤ 20	>10 and ≤ 20
C	>20 and ≤ 28	>20 and ≤ 28
D	>28 and ≤ 35	>28 and ≤ 35
E	>35 and ≤ 43	>35
F	> 43	Demand exceeds capacity

SOURCE: Transportation Research Board, *Highway Capacity Manual 2000* (Washington, D.C., 2000).

Table 4.14-6 OCTA CMP Level of Service Definitions

<i>LOS</i>	<i>v/c Ratio</i>
A	0.00–0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	Over 1.00

SOURCE: Orange County Transportation Authority, *Orange County Congestion Management Program* (2007).

The CMP highways are:

- Crown Valley Parkway
- Moulton Parkway

Since the proposed Specific Plan Update analyzes a range of potential development, no explicit CMP analysis has been conducted. However, the potential impacts of the full build-out associated with Specific Plan development on the area CMP facilities are discussed.

Existing Turning Volumes

A summary of the AM and PM peak-hour intersection turning volumes is listed in Table 4.14-7 (Existing Weekday AM and PM Peak-Hour Intersection Volumes) and are illustrated in Figure 4.14-5 (Existing Intersection Peak-Hour Turning Volumes).

The existing weekday daily traffic volumes along the selected study area roadways are listed in Table 4.14-8 (Existing Weekday Average Daily Roadway Traffic Volumes) and are also illustrated in Figure 4.14-6 (Existing Weekday Average Daily Roadway Traffic Volumes).

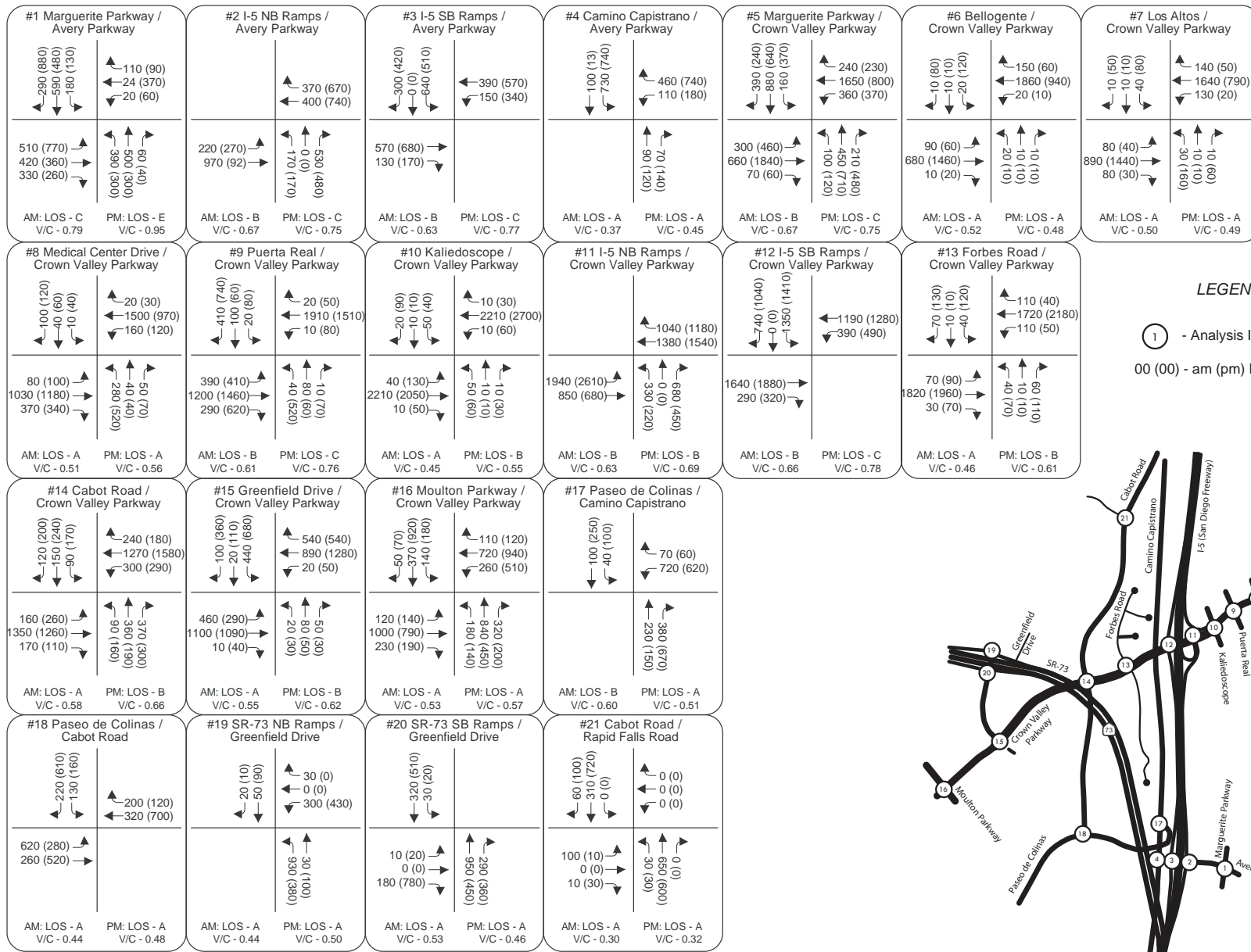
Table 4.14-7 Existing Weekday AM and PM Peak-Hour Intersection Volumes

No.	N/S Street	E/W Street	Peak Hour	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR	Total
1	Marguerite Pkwy	Avery Pkwy	AM	390	500	60	180	590	290	510	420	330	20	240	110	3,640
			PM	300	300	40	130	480	880	770	360	260	60	370	90	4,040
2	I-5 NB Ramps	Avery Pkwy	AM	170	0	530	0	0	0	220	970	0	0	400	370	2,660
			PM	170	0	480	0	0	0	270	920	0	0	740	670	3,250
3	I-5 SB Ramps	Avery Pkwy	AM	0	0	0	640	0	300	0	570	130	150	390	0	2,180
			PM	0	0	0	510	0	420	0	680	170	340	570	0	2,690
4	Camino Capistrano	Avery Pkwy	AM	0	90	70	730	100	0	0	0	0	110	0	460	1,560
			PM	0	120	140	740	130	0	0	0	0	180	0	740	2,050
5	Crown Valley Pkwy	Marguerite Pkwy	AM	100	450	210	160	880	390	300	660	70	360	1,650	240	5,470
			PM	120	710	480	370	640	240	460	1,840	60	370	800	230	6,320
6	Crown Valley Pkwy	Bellogente	AM	20	10	10	20	10	10	90	680	10	20	1,860	150	2,890
			PM	10	10	10	120	10	80	60	1,460	20	10	940	60	2,790
7	Crown Valley Pkwy	Los Altos	AM	30	10	10	40	10	10	80	890	80	130	1,640	140	3,070
			PM	160	10	60	80	10	50	40	1,440	30	20	790	50	2,740
8	Crown Valley Pkwy	Medical Center Road	AM	280	40	50	10	40	100	80	1,030	370	160	1,500	20	3,680
			PM	500	40	70	40	60	120	100	1,180	340	120	970	30	3,570
9	Crown Valley Pkwy	Puerta Real	AM	40	80	10	20	100	410	390	1,200	290	10	1,910	20	4,480
			PM	520	60	70	80	60	740	410	1,460	620	80	1,510	50	5,660
10	Crown Valley Pkwy	Kaleidoscope	AM	50	10	10	50	10	20	40	2,210	10	10	2,210	10	4,640
			PM	60	10	30	40	10	90	130	2,050	10	60	2,700	30	5,220
11	Crown Valley Pkwy	I-5 NB Ramps	AM	330	0	680	0	0	0	0	1,940	850	0	1,380	1,040	6,220
			PM	220	0	450	0	0	0	0	2,610	680	0	1,540	1,180	6,680
12	Crown Valley Pkwy	I-5 SB Ramps	AM	0	0	0	1,350	0	740	0	1,640	290	390	1,190	0	5,600
			PM	0	0	0	1,410	0	1,040	0	1,880	320	490	1,280	0	6,420

Table 4.14-7 Existing Weekday AM and PM Peak-Hour Intersection Volumes

No.	N/S Street	E/W Street	Peak Hour	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR	Total
13	Crown Valley Pkwy	Forbes Rd	AM	40	10	60	40	10	70	70	1,820	30	110	1,720	110	4,090
			PM	70	10	110	120	10	130	90	1,960	70	50	2,180	40	4,840
14	Crown Valley Pkwy	Cabot Rd	AM	90	360	370	90	150	120	160	1,350	170	300	1,270	240	4,670
			PM	160	190	300	170	240	200	260	1,260	110	290	1,580	180	4,940
15	Crown Valley Pkwy	Greenfield Dr	AM	20	80	50	440	20	100	460	1,100	10	20	890	540	3,730
			PM	30	50	30	680	110	36	290	1,090	40	50	1,280	540	4,226
16	Crown Valley Pkwy	Moulton Pkwy	AM	180	840	320	140	370	50	120	1,000	230	260	720	110	4,340
			PM	140	450	200	180	920	70	140	790	190	510	940	120	4,650
17	Cabot Road	Crown Valley Pkwy	AM	0	230	380	40	100	0	0	0	0	720	0	70	1,540
			PM	0	150	670	100	250	0	0	0	0	620	0	60	1,850
18	Camino Capistrano	Paseo De Colinas	AM	0	0	0	130	0	220	620	260	0	0	320	200	1,750
			PM	0	0	0	160	0	610	280	520	0	0	700	120	2,390
19	Greenfield Drive	SR-73 SB Ramps	AM	930	30	0	0	50	20	0	0	0	300	0	30	1,360
			PM	380	100	0	0	90	10	0	0	0	430	0	0	1,010
20	Greenfield Drive	SR-73 NB Ramps	AM	0	950	290	30	320	0	10	0	180	0	0	0	1,780
			PM	0	450	360	20	510	0	20	0	780	0	0	0	2,140
21	Cabot Road	Rapid Falls Road	AM	30	650	0	0	310	60	100	0	10	0	0	0	1,160
			PM	30	600	0	0	720	100	70	0	30	0	0	0	1,550

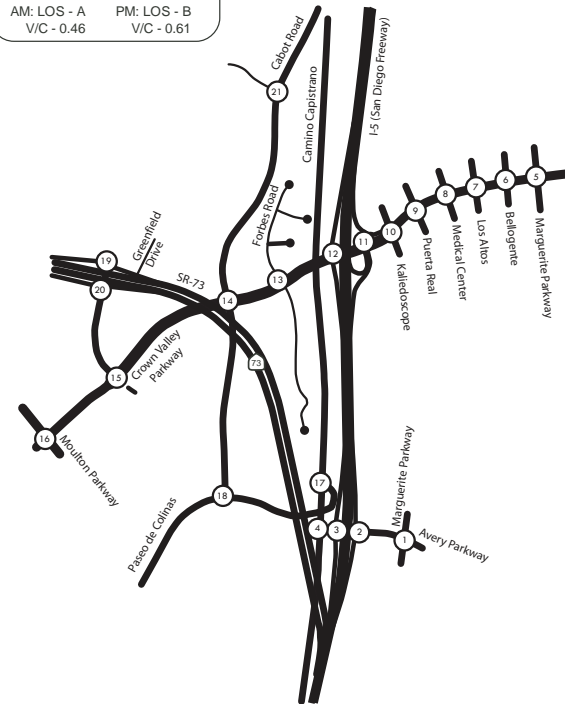
SOURCE: Iteris, Inc., Traffic Study for the Laguna Niguel Gateway Specific Plan Update (May 2011).



LEGEND

① - Analysis Intersection

00 (00) - am (pm) Peak-Hour Volume



Source: Iteris, Inc., 2011.

Figure 4.14-5 Existing Intersection Peak-Hour Turning Volumes

Table 4.14-8 Existing Weekday Average Daily Roadway Traffic Volumes

	<i>Street</i>	<i>From</i>	<i>To</i>	<i>2010 ADT</i>
1	Crown Valley Parkway	Glen Rock Drive	Greenfield Drive	40,210
2	Crown Valley Parkway	Greenfield Drive	Cabot Road	49,780
3	Crown Valley Parkway	Cabot Road	Forbes Road	59,700
4	Crown Valley Parkway	Forbes Road	I-5 SB Ramp	56,930
5	Crown Valley Parkway	I-5 NB Ramp	Puerta Real	63,900
6	Crown Valley Parkway	Puerta Real	Medical Center	49,400
7	Crown Valley Parkway	Los Altos	Marguerite Parkway	40,800
8	Avery Parkway	Camino Capistrano	I-5 SB Ramp	25,930
9	Avery Parkway	I-5 NB Ramp	Marguerite Parkway	33,290
10	Paseo De Colinas	El Sur	Cabot Road	25,010
11	Paseo De Colinas	Cabot Road	Camino Capistrano	17,400
12	Camino Capistrano	n/o Paseo De Colinas	—	5,850
13	Camino Capistrano	Paseo De Colinas	Avery Parkway	27,780
14	Camino Capistrano	s/o Avery Parkway	—	8,050
15	Forbes Road	n/o Crown Valley Parkway	—	6,650
16	Forbes Road	s/o Crown Valley Parkway	—	4,410
17	Cabot Road	Oso Parkway	Vista Viejo	14,780
18	Cabot Road	Vista Viejo	Crown Valley Parkway	13,570
19	Cabot Road	Crown Valley Parkway	Paseo De Colinas	15,100

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

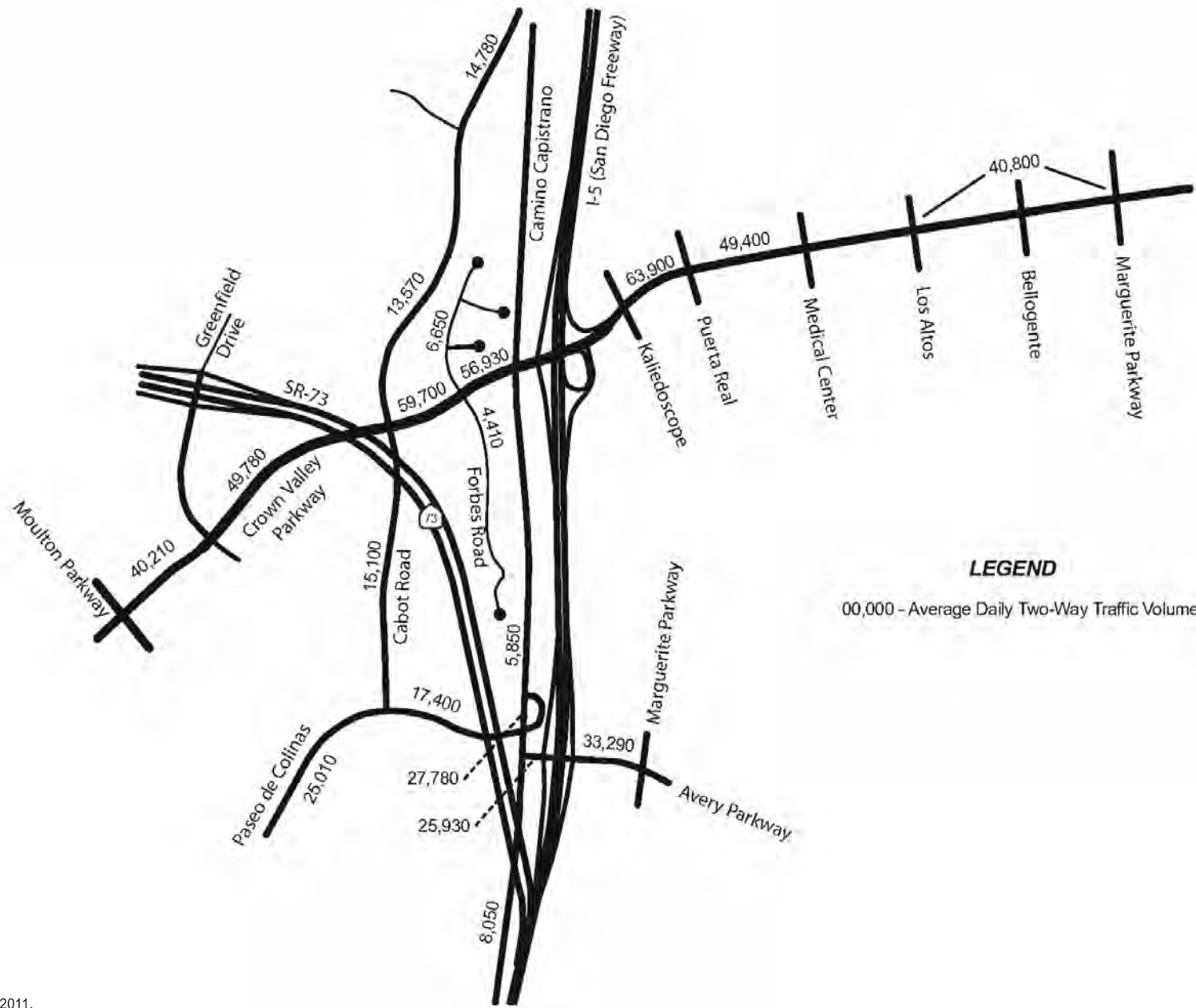
Roadway Segments

The daily operating conditions for selected street segments in the study area are listed in Table 4.14-11 (Existing Weekday Average Daily Roadway Traffic Volumes), below. The analysis indicates that all of the analyzed links in the study area are currently operating at acceptable conditions on a daily basis. The following three street sections are operating at LOS E (considered acceptable in accordance with the OC CMP):

- Crown Valley Parkway between Cabot Road and Forbes Road
- Avery Parkway between the I-5 Northbound Ramps and Marguerite Parkway
- Camino Capistrano between Paseo De Colinas and Avery Parkway



Source: Iteris, Inc., 2011.



LEGEND

00,000 - Average Daily Two-Way Traffic Volume

Figure 4.14-6 Existing Weekday Average Roadway Daily Traffic Volumes

Existing Intersection and Roadway Operating Conditions

Intersections

A summary of the existing intersections operating conditions (capacity analysis) using the ICU methodology is listed in Table 4.14-9 (Existing Weekday Peak-Hour Intersection Operating Conditions). As shown in the table, all of the intersections are currently operating at acceptable LOSs during the AM peak hour. However, the intersection of Marguerite Parkway and Avery Parkway is operating at a poor level of service in during the PM peak hour.

While the ICU methodology does not show any poor operating conditions during the AM peak hour, it should be noted that the I-5 Southbound Ramps and Crown Valley Parkway intersection is operating at LOS D based on the delay methodology during the evening commuter peak and that queuing between intersections at the I-5 ramps does impede some movements during the hour and limits the capacity of the interchange.

To quantify the delay at the study area intersections, the intersections were analyzed using Synchro and the HCM delay-based methodology. As shown in Table 4.14-10 (Existing Weekday Peak-Hour Intersection Delay), several of the intersections experience poorer levels of service based on delays because of a combination of large traffic volumes, close intersection spacing, large turning movements, and traffic signal phasing that limits the ability to more effectively progress traffic.

As shown in Table 4.14-10, all of the intersections, with the exception of Avery Parkway at Marguerite Parkway during the PM peak hour are currently operating at LOS D or better conditions. However, the intersections Los Altos and Medical Center Road on Crown Valley Parkway operate with split-phase traffic signal operation, where opposing through traffic and opposing left turns move under separate signal phases rather than at the same time. This split-phase operation limits the capacity of the intersections due the additional lost time that is introduced during each cycle. The additional lost time at each signal will increase delay and increase queuing lengths on the intersection approaches. This will become a substantial issue in the future as traffic volumes increase along the corridor.

Highways and Ramps

The Caltrans highways and ramps in the study area were evaluated using the HCM methodologies. The results of the analyses are presented as a density value of passenger cars per mile per lane. Using the LOS criteria presented in the previous section, the results are translated into an LOS value. As shown in Table 4.14-12 (Existing Highway Segment and Ramp Operating Conditions), all of the highway and ramps sections are working at acceptable levels (LOS D or better).

To evaluate the potential impacts of implementation of the Specific Plan Update, the Specific Plan area was divided into Planning Districts that somewhat mirror the Traffic Analysis Zone (TAZ) structure in the area. The TAZ system is the structure for assigning trips to and from areas in the Travel Demand Forecasting Model (see below). Figure 4.14-7 (Proposed Specific Plan Planning Districts) illustrates the proposed Planning Districts.

Table 4.14-9 Existing Weekday Peak-Hour Intersection Operating Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	v/c Ratio	LOS	v/c Ratio
1. Marguerite Parkway / Avery Parkway	C	0.79	E	0.95
2. I-5 NB Ramps / Avery Parkway	B	0.67	C	0.75
3. I-5 SB Ramps / Avery Parkway	B	0.63	C	0.77
4. Camino Capistrano / Avery Parkway	A	0.37	A	0.45
5. Crown Valley Parkway / Marguerite Parkway	B	0.67	C	0.75
6. Crown Valley Parkway / Bellogente	A	0.52	A	0.48
7. Crown Valley Parkway / Los Altos	A	0.50	A	0.49
8. Crown Valley Parkway / Medical Center	A	0.51	A	0.56
9. Crown Valley Parkway / Puerta Real	B	0.61	C	0.76
10. Crown Valley Parkway /Kaleidoscope	A	0.45	B	0.55
11. Crown Valley Parkway / I-5 NB Ramps	B	0.63	B	0.69
12. Crown Valley Parkway / I-5 SB Ramps	B	0.66	C	0.78
13. Crown Valley Parkway / Forbes Road	A	0.46	B	0.61
14. Crown Valley Parkway / Cabot Road	A	0.58	B	0.66
15. Crown Valley Parkway / Greenfield Drive	A	0.55	B	0.62
16. Crown Valley Parkway / Moulton Parkway	A	0.53	A	0.57
17. Cabot Road / Paseo De Colinas	B	0.60	A	0.51
18. Camino Capistrano / Paseo De Colinas	A	0.44	A	0.48
19. SR-73 SB Ramps / Greenfield Drive	A	0.44	A	0.50
20. SR-73 NB Ramps / Greenfield Drive	A	0.53	A	0.46
21. Cabot Road / Rapid Falls Road	A	0.30	A	0.32

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

Table 4.14-10 Existing Weekday Peak-Hour Intersection Delay

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Average Vehicular Delay (sec.)	LOS	Average Vehicular Delay (sec.)
1. Marguerite Parkway / Avery Parkway	D	42.0	E	73.9
2. I-5 NB Ramps / Avery Parkway	C	22.7	B	16.6
3. I-5 SB Ramps / Avery Parkway	C	20.1	C	22.3
4. Camino Capistrano / Avery Parkway	A	7.7	B	11.8
5. Crown Valley Parkway / Marguerite Parkway	D	39.6	D	47.7
6. Crown Valley Parkway / Bellogente	B	11.2	A	6.5
7. Crown Valley Parkway / Los Altos	C	20.7	C	30.8
8. Crown Valley Parkway / Medical Center	D	44.3	D	48.6
9. Crown Valley Parkway / Puerta Real	C	20.3	D	43.3

Table 4.14-10 Existing Weekday Peak-Hour Intersection Delay

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Average Vehicular Delay (sec.)	LOS	Average Vehicular Delay (sec.)
10. Crown Valley Parkway /Kaleidoscope	B	12.5	C	34.9
11. Crown Valley Parkway / I-5 NB Ramps	C	33.6	C	25.7
12. Crown Valley Parkway / I-5 SB Ramps	C	28.0	D	38.8
13. Crown Valley Parkway / Forbes Road	C	22.0	C	22.4
14. Crown Valley Parkway / Cabot Road	C	28.3	C	32.5
15. Crown Valley Parkway / Greenfield Drive	C	33.5	C	34.4
16. Crown Valley Parkway / Moulton Parkway	C	30.0	C	32.4
17. Cabot Road / Paseo De Colinas	C	20.6	B	16.4
18. Camino Capistrano / Paseo De Colinas	C	21.7	B	19.8
19. SR-73 SB Ramps / Greenfield Drive	A	4.8	A	9.4
20. SR-73 NB Ramps / Greenfield Drive	C	22.7	C	29.9
21. Cabot Road / Rapid Falls Road	A	9.8	A	7.2

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

Table 4.14-11 Existing Weekday Average Daily Roadway Traffic Volumes

No.	Street	From	To	Capacity	2010 ADT	v/c Ratio	LOS
1	Crown Valley Parkway	Glen Rock Drive	Greenfield Drive	56,000	40,210	0.72	C
2	Crown Valley Parkway	Greenfield Drive	Cabot Road	56,000	49,780	0.89	D
3	Crown Valley Parkway	Cabot Road	Forbes Road	65,700	59,700	0.91	E
4	Crown Valley Parkway	Forbes Road	I-5 SB Ramp	65,700	56,930	0.87	D
5	Crown Valley Parkway	I-5 NB Ramp	Puerta Real	75,000	63,900	0.85	D
6	Crown Valley Parkway	Puerta Real	Medical Center	75,000	49,400	0.66	B
7	Crown Valley Parkway	Los Altos	Marguerite Parkway	75,000	40,800	0.54	A
8	Avery Parkway	Camino Capistrano	I-5 SB Ramp	36,000	25,930	0.72	C
9	Avery Parkway	I-5 NB Ramp	Marguerite Parkway	36,000	33,290	0.92	E
10	Paseo De Colinas	El Sur	Cabot Road	36,000	25,010	0.69	B
11	Paseo De Colinas	Cabot Road	Camino Capistrano	36,000	17,400	0.48	A
12	Camino Capistrano	n/o Paseo De Colinas	—	13,000	5,850	0.45	A
13	Camino Capistrano	Paseo De Colinas	Avery Parkway	30,000	27,780	0.93	E
14	Camino Capistrano	s/o Avery Parkway	—	18,000	8,050	0.45	A
15	Forbes Road	n/o Crown Valley Parkway	—	13,000	6,650	0.51	A
16	Forbes Road	s/o Crown Valley Parkway	—	13,000	4,410	0.34	A
17	Cabot Road	Oso Parkway	Vista Viejo	37,500	14,780	0.39	A
18	Cabot Road	Vista Viejo	Crown Valley Parkway	37,500	13,570	0.36	A
19	Cabot Road	Crown Valley Parkway	Paseo De Colinas	37,500	15,100	0.40	A

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

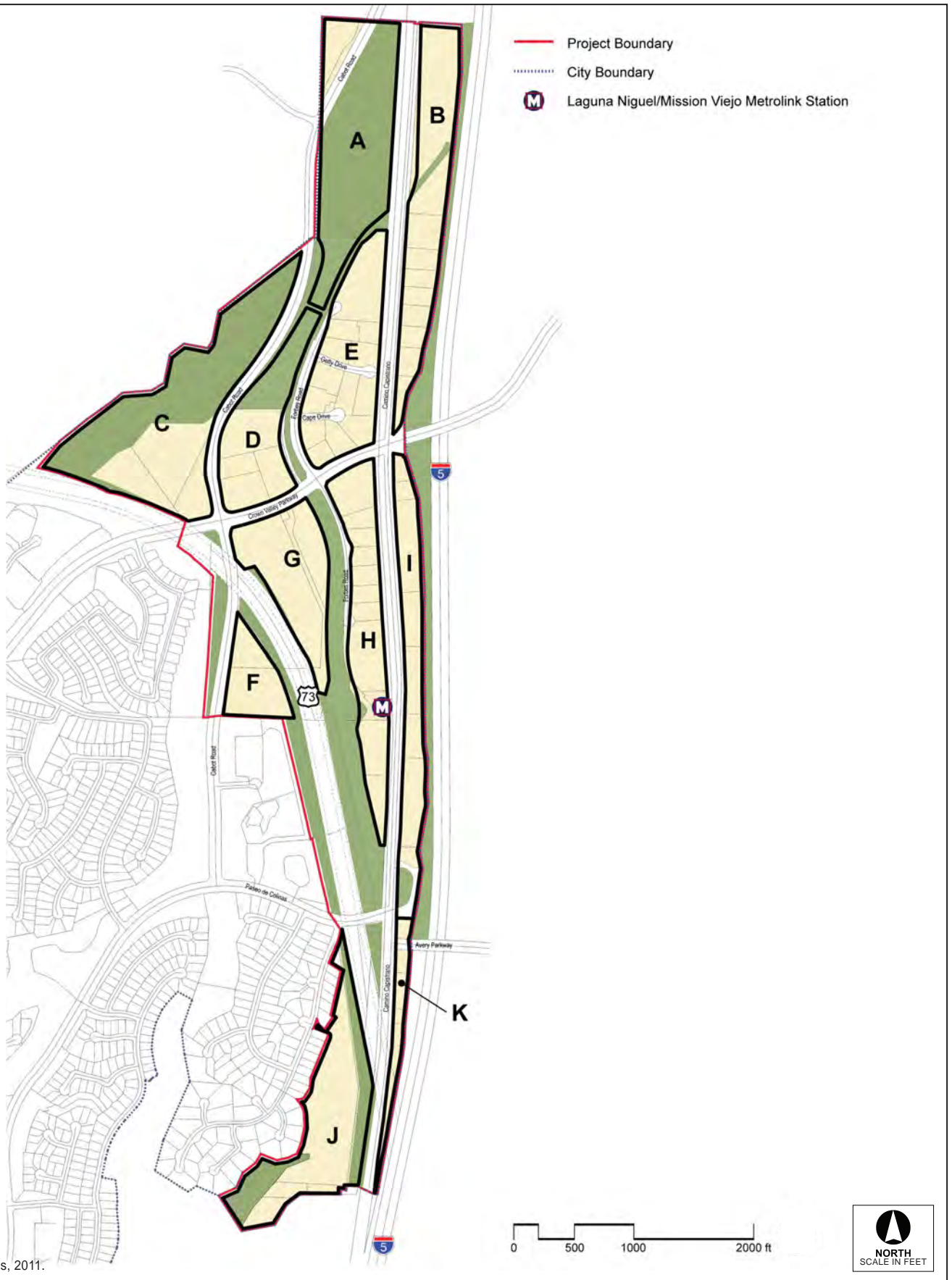
Table 4.14-12 Existing Highway Segment and Ramp Operating Conditions

<i>Analysis Type and Location</i>	<i>Period</i>	<i>Density (pc/mi/ln)*</i>	<i>Level of Service</i>
Freeway Segments			
Northbound I-5 north of Crown Valley Parkway	AM	24.3	C
	PM	27.2	D
Southbound I-5 north of Crown Valley Parkway	AM	27.1	D
	PM	32.4	D
Southbound SR-73 north of Greenfield Drive	AM	6.0	A
	PM	19.0	C
Northbound SR-73 north of Greenfield Drive	AM	22.6	C
	PM	7.0	A
Weaving Segments			
Southbound I-5—Crown Valley Parkway to Avery Parkway	AM	30.68	D
	PM	26.06	C
Northbound I-5—Avery Parkway to Crown Valley Parkway	AM	25.63	C
	PM	26.16	C
Ramp Merge Sections			
Southbound I-5—Avery Parkway On-Ramp	AM	16.4	B
	PM	20.4	C
Northbound I-5—Eastbound Crown Valley Parkway On-Ramp	AM	21.9	C
	PM	23.2	C
Northbound SR-73—Greenfield Drive On-Ramp	AM	22.1	C
	PM	7.5	A
Southbound SR-73—Greenfield Drive On-Ramp	AM	6.7	A
	PM	14.6	B
Ramp Diverge Sections			
Southbound I-5—Crown Valley Parkway Off-Ramp	AM	3.2	A
	PM	12.4	A
Northbound I-5—Avery Parkway Off-Ramp	AM	3.1	A
	PM	4.2	A
Northbound SR-73—Greenfield Drive Off-Ramp	AM	27.5	B
	PM	11.8	A
Southbound SR-73—Greenfield Drive Off-Ramp	AM	7.7	A
	PM	25.4	B

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

* pc/mi/ln = passenger cars/per mile/per lane

Source: Atkins, 2011.



- Project Boundary
- City Boundary
- M Laguna Niguel/Mission Viejo Metrolink Station

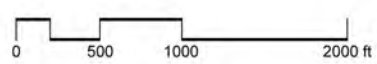


Figure 4.14-7
Proposed Specific Plan Planning Districts

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Regional Travel Demand Forecast Model

To provide a common base for comparison between the 1999 Specific Plan and the proposed Specific Plan Update land use scenario, traffic projections for the 1999 Specific Plan land uses and the proposed Specific Plan Update were assigned to the area street network using the Year 2035 Laguna Niguel/South County Sub-Area Model (SCSAM) operated by Austin-Foust Associates, Inc. (AFA). The two plans were assigned using a calibrated Year 2010 base to develop traffic assignments that consider growth and development that is projected to occur between 2010 and the build-out of the 1999 Specific Plan and the proposed Specific Plan Update.

Analysis Model

Traffic volumes in the vicinity of the Gateway Area have increased significantly since the 1999 Specific Plan was adopted. This increase is due to several factors including the construction of the Ladera Ranch development, increased enrollment at Saddleback College, and other regional growth.

To project future traffic conditions in a manner consistent with the 1999 Specific Plan and other recent planning efforts in the region, the traffic model for the area was used to assign future traffic estimates for both the 1999 Specific Plan and the proposed Specific Plan Update. The model incorporates numerous area traffic and land use changes that have been identified for the build-out at Year 2035.

The new model runs Project Year 2035 conditions are based on the latest version of the SCSAM/LNTM traffic model. As part of that model, the following assumptions were included in the model run:

- Build-out of Ladera Ranch
- Build-out of the approved Ranch Plan (Rancho Mission Viejo)
- Mission Hospital expansion
- FTC-S corridor (A7FEC Alignment) and La Pata Ave
- Committed improvements (i.e., those that are funded and will be completed by 2015)
- The Saddleback Connector ramps, identified in the Ladera Ranch Mitigation Program, are not included

Several regional transportation planning studies have been or are being carried out in the south Orange County area, all of which utilized the SCSAM traffic model to produce forecast data for the horizon year (2035 and beyond). The forecast data presented for the proposed Specific Plan Update is consistent with that used for the following transportation studies:

- The South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) analysis, which analyzed various scenarios for the extension of the SR-241
- La Pata Avenue Gap Closure and Camino Del Rio Extension traffic study SR-74 Ortega Widening
- Antonio Parkway Widening Project
- I-5 Widening from El Toro Y to SR-73 Project Study Report/Project Development Support (PSR/PDS)
- I-5 HOV Lane Extension Project Approval/Environmental Document

Model Assumptions

AFA provided the following information to document the land use and network changes that have occurred in the updating of the traffic model from year 2025 (the 1999 Specific Plan model build-out year) to year 2035 (the proposed Specific Plan Update build-out year).

The year 2035 model runs use General Plan land use for the Cities of Mission Viejo, San Juan Capistrano, Laguna Niguel and San Clemente and the approved land use plans for both Ladera Ranch and The Ranch Plan by Rancho Mission Viejo.

The network assumes a committed circulation system (i.e., improvements that are included in a capital improvement program or projects that are currently funded by Caltrans) plus those improvements that are conditions of approval for development. Also included are improvements that have a reasonable assurance of being built prior to the year 2035 by a specific funding source.

Table 4.14-13 (Traffic Model Assumptions) summarizes the committed circulation system changes from existing conditions that were used in the future year model runs.

The 2035 model runs also assume a set of intersection improvements that were approved as a condition of development for the Ranch Plan by Rancho Mission Viejo and are now part of the SCRIP improvements. The Saddleback Connector ramps, which were considered as potential traffic mitigation for both Ladera Ranch and the Ranch Plan, are not included in the analyses since the ramps are speculative and listed in OCTA's South County MIS as "to be studied further."

The 2035 forecast data was calibrated for the intersections within the Specific Plan area using the May 2010 count data.

Roadway Improvements

The intersection and roadway analyses were conducted using two scenarios. The first scenario includes the existing roadway system and committed improvements only, as described in Table 4.14-13, and including the completion of the current project to widen the south side of Crown Valley Parkway between Cabot Road and the I-5 Northbound Ramps. The second scenario assumes the ultimate widening of Crown Valley Parkway and completion of all roadway improvements identified in the Circulation and Mobility Plan of the Specific Plan. The circulation improvement program includes arterial and freeway access improvements as well as widening of several Specific Plan area roadways. The following improvements would be included as part of the proposed Specific Plan Update project, full details of the ultimate improvements may be found in Section 2 of Appendix E (Traffic Impact Study):

- Crown Valley Parkway (street widening to four through lanes and bike lanes, from west of Cabot Road to the I-5 interchange)
- Cabot Road (bike lanes, street widening at the intersection with Crown Valley Parkway and additional turn lanes)
- Forbes Road (multi-use trail, street widening at the intersection with Crown Valley Parkway and additional turn lanes)
- Camino Capistrano (streetscape improvements and on-street parking reconfiguration)
- Getty Drive (streetscape improvements)

Table 4.14-13 Traffic Model Assumptions

<i>Location</i>	<i>Description</i>	<i>Model Status</i>	<i>Notes</i>
Freeway/Corridor			
SR-241 Extension	CP Alignment A7FEC Alignment	Used the assumptions that are included in the latest OCTAM to be consistent with those assignments.	A7FEC is the preferred design/build plan per TCA/Caltrans
I-5/Saddleback Connectors	I-5 Connectors (to/from the north)(Ladera Ranch Mitigation Program)	Not included.	South County Roadway Improvement Program (SCRIP Improvement)
Arterial			
A Street	Two-lane roadway from Oso Parkway to Cow Camp Road	Included in model	Ranch Plan EIR—Planned Circulation
A Street	Noncontiguous roadway that leads to Cow Camp Road (east of Antonio Parkway)	Included in model	Ranch Plan—Circulation Plan per Settlement Agreement
C Street	North-South roadway that extends south across Ortega Highway down into the Cristianitos Planning Area, and connects to the easterly termination point of Avenida Pico.	Included in model	Ranch Plan EIR—Planned Circulation
SR-241/ C Street Interchange	Proposed interchange north of Cow Camp Road	Included assuming that SR-241 is completed at least to Avenida Pico by 2035	Ranch Plan EIR—Planned Circulation
C Street	Roadway realigned in 2030 to parallel the A7FEC alignment of the corridor.	Included in model	Ranch Plan—Circulation Plan after Settlement Agreement
SR-241/ D Street	Proposed interchange south of Ortega Highway	Included assuming that SR-241 is completed at least to Avenida Pico by 2035	Ranch Plan- Circulation Plan after Settlement Agreement
Connection of Camino Capistrano to Cabot	Connection between the northern terminus of Camino Capistrano and Cabot Road	Not included based on current lack of funding for the project.	City of Mission Viejo plan
Crown Valley Parkway	Widening of the south side (east bound) of Crown Valley Parkway, to add one through lane between Cabot Road and the north-bound on-ramp	Included in the model	Project to commence in fall of 2011

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

- Cape Drive (streetscape improvements)
- Providing sidewalks and pedestrian connections within the Specific Plan area
- Extension of the Oso Creek multi-purpose trail through the Specific Plan area
- Expansion of the Metrolink station parking facilities

Other elements of the circulation and mobility plan provide a comprehensive set of policies that recognize the need for a multi-modal approach to mobility in the community. Two key elements of this approach are the use of Transportation Demand Management (TDM) and the promotion and enhancement of alternative travel mode facilities.

Trip Generation—Project Trip Characteristics

With the pedestrian and bicycle connectivity between the various planning districts, some trips between uses will be able to be diverted from vehicular trips to non-motorized travel (walking, bicycle, etc.). These will be the “internal” trips generated by the Specific Plan land uses. Based on the model trip linkages between uses, the approximate reductions in auto traffic are listed in Table 4.14-14 (Internal Trip Capture). These trips are included in the overall trip generation, but are assigned within the model as trips between adjacent TAZ’s without using the roadway network or are assigned through analyzed intersections in the model.

Table 4.14-14 Internal Trip Capture		
<i>Planning District</i>	<i>Trip End Reduction Percentage</i>	<i>Approximate Number of Daily Trip Ends</i>
B	2	45
C	2	105
D*	4	145
E	2	350
F	1	30
G**	3	195
H	5	755
I	5	315
K	2	75
<i>Subtotal Trip Ends</i>		<i>2,015</i>
Linked Trip Ends		2,015
Total Trip Ends		4,030

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

* Capture does not include hotel trips.

** Capture limited to residential and non-wholesale commercial trips.

The trips generated by the proposed project are based on rates and factors in the travel forecasting model. Table 4.14-15 (Proposed Specific Plan Build-Out Trip Generation Summary) summarizes trip generation by land use. It is important to note that the trips calculated in these tables are actually trip ends, or the end of a trip (origin or destination) that is located within the Specific Plan area. For trips that have both ends of the trip within the Specific Plan area both the originating end and destination end of the trip need to be accounted for as an internal trip that does not use the area roadway system for access or circulation. As shown in the table, the proposed project would generate a total of approximately 74,937 daily trips. Currently, development within the Gateway area generates approximately 32,000 daily trips.

Table 4.14-15 Proposed Specific Plan Build-Out Trip Generation by Land Use

Land Use Type	Size	Units	AM Peak Hour			PM Peak Hour			Daily Trips
			In	Out	Total	In	Out	Total	
2. Multi-Family Attached	2,994	du	389	1,498	1,887	1,586	840	2,426	24,251
4. General Commercial	407.58	tsf	257	162	419	734	790	1,524	17,494
8. Lt. Manuf/Business Park	399.69	tsf	292	64	356	76	292	368	2,782
12. General Office	1,141.09	tsf	1,563	217	1,780	284	1,416	1,700	12,564
17. Auto Sales-New	17.80	acre	187	80	267	171	256	427	5,340
21. Hotel	350	room	119	77	196	112	102	214	2,880
37. Wholesale	124.07	tsf	62	19	81	231	241	472	5,186
61. Metrolink Transit	1,200	ps	396	180	576	216	300	516	4,440
Total	—	—	3,265	2,297	5,562	3,410	4,237	7,647	74,937

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).
 du = dwelling unit; tsf = thousand square feet; ps = passengers

Overall, these trips represent an equivalent of an approximately 2 percent reduction in the total trips, or 4 percent of the trip ends, generated by the entire Specific Plan area. These reductions do not include the number of auto trips that are not generated due to the transit-oriented nature of the development and the interactions between the rail and bus facilities and the adjacent residential uses. A comparison of the trip generation rates used in the regional forecasting model versus trip rates published by the Institute of Transportation Engineers (ITE) in its publication, *Trip Generation, An ITE Informational Report*, 8th Edition, is provided in the appendix of the *Traffic Study for the Laguna Niguel Gateway Specific Plan Update*, prepared for the proposed project. As shown in the Appendix table, based on the trip rates, the SCSAM model does not include any transit reduction for land uses beyond a reduction in residential trip making. Therefore, the trips generated and assigned to the local and regional roadway network represent a worst-case analysis scenario.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this PEIR, implementation of the proposed project may have a significant adverse impact on transportation/traffic if it would:

- 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 nonmotorized 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, level of service 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
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

■ **Effects Found to Have No Impact**

Threshold	Would the proposed project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
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The closest major airport is John Wayne Airport. This airport has domestic flights from Santa Ana, California and is about 14 miles from the center of Laguna Niguel. The Specific Plan area is not within this airport’s Land Use Plan. Therefore, implementation of the proposed project would not result in a change in air traffic patterns and there would be *no impact*.

Threshold	Would the proposed project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
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The proposed Specific Plan would accommodate a total of up to 2,994 residential dwelling units and 2,259,931 square feet (sf) of nonresidential uses. The proposed project must be consistent with the goals, policies, and implementation programs of the City of Laguna Niguel General Plan as well as the regulations contained in the Municipal Code and the design review guidelines contained therein, to ensure public safety. Development under the Specific Plan would be subject to the City’s design review and/or plan check process, where consistency with General Plan policies, design guidelines, and the Municipal Code would be determined. If any dangerous intersections or sharp curves that would present a risk to public safety are identified in the project design, alterations would be required to eliminate the hazard prior to approval of the project and issuance of grading or building permits. Surrounding land uses consist of large-scale retail developments. Development under the Specific Plan would not represent an incompatible use with adjacent land uses. Therefore, there would be *no impact*.

■ **Impacts and Mitigation Measures**

Threshold	Would the proposed project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized 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?
-----------	--

Impact 4.14-1 **Implementation of the proposed project would 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 nonmotorized 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. This would be a potentially significant impact. Implementation of mitigation would reduce this impact, but not to a less-than-significant level. Therefore, this would be a *significant and unavoidable* impact.

The Year 2035 build-out traffic volumes for the proposed Specific Plan Update represent the build-out of the Specific Plan area under the proposed zoning and land use plan, or the With Project condition. A summary of the AM and PM peak-hour intersection turning volumes is listed in Table 4.14-16 (Year 2035 With Project Weekday AM and PM Peak Hour Intersection Volumes) and is illustrated in Figure 4.14-8 (Year 2035 With Project Intersection Peak-Hour Volumes). A summary of the roadway segment volumes is illustrated in Figure 4.14-9 (Year 2035 With Project Roadway Average Daily Traffic Volumes).

Access from the surrounding regional and arterial roadway system will be essentially the same as exists today. Access to the Forbes Road areas will be from Crown Valley Parkway, with non-vehicular access and circulation to those areas via Camino Capistrano and Cabot Road. Parcels fronting Cabot Road or Camino Capistrano will have direct access from those roadways. The expansion of several intersections and widening of Crown Valley Parkway is proposed to accommodate the expected increase in traffic volumes over 2010 levels.

Intersection Analysis

Intersection v/c Ratio (ICU methodology)

Table 4.14-17 summarizes the study area intersection operating conditions at build-out, both with the committed improvements and the ultimate roadway improvements. As shown in the table, two intersections would not operate at the City's *target* LOS C: the intersections at both Greenfield Drive and Moulton Parkway, as discussed previously in the General Plan Consistency Analysis. However, both of these intersections would operate at the acceptable General Plan *threshold* LOS D, and therefore, would not be considered a significant impact. As shown in Table 4.14-17, all intersections located within the Specific Plan area, and within the City of Laguna Niguel, are projected to operate at an acceptable LOS. For comparison purposes, Table 4.14-18 includes both existing and year 2035 (with ultimate roadway improvements) intersection operating conditions.

As shown in Table 4.14-17, four study area intersections that are located within the City of Mission Viejo, beyond the boundaries of the Gateway Specific Plan area, are projected to operate at levels below the Mission Viejo General Plan adopted significance threshold of LOS D:

- Crown Valley Parkway and Marguerite Parkway (LOS F)
- Crown Valley Parkway and Los Altos (LOS E)
- Crown Valley Parkway and Medical Center Road (LOS E)
- Avery Parkway and Marguerite Parkway (LOS F)

Table 4.14-16 Year 2035 With Proposed Specific Plan Weekday AM and PM Peak Hour Intersection Volumes

No.	N/S Street	E/W Street	Peak Hour	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR	Total
1	Marguerite Pkwy	Avery Pkwy	AM	586	606	182	192	656	323	586	545	535	50	252	121	4,634
			PM	454	465	40	141	616	899	788	838	343	182	394	101	5,261
2	I-5 NB Ramps	Avery Pkwy	AM	293	0	545	0	0	0	242	1,313	0	0	687	454	3,534
			PM	333	0	586	0	0	0	283	1,293	0	0	909	687	4,091
3	I-5 SB Ramps	Avery Pkwy	AM	0	0	0	656	0	313	0	838	384	212	747	0	3,150
			PM	0	0	0	545	0	434	0	1,000	343	374	919	0	3,615
4	Camino Capistrano	Avery Pkwy	AM	0	91	172	1,071	182	0	0	0	0	384	0	545	2,445
			PM	0	202	374	949	151	0	0	0	0	343	0	879	2,898
5	Crown Valley Pkwy	Marguerite Pkwy	AM	212	515	505	222	889	939	566	1,293	81	616	2,656	596	9,090
			PM	131	727	656	586	667	353	1,040	2,485	283	687	2,060	242	9,917
6	Crown Valley Pkwy	Bellogente	AM	20	10	10	30	10	40	111	1,879	10	30	3,666	162	5,978
			PM	10	10	10	131	10	101	71	3,767	20	10	2,485	71	6,696
7	Crown Valley Pkwy	Los Altos	AM	40	10	91	50	20	61	162	1,858	323	475	2,919	303	6,312
			PM	515	20	313	222	30	121	91	3,282	81	172	2,394	61	7,302
8	Crown Valley Pkwy	Medical Center	AM	283	50	101	30	50	111	172	2,222	394	343	2,525	131	6,412
			PM	505	50	192	81	71	172	121	3,202	353	252	2,687	91	7,777
9	Crown Valley Pkwy	Puerta Real	AM	50	91	81	152	91	424	485	2,262	303	61	2,597	101	6,698
			PM	525	71	344	142	71	757	444	2,890	636	313	2,566	252	9,011
10	Crown Valley Pkwy	Kaleidoscope	AM	50	10	30	30	10	50	40	2,879	10	40	3,011	10	6,170
			PM	60	10	30	80	10	90	130	3,729	10	60	3,567	100	7,876
11	Crown Valley Pkwy	I-5 NB Ramps	AM	555	0	747	0	0	0	0	2,182	1121	0	1,616	1,495	7,716
			PM	263	0	465	0	0	0	0	3,403	959	0	1,980	1,737	8,807
12	Crown Valley Pkwy	I-5 SB Ramps	AM	0	0	0	1,374	0	757	0	1,990	343	465	1,697	0	6,626
			PM	0	0	0	1,939	0	1,576	0	2,424	353	626	1,606	0	8,524

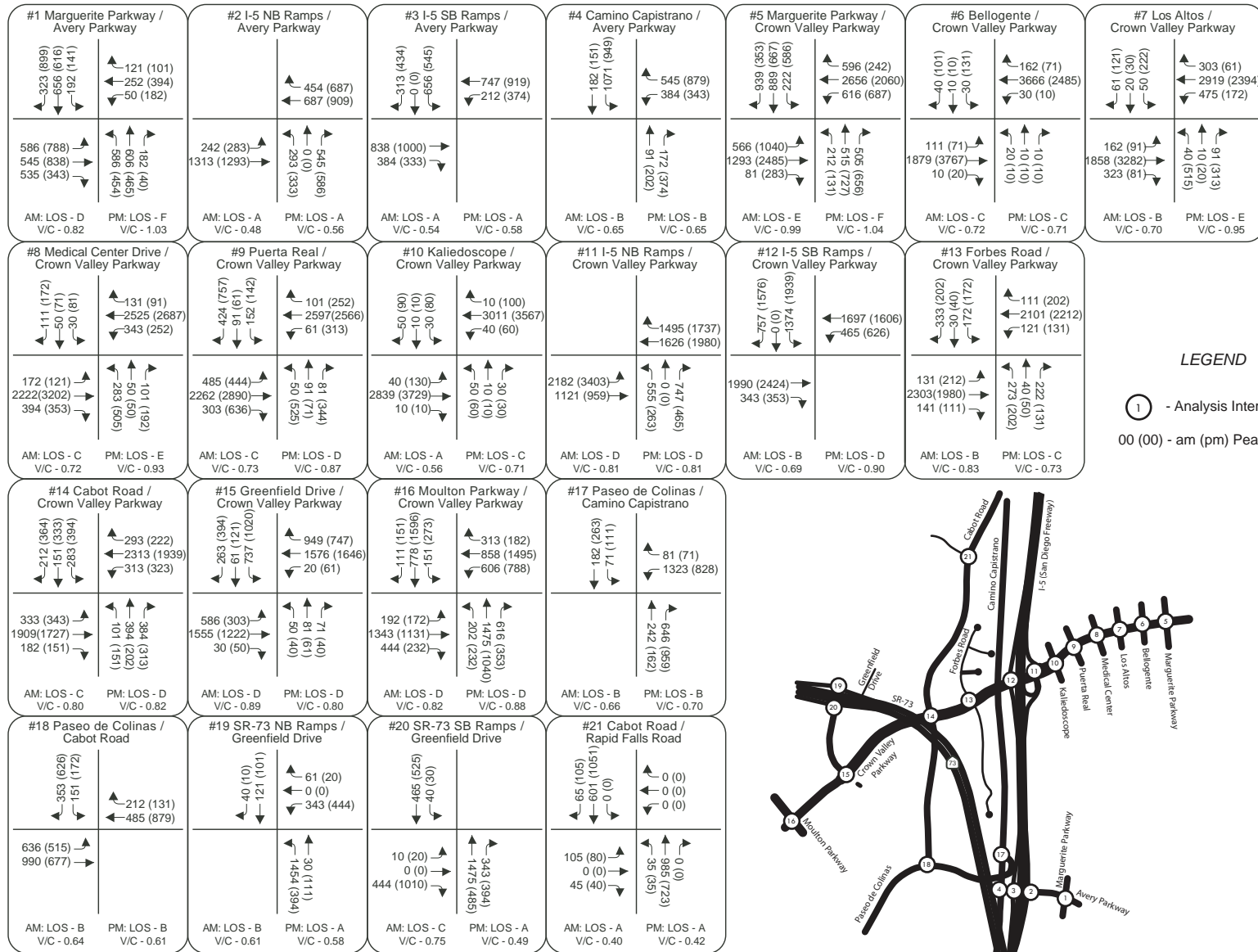
Table 4.14-16 Year 2035 With Proposed Specific Plan Weekday AM and PM Peak Hour Intersection Volumes

No.	N/S Street	E/W Street	Peak Hour	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR	Total
13	Crown Valley Pkwy	Forbes Rd	AM	273	40	222	172	30	333	131	2,303	141	121	2,101	111	5,978
			PM	202	50	131	172	40	202	212	1,980	111	131	2,212	202	5,645
14	Crown Valley Pkwy	Cabot Rd	AM	101	394	384	283	151	212	333	1,909	182	313	2,313	293	6,868
			PM	151	202	313	394	333	364	343	1,727	151	323	1,939	222	6,462
15	Crown Valley Pkwy	Greenfield Dr	AM	50	81	71	737	61	263	586	1,555	30	20	1,576	949	5,979
			PM	40	61	40	1,020	121	394	303	1,222	50	61	1,646	747	5,705
16	Crown Valley Pkwy	Moulton Pkwy	AM	202	1,475	616	151	778	111	192	1,343	444	606	858	313	7,089
			PM	232	1,040	353	273	1,596	151	172	1,131	232	788	1,495	182	7,645
17	Cabot Road	Crown Valley Parkway	AM	0	242	646	71	182	0	0	0	0	1,323	0	81	2,545
			PM	0	162	959	111	263	0	0	0	0	828	0	71	2,394
18	Camino Capistrano	Paseo De Colinas	AM	0	0	0	151	0	353	636	990	0	0	485	212	2,827
			PM	0	0	0	172	0	626	515	677	0	0	879	131	3,000
19	Greenfield Drive	SR-73 SB Ramps	AM	1,454	30	0	0	121	40	0	0	0	343	0	61	2,049
			PM	394	111	0	0	101	10	0	0	0	444	0	20	1,080
20	Greenfield Drive	SR-73 NB Ramps	AM	0	1,475	343	4	465	0	10	0	444	0	0	0	2,741
			PM	0	485	394	30	525	0	20	0	1,010	0	0	0	2,464
21	Cabot Road	Rapid Falls Road	AM	35	985	0	0	601	65	105	0	45	0	0	0	1,836
			PM	35	732	0	0	1,051	105	80	0	40	0	0	0	2,043
															Total AM	106,677
															Total PM	118,213

SOURCE: Iteris, Inc., Traffic Study for the Laguna Niguel Gateway Specific Plan Update (May 2011).



Source: Iteris, Inc., 2011.



LEGEND

① - Analysis Intersection

00 (00) - am (pm) Peak-Hour Volume

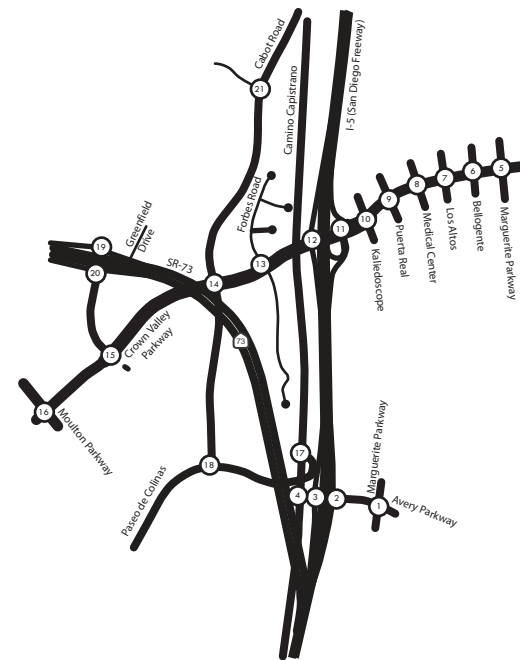


Figure 4.14-8

Year 2035 With Project Intersection Peak-Hour Volumes



Source: Iteris, Inc., 2011.

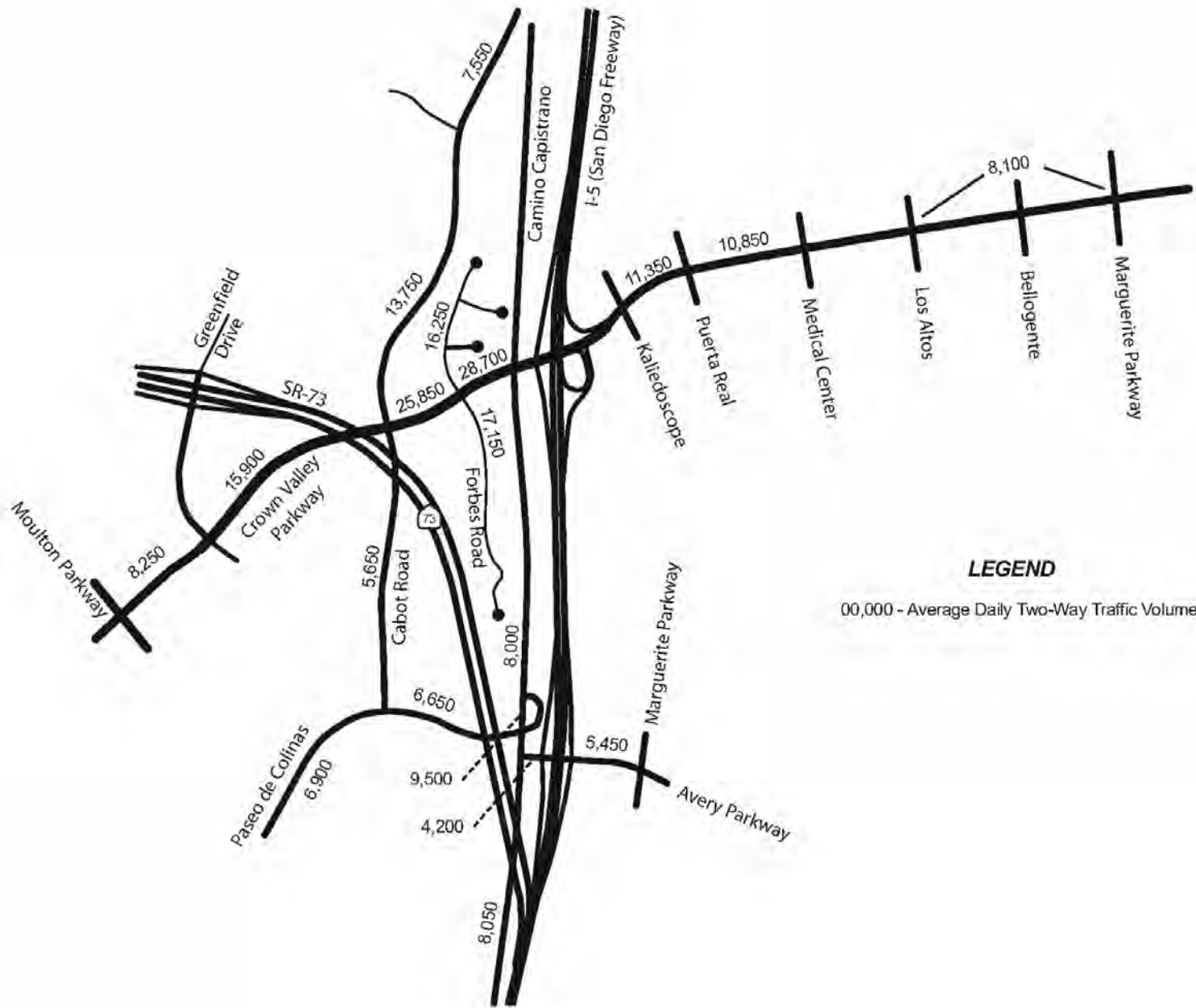


Figure 4.14-9
Year 2035 With Project Roadway Average Daily Traffic Volumes

Table 4.14-17 Year 2035 With Proposed Specific Plan Weekday Peak Hour Intersection Operating Conditions

Intersection	With Committed Roadway Improvements				With Ultimate Roadway Improvements			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	v/c Ratio	LOS	v/c Ratio	LOS	v/c Ratio	LOS	v/c Ratio
1. Marguerite Parkway / Avery Parkway	D	0.82	F	1.03	D	0.82	F	1.03
2. I-5 NB Ramps / Avery Parkway	A	0.48	A	0.56	A	0.48	A	0.56
3. I-5 SB Ramps / Avery Parkway	A	0.54	A	0.58	A	0.54	A	0.58
4. Camino Capistrano / Avery Parkway	B	0.65	B	0.65	B	0.65	B	0.65
5. Crown Valley Parkway / Marguerite Parkway	E	0.99	F	1.04	E	0.99	F	1.04
6. Crown Valley Parkway / Bellogente	C	0.72	C	0.71	C	0.72	C	0.71
7. Crown Valley Parkway / Los Altos	C	0.70	E	0.95	C	0.70	E	0.95
8. Crown Valley Parkway / Medical Center	C	0.72	E	0.93	C	0.72	E	0.93
9. Crown Valley Parkway / Puerta Real	C	0.73	D	0.87	C	0.73	D	0.87
10. Crown Valley Parkway /Kaleidoscope	A	0.56	C	0.71	A	0.56	C	0.71
11. Crown Valley Parkway / I-5 NB Ramps	D	0.81	D	0.82	D	0.81	D	0.82
12. Crown Valley Parkway / I-5 SB Ramps	B	0.69	D	0.90	B	0.69	D	0.90
13. Crown Valley Parkway / Forbes Road ^a	D	0.83	C	0.73	C	0.75	B	0.67
14. Crown Valley Parkway / Cabot Road ^a	C	0.80	D	0.82	B	0.69	C	0.73
15. Crown Valley Parkway / Greenfield Drive	D	0.89	D	0.80	D	0.89	D	0.80
16. Crown Valley Parkway / Moulton Parkway	D	0.82	D	0.88	D	0.82	D	0.88
17. Cabot Road / Paseo De Colinas	B	0.67	B	0.70	B	0.67	B	0.70
18. Camino Capistrano / Paseo De Colinas	B	0.64	B	0.61	B	0.64	B	0.61
19. SR-73 SB Ramps / Greenfield Drive	B	0.61	A	0.58	B	0.61	A	0.58
20. SR-73 NB Ramps / Greenfield Drive	C	0.75	A	0.49	C	0.75	A	0.49
21. Cabot Road / Rapid Falls Road	A	0.40	A	0.42	A	0.40	A	0.42

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

a. This intersection would experience reduced v/c ratio and improved LOS with the ultimate roadway improvements.

Table 4.14-18 Weekday Peak Hour Intersection Operating Conditions—Existing Vs. Specific Plan Build-Out

Intersection	Existing Conditions				Build-out w/ Ultimate Improvements			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	v/c Ratio	LOS	v/c Ratio	LOS	v/c Ratio	LOS	v/c Ratio
1. Marguerite Parkway / Avery Parkway	C	0.79	E	0.95	D	0.82	F	1.03
2. I-5 NB Ramps / Avery Parkway	B	0.67	C	0.75	A	0.48	A	0.56
3. I-5 SB Ramps / Avery Parkway	B	0.63	C	0.77	A	0.54	A	0.58
4. Camino Capistrano / Avery Parkway	A	0.37	A	0.45	B	0.65	B	0.65
5. Crown Valley Parkway / Marguerite Parkway	B	0.67	C	0.75	E	0.99	F	1.04
6. Crown Valley Parkway / Bellogente	A	0.52	A	0.48	C	0.72	C	0.71
7. Crown Valley Parkway / Los Altos	A	0.50	A	0.49	C	0.70	E	0.95
8. Crown Valley Parkway / Medical Center	A	0.51	A	0.56	C	0.72	E	0.93
9. Crown Valley Parkway / Puerta Real	B	0.61	C	0.76	C	0.73	D	0.87
10. Crown Valley Parkway /Kaleidoscope	A	0.45	B	0.55	A	0.56	C	0.71
11. Crown Valley Parkway / I-5 NB Ramps	B	0.63	B	0.69	D	0.81	D	0.82
12. Crown Valley Parkway / I-5 SB Ramps	B	0.66	C	0.78	B	0.69	D	0.90
13. Crown Valley Parkway / Forbes Road	A	0.46	B	0.61	C	0.75	B	0.67
14. Crown Valley Parkway / Cabot Road	A	0.58	B	0.66	B	0.69	C	0.73
15. Crown Valley Parkway / Greenfield Drive	A	0.55	B	0.62	D	0.89	D	0.80
16. Crown Valley Parkway / Moulton Parkway	A	0.53	A	0.57	D	0.82	D	0.88
17. Cabot Road / Paseo De Colinas	B	0.60	A	0.51	B	0.67	B	0.70
18. Camino Capistrano / Paseo De Colinas	A	0.44	A	0.48	B	0.64	B	0.61
19. SR-73 SB Ramps / Greenfield Drive	A	0.44	A	0.50	B	0.61	A	0.58
20. SR-73 NB Ramps / Greenfield Drive	A	0.53	A	0.46	C	0.75	A	0.49
21. Cabot Road / Rapid Falls Road	A	0.30	A	0.32	A	0.40	A	0.42

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

Key contributors to the decline in the LOS conditions at the Los Altos and Medical Center Road intersections are the increase in turning volumes projected at each intersection and that both intersections operate with split-phase traffic signal timings. As was previously discussed, split-phase signal operations would inherently have additional delay and lower capacity levels because opposing through traffic and opposing left-turn traffic move under separate signal phases rather than at the same time. The reduction in LOS levels at the Marguerite Parkway intersections is the result of a combination of intensification in the land use activities in Mission Viejo and an increase in regional traffic.

At build-out, the proposed Specific Plan would contribute the following percentages of total traffic at the four Mission Viejo intersections:

- Crown Valley Parkway and Marguerite Parkway—8.0 percent
- Crown Valley Parkway and Los Altos—12.8 percent
- Crown Valley Parkway and Medical Center Road—13.0 percent
- Avery Parkway and Marguerite Parkway—7.5 percent

Feasible improvements to the three impacted intersections along Crown Valley Parkway are not available, as no additional widening of Crown Valley Parkway is feasible according to Mission Viejo staff. Additionally, the Marguerite/Avery intersection was recently studied as part of the I-5/Avery interchange study and no significant capacity increase was identified without acquisition of additional right-of-way, which was deemed infeasible. Therefore, development associated with the Specific Plan update would contribute to a ***significant and unavoidable cumulative impact*** at these four intersections. The proposed project would also have a ***significant and unavoidable project-specific impact*** at the intersection of Marguerite Parkway and Avery Parkway, since that intersection currently has a less-than-acceptable PM peak hour v/c ratio of 0.95 (LOS E), and therefore, any project traffic added will create a significant impact.

Intersection Delay (HCM Methodology)

To quantify the delay at the study area intersections, the intersections were analyzed using Synchro and the HCM delay-based methodology. The delay-based analysis was performed for all study area intersections, but is only used to determine significance for Caltrans facilities. As shown in Table 4.14-19 (Future With Project Weekday Peak-Hour Intersection Delay), several of the intersections experience extensive delays because of a combination of large traffic volumes, close intersection spacing, and turning movements and traffic signal phasing that limit the ability to more effectively progress traffic. Ten of the 21 intersections analyzed are projected to operate at LOS D or better conditions during both the AM and PM peak hours. Of the remaining intersections, four are projected to operate at LOS E during only the AM peak hour, three are projected to operate at LOS F during only the PM peak hour, and four are projected to operate at LOS F during both the AM and PM peak hours. Of these 11 intersections, four were found to also operate at an unacceptable LOS utilizing the ICU methodology (discussed above).

Under both the ICU and the HCM methodology the intersections of Marguerite Parkway with both Crown Valley Parkway and Avery Parkway are projected to experience an unacceptable LOS due to substantial traffic volume increases related to local and regional development in the area. A significant

Table 4.14-19 Future With Project Weekday Peak-Hour Intersection Delay

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Average Vehicular Delay (seconds)	LOS	Average Vehicular Delay (seconds)
1. Marguerite Parkway / Avery Parkway	F	88.5	F	179.6
2. I-5 NB Ramps / Avery Parkway	C	25.7	D	52.7
3. I-5 SB Ramps / Avery Parkway	C	29.4	E	58.0
4. Camino Capistrano / Avery Parkway	D	43.2	C	32.0
5. Crown Valley Parkway / Marguerite Parkway	F	127.2	F	172.0
6. Crown Valley Parkway / Bellogente	E	59.6	D	45.0
7. Crown Valley Parkway / Los Altos	F	179.4	F	190.5
8. Crown Valley Parkway / Medical Center	F	82.2	F	162.3
9. Crown Valley Parkway / Puerta Real	E	58.6	F	204.9
10. Crown Valley Parkway /Kaleidoscope	D	48.7	F	203.6
11. Crown Valley Parkway / I-5 NB Ramps	E	62.6	C	20.5
12. Crown Valley Parkway / I-5 SB Ramps	C	28.8	F	89.7
13. Crown Valley Parkway / Forbes Road	C	28.2	C	21.0
14. Crown Valley Parkway / Cabot Road	C	31.2	C	26.8
15. Crown Valley Parkway / Greenfield Drive	E	60.3	D	50.9
16. Crown Valley Parkway / Moulton Parkway	D	46.5	D	45.4
17. Cabot Road / Paseo De Colinas	C	21.0	C	24.7
18. Camino Capistrano / Paseo De Colinas	C	28.9	C	23.7
19. SR-73 SB Ramps / Greenfield Drive	A	6.2	A	8.7
20. SR-73 NB Ramps / Greenfield Drive	C	23.3	B	16.4
21. Cabot Road / Rapid Falls Road	A	9.0	A	8.0

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

portion of that traffic increase is related to growth at both the medical center and college located in the City of Mission Viejo. The intersection of Marguerite Parkway/Crown Valley Parkway was recently expanded to its ultimate width. The Marguerite Parkway/Avery Parkway intersection was recently studied as part of the I-5/Avery Parkway interchange study and no significant capacity increase was identified without acquisition of additional right-of-way, which was deemed infeasible. As these intersections were found to operate at an unacceptable LOS under the City of Mission Viejo's v/c ratio threshold, the project's contribution to the delay would similarly result in a significant cumulative impact.

Within the City of Mission Viejo, the intersections along Crown Valley Parkway between and including Bellogente, Los Altos, Medical Center, Puerta Real, and Kaleidoscope are projected to operate at poor levels of service because of a combination of high outbound turning movement volumes generated by the expanded land uses combined with split-phase traffic signal operation. As was previously discussed, the additional lost time induced at the intersections at each signal increases delay and queuing lengths on

the intersection approaches. In addition, to provide through traffic progression along Crown Valley Parkway, the side street traffic must be given a limited amount of green time at the signals, which results in substantial vehicular delay. As no additional widening of Crown Valley Parkway is feasible, the delay would need to be addressed through either land use scale reductions along these side streets, reconfiguration of the side street through and turning lanes to eliminate the split-phase traffic signals, or both.

It should be noted that with the addition of residential land uses in the Gateway Specific Plan Area, some of the trips generated to and from the college, medical center, and other area commercial and office development would be linked to the residential units. The result is that while the overall trip making levels will not change, the trips will have a shorter overall length, reducing regional travel mileage, and, with a cooperative program of travel demand management, some trips may be able to be diverted to non-auto trips, further reducing vehicular traffic in the area. However, and as identified above, the intersections of Crown Valley Parkway/Los Altos and Crown Valley Parkway/Medical Center road would also operate at an unacceptable LOS utilizing the City of Mission Viejo's ICU methodology. As such, the project's contribution to the delay would similarly result in a significant cumulative impact at these two intersections.

While the intersections of Crown Valley Parkway/Bellogente, Crown Valley Parkway/Puerta Real, and Crown Valley Parkway/Kaleidoscope would all experience an increase in delay that leads to a decrease in LOS under the HCM methodology, the City of Mission Viejo utilizes the ICU methodology for determining impacts to local intersections. Therefore, while delay would occur at these intersections, the proposed project would not result in an impact utilizing the City of Mission Viejo's significance criteria.

The Caltrans intersections of Avery Parkway/I-5 SB Ramps, Crown Valley Parkway/I-5 SB Ramps, and Crown Valley Parkway/I-5 NB Ramps were found to operate at unacceptable LOS utilizing Caltrans HCM methodology. The Avery Parkway/I-5 SB Ramps intersection was recently studied as part of the I-5/Avery Parkway interchange study and no significant capacity increase was identified without acquisition of additional right-of-way, which was deemed infeasible. For the Caltrans intersection of the I-5 Ramps and Crown Valley Parkway, the poor operating condition is a result of the high traffic volumes related to both traffic exiting southbound I-5 going both east and west and traffic both eastbound and westbound on Crown Valley Parkway that must all pass through this intersection. Without reconfiguration of the entire interchange to provide an alternative with more capacity, the intersections would operate at a poor level of service during the PM peak hour.

The results of the Synchro analysis show that most of the intersections can operate at acceptable levels of service if the traffic signals along the Crown Valley Parkway corridor are coordinated and operate as a cohesive system. The analysis also confirmed the need for long-term improvements at the Crown Valley Parkway and I-5 interchange, because the current tight-diamond design will not accommodate future traffic volumes. However, these Caltrans intersections are currently projected to operate at poor LOS, and the proposed project would contribute to the cumulative significant impact.

Roadway Segments

The daily operating conditions for selected street segments in the study area with committed roadway improvements are listed in Table 4.14-20 (Year 2035 With Project Weekday Average Daily Roadway

Traffic Volumes With Committed Improvements). For the purposes of this PEIR the City of Laguna Niguel utilizes the Orange County CMP thresholds for roadway segment impacts (LOS E).

Table 4.14-20 Year 2035 With Project Weekday Average Daily Roadway Traffic Volumes With Committed Improvements

No.	Street	From	To	Capacity	2035 ADT	v/c Ratio	LOS
1	Crown Valley Parkway	Glen Rock Drive	Greenfield Drive	56,000	49,490	0.88	D
2	Crown Valley Parkway	Greenfield Drive	Cabot Road	56,000	61,610	1.10	F
3	Crown Valley Parkway	Cabot Road	Forbes Road	70,350	65,650	0.93	E
4	Crown Valley Parkway	Forbes Road	I-5 SB Ramp	70,350	63,630	0.90	E
5	Crown Valley Parkway	I-5 NB Ramp	Puerta Real	75,000	84,840	1.13	F
6	Crown Valley Parkway	Puerta Real	Medical Center	75,000	73,730	0.98	E
7	Crown Valley Parkway	Los Altos	Marguerite Parkway	75,000	69,690	0.93	E
8	Avery Parkway	Camino Capistrano	I-5 SB Ramp	36,000	36,360	1.01	F
9	Avery Parkway	I-5 NB Ramp	Marguerite Parkway	36,000	39,390	1.09	F
10	Paseo De Colinas	El Sur	Cabot Road	36,000	29,290	0.81	D
11	Paseo De Colinas	Cabot Road	Camino Capistrano	36,000	21,210	0.59	A
12	Camino Capistrano	n/o Paseo De Colinas	—	13,000	8,080	0.62	B
13	Camino Capistrano	Paseo De Colinas	Avery Parkway	30,000	26,260	0.88	D
14	Camino Capistrano	s/o Avery Parkway	—	18,000	11,110	0.62	B
15	Forbes Road	n/o Crown Valley Parkway	—	19,500	17,300	0.89	D
16	Forbes Road	s/o Crown Valley Parkway	—	18,000	17,150	0.95	E
17	Cabot Road	Oso Parkway	Vista Viejo	37,500	16,160	0.43	A
18	Cabot Road	Vista Viejo	Crown Valley Parkway	37,500	14,140	0.38	A
19	Cabot Road	Crown Valley Parkway	Paseo De Colinas	37,500	10,100	0.27	A

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

With the ultimate roadway improvements, roadway segments within the Specific Plan area are projected to operate at acceptable levels of service on a daily basis. However, the analysis indicates that three street sections in the City of Mission Viejo are projected to operate at LOS F:

- Crown Valley Parkway between the I-5 Northbound Ramps and Puerta Real
- Avery Parkway between Camino Capistrano and Marguerite Parkway (2 segments)

Additionally, with the committed improvements, segments of Crown Valley Parkway would also operate at LOS F. However, as shown in Table 4.14-21 (Year 2035 With Project Weekday Average Daily Roadway Traffic Volumes With Ultimate Roadway Improvements), with the ultimate roadway improvements the section between Greenfield Drive and Cabot Road is projected to improve to LOS E

(acceptable in accordance with the OC CMP) and the segments between Cabot Road and the I-5 Southbound Ramps would improve to LOS D.

Table 4.14-21 Year 2035 With Project Weekday Average Daily Roadway Traffic Volumes With Ultimate Roadway Improvements

No.	Street	From	To	Capacity	2035 ADT	v/c Ratio	LOS
2	Crown Valley Parkway	Greenfield Drive	Cabot Road	65,700	61,610	0.94	E
3	Crown Valley Parkway	Cabot Road	Forbes Road	75,000	65,650	0.88	D
4	Crown Valley Parkway	Forbes Road	I-5 SB Ramp	75,000	63,630	0.85	D

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

As with the projected future intersection conditions, the sections of Crown Valley Parkway between I-5 and Puerta Real are projected to operate at a poor LOS as a result of both an increase in regional traffic and the substantial increase in projected activity in the land uses located along that section of the Crown Valley Parkway corridor and to the east. The capacity and operations of the segment of Crown Valley Parkway just east of I-5 are also affected by the number of turn lanes that are contained in that section of the roadway, and the close spacing of traffic signals. No substantial capacity enhancements are feasible at this time, however, and efforts to enhance and maintain the traffic signal coordination along that segment of Crown Valley Parkway would be important in minimizing future delay.

The poor conditions along the Avery Parkway segments have also been analyzed as part of OCTA's Avery Parkway Interchange study. The preliminary conclusions from that effort identified that without significant right-of-way acquisition, there are few options to improving traffic operations along that segment of the roadway. It is also important to note that because of the short length of Avery Parkway between Camino Capistrano and Marguerite Parkway, the capacity of that segment of roadway is substantially affected by the number of turning lanes and the close traffic signal spacing. Without a substantial reconfiguration of the Avery Parkway interchange with I-5, the capacity of this roadway would be limited. As these improvements would be beyond the control of the City of Laguna Niguel, and no other feasible improvements are available, the proposed project's increased traffic would contribute to the poor LOS and would result in a significant cumulative impact.

Highways and Ramps

The projected Year 2035 traffic forecasts project almost a doubling of traffic volumes along the SR-73 corridor north of Greenfield Drive and about a 15 percent increase in traffic volumes along I-5 by Year 2035. Based on the analysis results summarized in Table 4.14-22 (Year 2035 With Project Plan Highway Segment and Ramp Operating Conditions), most of the highway segments and ramps in the study area would continue to operate at Caltrans target levels (LOS D or better) with the exception of northbound SR-73 north of Greenfield Drive and the weaving area for the northbound SR-73 on-ramp from Greenfield Drive. Both are projected to operate at LOS E during the AM peak hour. As the proposed project would contribute to the unacceptable LOS at along this segment and on-ramp, the project would contribute to a cumulative significant impact.

Table 4.14-22 Year 2035 With Project Plan Highway Segment and Ramp Operating Conditions

<i>Analysis Type and Location</i>	<i>Period</i>	<i>Density (pc/mi/ln)</i>	<i>Level of Service</i>
Freeway Segments			
Northbound I-5 north of Crown Valley Parkway	AM	26.4	D
	PM	30.0	D
Southbound I-5 north of Crown Valley Parkway	AM	32.1	D
	PM	31.5	D
Southbound SR-73 north of Greenfield Drive	AM	9.5	A
	PM	30.1	D
Northbound SR-73 north of Greenfield Drive	AM	41.5	E
	PM	13.1	B
Weaving Segments			
Southbound I-5—Crown Valley Parkway to Avery Parkway	AM	22.25	C
	PM	25.12	C
Northbound I-5—Avery Parkway to Crown Valley Parkway	AM	30.07	D
	PM	27.55	C
Ramp Merge Sections			
Southbound I-5—Avery Parkway On-Ramp	AM	19.5	B
	PM	22.5	C
Northbound I-5—Eastbound Crown Valley Parkway On-Ramp	AM	27.4	C
	PM	32.0	D
Northbound SR-73—Greenfield Drive On-Ramp	AM	35.7	E
	PM	12.5	B
Southbound SR-73—Greenfield Drive On-Ramp	AM	10.2	B
	PM	22.1	C
Ramp Diverge Sections			
Southbound I-5—Crown Valley Parkway Off-Ramp	AM	2.7	A
	PM	12.2	B
Northbound I-5—Avery Parkway Off-Ramp	AM	4.1	A
	PM	3.5	A
Northbound SR-73—Greenfield Drive Off-Ramp	AM	27.5	C
	PM	11.8	B
Southbound SR-73—Greenfield Drive Off-Ramp	AM	8.0	A
	PM	24.6	C

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).
pc/mi/ln = passenger cars per mile per lane

Automobile Trip Generation Capacity

The Specific Plan includes a program (the Development Management Entitlement System, or DEMS) to quantify and track the cumulative trips that would be allowed in each planning district, including existing and new development (see Table 4.14-23 [Automobile Trip Generation Capacity]). The limits would be administered by the Community Development Department as part of the development review process for individual projects, in concert with existing and remaining development capacity and existing and remaining trip generation capacity for each planning district. Where a proposed land use exceeds the capacity for a category of use in a planning district and there is remaining automobile trip capacity, the use may be considered by the decision-making authority as part of the discretionary application process, provided that it does not exceed the automobile trip capacity for that planning district.

District		AM Peak		PM Peak	
		Inbound	Outbound	Inbound	Outbound
C & D	Existing 2010	95	50	60	75
	Net Additional	900	400	600	1,200
	Total Future	995	450	660	1,275
E	Existing 2010	175	105	200	250
	Net Additional	345	680	760	570
	Total Future	520	785	960	820
H	Existing 2010	175	100	75	180
	Net Additional	550	520	740	755
	Total Future	725	620	815	935

* Trip capacities shall not apply to other planning districts.

When the total automobile trip generation capacity is reached, no new development shall be permitted in the planning district unless one of the following conditions is met:

- Additional mitigation is implemented that reduces traffic impacts on Crown Valley Parkway, Forbes Road, Cabot Road, and the Crown Valley Parkway/I-5 interchange to levels below those projected by the City’s traffic model for the Gateway Specific Plan, where the land use and trip generation capacities may be adjusted to achieve equivalent levels of impacts.
- Traffic analyses are conducted that indicate actual land use trip generation in a planning district is less than calculated for development projects, where the net difference in trips can be allocated toward increased development capacity.

Traffic analyses that indicate traffic volumes on Crown Valley Parkway, Forbes Road, Cabot Road, and the Crown Valley Parkway/I-5 interchange attributable to regional trips are below those assumed in the Gateway Specific Plan traffic model, whereas the difference may be considered as the basis for increases in development and trip generation capacity in the planning district.

The Community Development Department, in collaboration with the Public Works Department, would maintain tables of current data regarding existing land uses, AM and PM peak-hour trip generation, and

remaining land use and trip generation capacities for each planning district within the Specific Plan area. These would be used as the basis for evaluation of proposed development applications. As proposed in conjunction with development applications, and at least once each five years, the City will review traffic conditions on Crown Valley Parkway, Forbes Road, Cabot Road, the Crown Valley Parkway/I-5 interchange, and any other location deemed of relevance by the City, and determine the appropriateness of adjusting the land use and trip generation capacities. Modifications to the land use and trip generation limits based on these studies will be reviewed with the Planning Commission and approved by the City Council as an amendment to the Specific Plan.

Traffic Impact Analysis for Development Projects

In order to reduce traffic impacts within the Gateway study area, including intersections, roadways and highways, the following mitigation measure shall be implemented as part of the proposed project:

- MM4.14-1* *Prior to project approval by the decision-making authority, the project applicant shall retain a qualified traffic engineer, as determined appropriate by the Community Development Director, to conduct a project-specific traffic impact analysis and prepare a technical traffic report, to include (but not be limited to) the following:*
- *Identification of and analysis of existing conditions within the project study area; assessment of both inbound and outbound project trip distribution; assessment of design features including access to the site as well as on-site circulation and parking features; access for emergency purposes; cumulative analysis with other approved projects in the vicinity; and, a level of analysis required to properly assess anticipated impacts.*
 - *Measures to mitigate any identified project impacts according to the traffic LOS standards prescribed in the City's General Plan Circulation Element, or as otherwise deemed appropriate by the City Council in accordance with the Goals and Policies of the General Plan Circulation Element.*
 - *Sufficient data and analysis to demonstrate compliance with the Gateway Specific Plan Development Entitlement Management System (DEMS), to the satisfaction of the Community Development and Public Works Departments.*
 - *Analysis of an appropriate fair-share contribution to Gateway area infrastructure improvements, including street widening, medians, sidewalks, trails, parkways, etc., as detailed in the Gateway Specific Plan (Chapters 3 and 6) and as determined appropriate by the decision-making authority.*
 - *Analysis of site dedication necessary for right-of-way purposes, consistent with the Specific Plan Circulation Plan (Chapter 3) and as determined appropriate by the decision-making authority.*

Summary of Significant Traffic Impacts

Implementation of the Gateway Specific Plan would include the following provisions to reduce traffic impacts within the study area: MM4.14-1, which requires a traffic study report and mitigation for project specific traffic impacts; implementation of the DEMS; inclusion of project features that promote the use of non-automobile travel, as well as planned and funded infrastructure improvements. Despite these efforts, traffic impacts would be **significant and unavoidable** on the following intersections, roadway segments, and highway segments and ramps, as detailed above and summarized below.

Utilizing the methodology of the jurisdiction that owns and operates the affected intersection (ICU for the Cities of Laguna Niguel and Mission Viejo; HCM for Caltrans), the proposed project would contribute to cumulative significant impacts at the following intersections:

- Crown Valley Parkway and Marguerite Parkway (City of Mission Viejo—ICU): projected to operate at LOS E in the AM peak hour and LOS F in the PM peak hour, with the proposed project contributing approximately 8.0 percent of the traffic at that intersection.
- Crown Valley Parkway and Los Altos (City of Mission Viejo—ICU): projected to operate at LOS E in the PM peak hour, with the proposed project contributing approximately 12.8 percent of the traffic at that intersection.
- Crown Valley Parkway and Medical Center Road (City of Mission Viejo—ICU): projected to operate at LOS E in the PM peak hour, with the proposed project contributing approximately 13.0 percent of the traffic at that intersection.
- Avery Parkway and Marguerite Parkway (City of Mission Viejo—ICU): projected to operate at LOS F in the PM peak hour, with the proposed project contributing approximately 7.5 percent of the traffic at that intersection. This intersection would also experience a significant project specific impact because the intersection currently operates at LOS E in the PM peak hour and would continue to operate at LOS E with the addition of any project related traffic.
- Avery Parkway and I-5 Southbound Ramps (Caltrans—HCM): projected to operate at LOS F in both AM and PM peak hours.
- Crown Valley Parkway and I-5 Northbound Ramps (Caltrans—HCM): projected to operate at LOS E during the AM peak hour.
- Crown Valley Parkway and I-5 Southbound Ramps (Caltrans—HCM): projected to operate at LOS F during the PM peak hour.

The proposed project would contribute to cumulative significant impacts at the following roadway segments:

- Crown Valley Parkway between the I-5 Northbound Ramps and Puerta Real (Mission Viejo): projected to operate at LOS F.
- Avery Parkway between I-5 Northbound Ramps and Marguerite Parkway (Mission Viejo): projected to operate at LOS F.
- Avery Parkway between I-5 Southbound Ramps and Camino Capistrano (Laguna Niguel): projected to operate at LOS F.

The proposed project would contribute to cumulative significant impacts at the following highway segments and ramps:

- Northbound SR-73 north of Greenfield Drive (Caltrans – HCM): projected to operate at LOS E during the AM peak hour.
- Avery northbound SR-73 on-ramp from Greenfield Drive (weaving area) (Caltrans – HCM): projected to operate at LOS E during the AM peak hour.

Threshold	Would the proposed project conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
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Impact 4.14-2 **Implementation of the proposed project would conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Because no feasible mitigation is available to reduce this impact to a less-than-significant level, this would be a *significant and unavoidable* impact.**

There are two CMP highways within the study area, Moulton Parkway and Crown Valley Parkway. No impacts are projected on the Moulton Parkway corridor. Along Crown Valley Parkway, with completion of the widening on only the south side of Crown Valley Parkway, between Cabot Drive and the I-5 northbound ramps, at build-out of the Specific Plan, the v/c ratio for the segments between Greenfield Drive and Cabot Road will be in the LOS F range. With the ultimate widening of the Crown Valley Parkway, the LOS along that section will improve to LOS E, an acceptable level for the CMP. For the segments of Crown Valley Parkway between I-5 and Puerta Real, the v/c ratios are projected be above 1.0 (LOS F). However, much of the traffic generated along these segments is related to the land uses accessed at Medical Center Road/El Regateo and Puerta Real. The City of Mission Viejo has stated that these segments have been widened to their ultimate width and, therefore, no additional improvements are possible to improve the LOS to E or better.

Because no feasible mitigation exists to reduce the impact, the impact of the proposed Specific Plan Update on the congestion management program would be *significant and unavoidable*.

Threshold	Would the proposed project result in inadequate emergency access?
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Impact 4.14-3 **Implementation of the proposed project would not result in inadequate emergency access. This would be a *less-than-significant* impact.**

Access from the surrounding regional and arterial roadway system would be essentially the same as exists today. Access to the Forbes Road areas would be from Crown Valley Parkway with nonvehicular access and circulation to those areas via Camino Capistrano and Cabot Road. Parcels fronting Cabot Road or Camino Capistrano would have direct access from those roadways. The expansion of several intersections and widening of Crown Valley Parkway is proposed to accommodate the expected increase in traffic volumes over 2010 levels.

Laguna Niguel Municipal Code Section 11-15 (Emergency Preparedness) provides plans to protect people and property within this city in the event of an emergency. This portion of the Municipal Code provides the direction for the emergency organization; and the coordination of the emergency functions of the city with all other public agencies, corporations, organizations, and affected private persons.

As part of the development process, specific project plans would be submitted to the City for review and approval to ensure that all new development contemplated under the Specific Plan would have adequate

emergency access, including turning radius for emergency response vehicles, in compliance with existing City regulations.

Similar to existing conditions, construction of future development under the Specific Plan could result in short-term temporary impacts on street traffic adjacent to the proposed sites due to roadway and infrastructure improvements, and the potential encroachment of construction activities into the right-of-way. This could result in a reduction of the number of lanes or temporary closure of certain street segments that could interfere with emergency access if not mitigated. Any such impacts would be limited to the construction period of individual projects and would affect only adjacent streets or intersections. Mitigation measure MM4.7-3 (see Section 4.7 [Hazards and Hazardous Materials]) would ensure that emergency response teams for the City of Laguna Niguel, including the Orange County Fire Authority and Sheriff Department (OCFA and OCSO, respectively), would be notified of any lane closures during construction activities, as deemed appropriate by the City’s Public Works Director, and that a minimum of one lane would remain open at all times to provide adequate emergency access to the site and surrounding neighborhoods. Furthermore, the potential for any increased delays along evacuation routes from the incremental increase in new workers and patrons resulting from implementation of the proposed project would be considered less than significant. As a result, this impact would be *less than significant*.

Threshold	Would the proposed project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
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Impact 4.14-4 Implementation of the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks). Rather, the proposed project would facilitate implementation of such policies, plans, and programs. This would be a *beneficial* impact.

Policies in the Circulation Element of the General Plan promote reduction of vehicle miles traveled through facilitation of alternative modes of travel. The proposed Specific Plan provides a road map of land use and development, building and site design, transportation, infrastructure, and streetscape strategies to facilitate investment and revitalization in the area, including pedestrian and transit-oriented development, to capitalize on the Laguna Niguel/Mission Viejo Metrolink station and the enhanced service levels planned for this station.

The proposed Specific Plan Update establishes five unique land use zones applicable to all properties within the Specific Plan area. The Specific Plan’s Regulating Plan defines the boundaries of these zones. The location of the zones is based on the desired distribution and mix of uses, development densities, and urban form characteristics identified in Chapter 3 (Policies and Development Plans) of the Specific Plan. The zones are intended to accommodate the development of multiple new mixed-use districts where the placement of buildings, form and scale, orientation to sidewalks and the public realm, location of parking, and architectural character promote the interaction among living, working, shopping, and entertainment functions and walkability. In particular, the Mixed-Use (MU) Zone is intended to encourage development of an active urban environment that exhibits the character of a distinct and vibrant pedestrian-friendly “village” and transit corridor where residents live, work, dine, are entertained,

and recreate, with easy access to Metrolink transit. It allows for the intermixing of a diversity of land uses that will reduce vehicle trips and facilitate walking. The development of office uses in the MU Zone is intended to provide employment opportunities for residents of Laguna Niguel and surrounding communities. Further, the development of multi-family housing units in the MU Zone is intended to enable residents to live in proximity to their jobs, commercial services, and transit, thereby reducing automobile trips, commuting distances, and greenhouse gas emissions while improving their quality of life.

Additionally, as noted, above, the Circulation and Mobility Plan of the Specific Plan identifies improvements in the circulation system to accommodate future traffic. These include physical and operational improvements to address project-specific and regional issues. The program includes arterial and freeway access improvements along with an emphasis on expansion of nonautomobile travel, including transit, bicycle, and walking trips. A primary function of the streets and linear open space in the Specific Plan area is to provide access to the Metrolink Station and throughout the area for all transportation modes: pedestrians, bicyclists, equestrians, buses and other motor vehicles. In particular, Forbes Road, in combination with the development of an adjacent multi-use trail along Oso Creek, would provide access for pedestrians, cyclists, and equestrians.

As development in the Specific Plan area intensifies, the completion of the Oso Creek Trail would become a key facility, as this centrally located spine trail would provide opportunities to create trail linkages and improve bicycle and pedestrian circulation to and from the Specific Plan area as well as within the Specific Plan area. Large development projects within the Specific Plan area are encouraged by General Plan policies to install bikeways that connect to existing and proposed bicycle circulation routes.

The Oso Creek Bike Trail, part of an interconnected countywide riding and hiking (multi-use) trail system, bisects the Specific Plan area from north to south. Some portions of the Oso Creek trail exist, others portions are still planned. From the north, the Oso Creek trail runs from Cabot Road, along the southwest edge of Galivan Basin, and then crosses Oso Creek at an existing bridge. The trail is then planned to run south, along the east side of Oso Creek and the west side of Forbes Road, until it reaches the Metrolink station on south Forbes Road. The trail is planned to cross back over Oso Creek in this general location, on a future bridge, and run south along the west edge of Oso Creek until it joins the Colinas Bluff trail system. There would be a future staging area on Star Drive (south from Paseo De Colinas) that includes parking facilities for the multi-use trail.

A longer-term element of the Specific Plan bicycle program is the development of a grade-separated bridge across Crown Valley Parkway, connecting the Oso Creek trail along north and south Forbes Road. Design studies indicate that such a bridge would require acquisition of some additional right-of-way and/or easements to locate a portion of the bridge within the flood channel. The planning, design and construction of a bridge crossing can occur in a later phase of development, with at-grade accommodation in the near-term. A concept location and design for this trail bridge is shown in Figure 4.14-10 (Proposed Oso Creek Trail Bridge Over Crown Valley Parkway).

A multi-use trail and Class I bikeway is also proposed along the north side of Crown Valley Parkway, east of Forbes Road, connecting the planned Oso Creek Trail and Class I bikeway (discussed above) with the

Niguel Trail and Class I bikeway to the east. Pedestrians, equestrians, and bicyclists would be permitted on the multi-use trails.

Bicycle activity within the Specific Plan area would be promoted to help implement the General Plan, to promote businesses, to encourage a healthy lifestyle, and to reduce vehicular traffic, congestion, and degradation of air quality. One way to encourage bicycle activity within the Laguna Niguel Gateway Specific Plan area is to facilitate bicycle parking and accessibility to individual businesses within the area. Specific Plan goals include to provide for the Gateway's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. The mix and choices of use should enable residents and workers to meet their basic needs within the Gateway area. The Specific Plan would develop land uses and densities that maximize ridership and support public investment in transit facilities, while reducing regional traffic congestion, pollution, and greenhouse gas emissions, and provide a network of usable public open spaces in the Gateway area that provide a focus for development and for community activity.

A multi-use trail is also planned along the north (westbound) side of Crown Valley Parkway, providing a connection between the Oso Creek Trail on Forbes Road and the Niguel Trail at Greenfield Drive, to the west. Pedestrians, equestrians, and bicyclists would be permitted on the multi-use trails. Future development within the Specific Plan area would be encouraged to install pedestrian walkways that link project sites to existing or proposed pedestrian circulation routes. In addition, projects would be required to provide sidewalks along the property street frontage to ultimately ensure pedestrian connections. Connections between development areas and the multi-use trails listed above would also be encouraged. Equestrian access to the Specific Plan area would primarily be from the proposed Oso Creek trail, including a planned grade-separated bridge crossing Crown Valley Parkway and connecting Oso Creek trail along north and south Forbes Road.

Given the numerous project features that promote alternative means of transportation, including public transit, bicycle, and pedestrian modes, the proposed project would not conflict with adopted policies, plans, or programs regarding transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. In fact, the project would result in a **beneficial impact** with regard to these alternative modes of transportation and would facilitate implementation of these policies.

4.14.4 Cumulative Impacts

The analysis in the preceding section takes into account cumulative projects and background growth through the year 2035. No additional cumulative analysis is required.

4.14.5 References

Iteris, Inc. 2011. *Traffic Study for the Laguna Niguel Gateway Specific Plan Update*, May.



Source: Iteris, Inc., 2011.

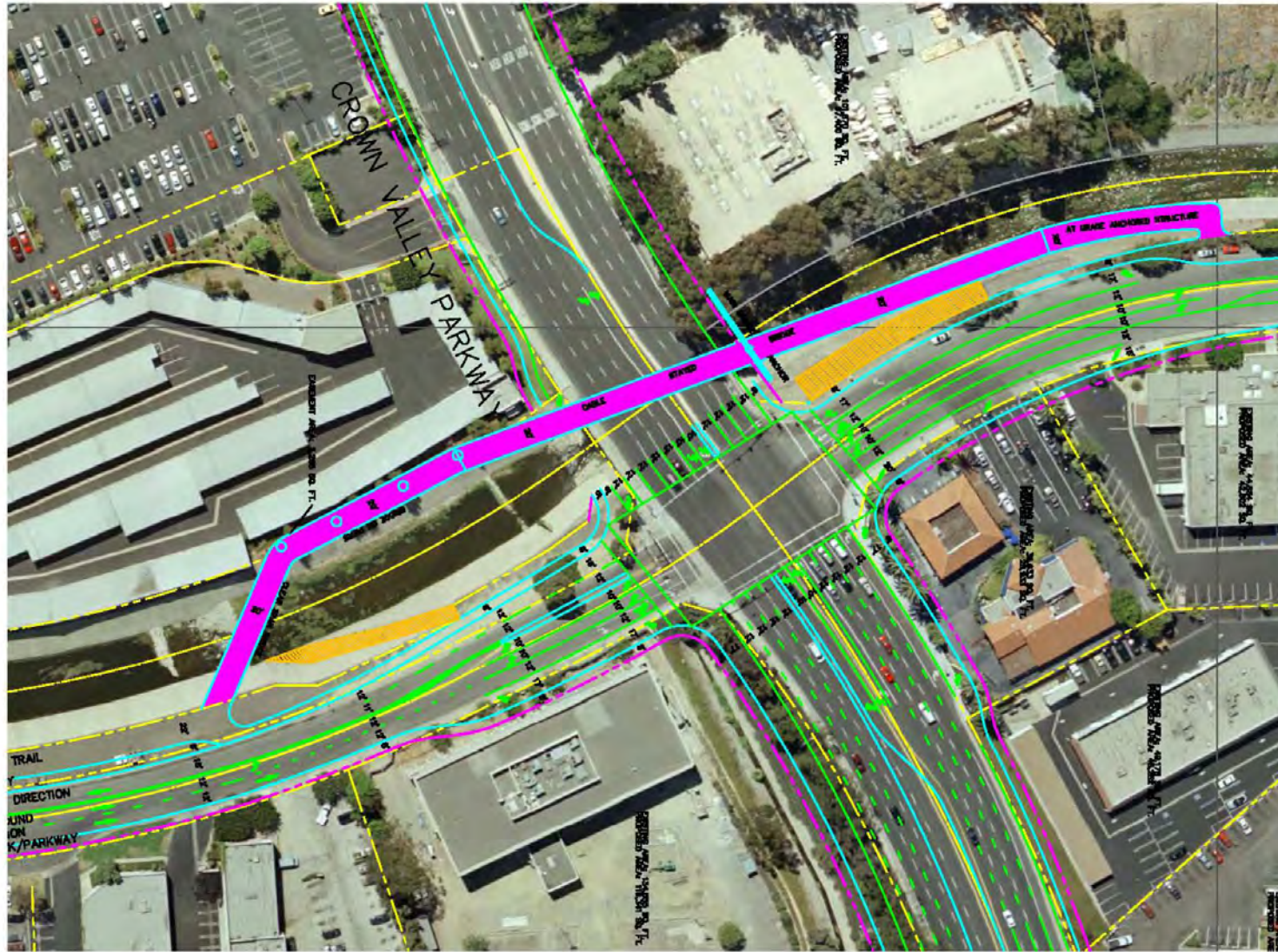


Figure 4.14-10
Proposed Oso Creek Trail Bridge over Crown Valley Parkway

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4.15 UTILITIES/SERVICE SYSTEMS

This section of the EIR analyzes the potential environmental effects on utilities/service systems from implementation of the proposed project. This section identifies existing and planned service availability and anticipated demands. For purposes of this EIR, the utilities/service systems analysis is divided into four subsections: (1) water supply, storage, and distribution; (2) wastewater collection, transmission, and treatment; (3) solid waste collection and disposal; and (4) energy (electricity and natural gas) use. Cumulative impacts associated with water supply, wastewater, solid waste, and energy are addressed at the end of each respective subsection. One comment letter addressing utilities/service systems was received in response to the Notice of Preparation (NOP) circulated for the proposed project. No comment letters were received in response to the NOP circulated for water supply.

Water Supply

This section describes the current and future status of water supply services in the City of Laguna Niguel, including a discussion of the ability of the local water supply purveyor to meet the current and future water demands of the City. Data for this section were taken from the Water Supply Assessment (WSA) for the Laguna Niguel Gateway Specific Plan Update (Specific Plan or proposed project), the Moulton Niguel Water District's 2010 Urban Water Management Plan (UWMP), the Laguna Niguel Gateway Specific Plan Baseline Conditions Report, and other relevant documents related to water supply. Full reference-list entries for all cited materials are provided in Section 4.15.5 (References).

4.15.1 Environmental Setting

As set forth in CEQA Guidelines Section 15125(a) the following Environmental Setting discussion describes the physical environmental conditions in the City of Laguna Niguel at the time the environmental analysis commenced. It constitutes the baseline physical conditions by which the City of Laguna Niguel will determine whether a water supply impact is significant and that may be affected by the Specific Plan.

■ Water Sources and Supply

Metropolitan Water District of Southern California

Metropolitan Water District of Southern California (Metropolitan) is the wholesale water agency that serves imported water to 26 member agencies located in portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Metropolitan's imported water sources are delivered from the Colorado River Aqueduct (CRA) and the State Water Project (SWP), which draws water from the Sacramento-San Joaquin Bay Delta (Delta) via pumps in the southern Delta and conveys it through the California Aqueduct to southern California. Metropolitan's supply estimates are shown in Table 4.15-1 (Metropolitan's Regional Water Supply Projections [afy]). The following discussions relate Metropolitan's assessment of its supplies and capabilities to assess those supplies.

Table 4.15-1 Metropolitan's Regional Water Supply Projections (afy)

<i>Regionwide Projections</i>	<i>2015</i>	<i>2020</i>	<i>2025</i>	<i>2030</i>	<i>2035</i>
Supply Information					
Projected Supply During an Average Year	4,073,000	4,499,000	5,140,000	4,998,000	4,865,000
Projected Supply During a Single Dry Year	3,219,000	3,644,000	4,013,000	3,859,000	3,726,000
Projected Supply During Average of Multiple 3 Dry Year Period	2,652,000	2,970,000	3,253,000	3,214,000	3,170,000

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 5.2 (Metropolitan's Regional Water Supply/Demand Reliability Projections [AFY]), p. 5-16.

afy = acre-feet per year

Colorado River Supplies

The CRA supplies include supplies that would result from existing and committed programs and from implementation of the Quantification Settlement Agreement (QSA) and related agreements to transfer water from agricultural agencies to urban uses. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.25 million acre-feet per year (afy) on an as-needed basis (MNWD 2011a, 3-6).

State Water Project Supplies

Metropolitan's SWP supplies have been impacted in recent years by restrictions on SWP operations in accordance with the biological opinions of the U.S. Fish and Wildlife Service and National Marine Fishery Service issued on December 15, 2008, and June 4, 2009, respectively. In dry, below-normal conditions, Metropolitan has increased the supplies received from the CRA by developing flexible Central Valley/SWP storage and transfer programs. The goal of the storage/transfer programs is to develop additional dry-year supplies that can be conveyed through the available Drought Water Banks pumping capacity to maximize deliveries through the CRA during dry hydrologic conditions and regulatory restrictions.

In June 2007, Metropolitan's Board approved a Delta Action Plan that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance and the environment. The Delta action plan aims to prioritize immediate short-term actions to stabilize the Delta while an ultimate solution is selected, and mid-term steps to maintain the Bay-Delta while the long-term solution is implemented.

State and federal resource agencies and various environmental and water user entities are currently engaged in the development of the Bay Delta Conservation Plan (BDCP), which is aimed at addressing the basic elements that include the Delta ecosystem restoration, water supply conveyance, and flood control protection and storage development. In evaluating the supply capabilities for the Metropolitan's 2010 Regional Urban Water Management Plan (RUWMP), Metropolitan assumed a new Delta conveyance will be fully operational by 2022 that would return supply reliability similar to 2005 conditions, prior to supply restrictions imposed due to the Biological Opinions.

Storage

Metropolitan's SWP imported water is stored at Castaic Lake in Santa Clarita and at Silverwood Lake near San Bernardino. Metropolitan water imported from the Colorado River via the CRA is stored at Diamond Valley Lake and Lake Mathews in Riverside County. Storage is a major component of Metropolitan's dry year resource management strategy. Metropolitan's likelihood of having adequate supply capability to meet projected demands, without implementing its Water Supply Allocation Plan (WSAP), is dependent on its storage resources. In developing the supply capabilities for the 2010 RUWMP, Metropolitan assumed a simulated median storage level going into each of five-year increments based on the balance of supplies and demands.

Metropolitan Water Supply Allocation Plan

Due to drought conditions between 2006 and 2009 and the continued uncertainty regarding future pumping operations from the SWP, Metropolitan worked with member agencies to put together a Water Supply Allocation Plan (Met WSAP). The plan allocates water to members (indirectly to the City) based on the Regional Shortage Level experienced in Metropolitan's service area; higher regional shortages result in larger supply cutbacks. As part of these actions, on February 12, 2008, the Metropolitan Board of Directors officially adopted the Met WSAP.

For future years in which Metropolitan's supplies are insufficient to meet firm demands, imported supplies to the Municipal Water District of Orange County (MWDOC, see subsequent description) will be managed in accordance with the Met WSAP. This includes sample calculations for determining a particular member agency's allocation, as well as estimated retail and wholesale reliability for member agencies based on a given percent reduction in total supply (shortage percentage).

The shortage percentages, which correspond to designated shortage levels outlined in the Met WSAP, cover 5 percent increments from 5 to 50 percent. Under each shortage level, there are specific wholesale minimum allocations for each member agency. The Met WSAP includes graphs and tables showing an estimate of the wholesale minimum allocations for each of the member agencies in a Level 2 Regional Shortage (10 percent), Level 4 Regional Shortage (20 percent), and in a Level 6 Regional Shortage (40 percent). Table 4.15-2 (Wholesale Reliability for Imported Supplies to the MWDOC) shows the level of regional shortage by percentage for the MWDOC.

Table 4.15-2 Wholesale Reliability for Imported Supplies to the MWDOC			
Shortage Percentage (Regional Shortage)	Level 2 Regional Shortage 10%	Level 4 Regional Shortage 20%	Level 6 Regional Shortage 40%
MWDOC (in basin)	94.9%	89.2%	78.3%

SOURCE: Metropolitan Water District of Southern California Board of Directors, Water Planning and Stewardship Committee Board Meeting (February 12, 2008), Attachment 2 (2008 Supply Allocation Scenarios—January 22, 2008).

Values shown are for the proposed formula.

In 2009, the Metropolitan Board of Directors approved the implementation of Metropolitan's Met WSAP at a Level 2 Regional Shortage. This action was taken in order to manage water demand through the period of July 1, 2009, through June 30, 2010, given the limited supplies available in the current calendar year, including limiting withdrawals of storage in order to maintain reasonable reserve levels.

2011 Regional Water Supply Conditions

As recent as April 2011, Governor Jerry Brown announced an end to California's drought and Metropolitan Water District's Board of Directors restored full imported water deliveries to the Metropolitan's 26 member public agencies for the first time in nearly two years. The action, which became effective April 13, 2011, was made possible by this season's storms and the public's continued conservation and water use efficiency efforts resulting in improved regional supply conditions.

The progress this winter has allowed Metropolitan to make significant strides in replenishing its network of groundwater storage programs and surface storage reservoirs. Metropolitan's Diamond Valley Lake is nearly full, after being less than half full in the summer of 2009, and the Metropolitan has more than a full-year's worth of supply deliveries in reserve.

Despite Sierra Nevada snowpack conditions far above normal, Metropolitan will not receive a full supply from Northern California this year because of environmental problems and pumping restrictions in the Sacramento–San Joaquin Delta. Metropolitan's other imported water source—the Colorado River—continues to recover from an 11-year drought. Therefore, it is assumed that Metropolitan's Board of Directors could reinstate its WSAP at anytime based on statewide water supply conditions (Metropolitan 2011b).

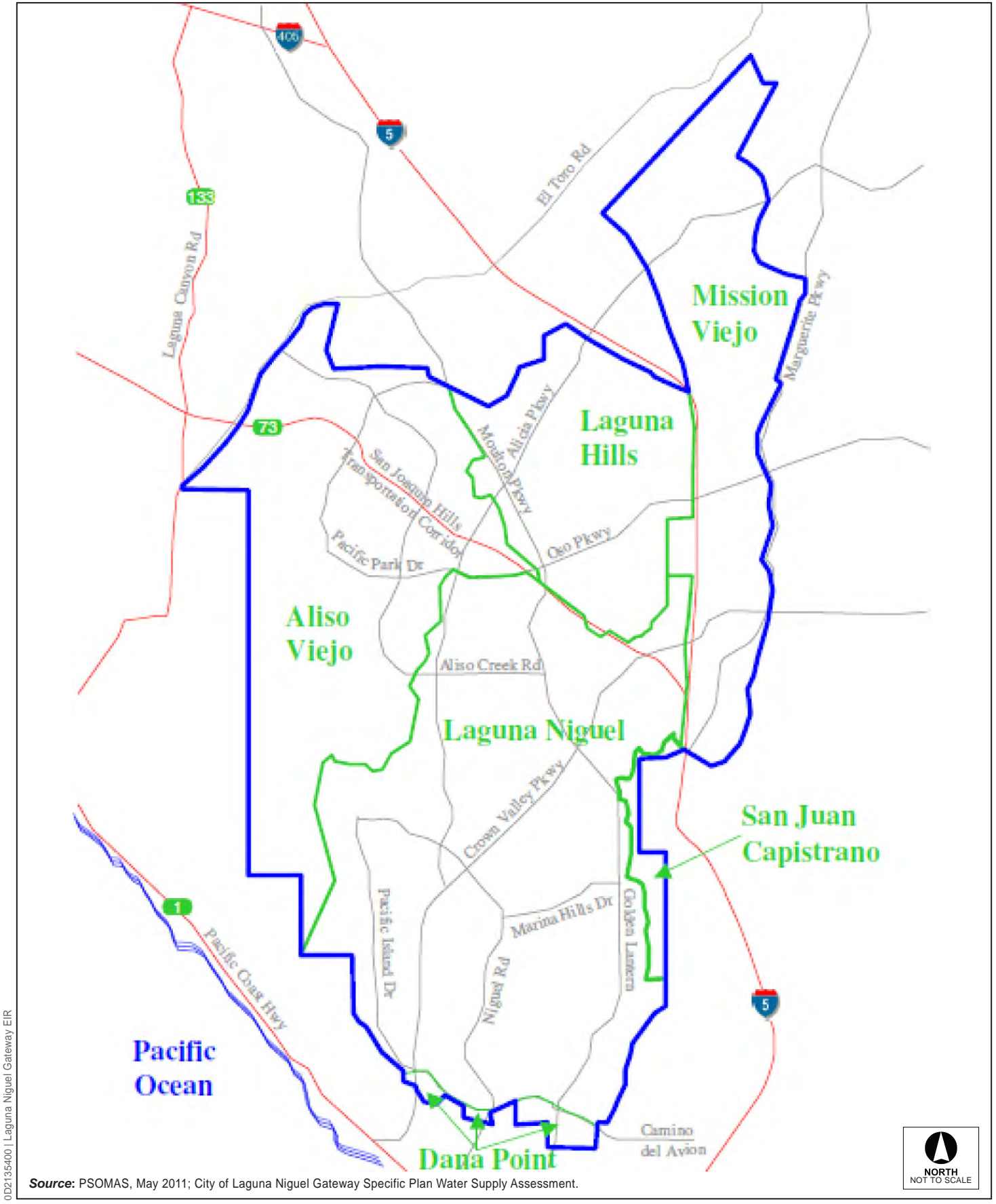
Municipal Water District of Orange County—Wholesale Water Supply Purveyor

MWDOC was formed for the purpose of contracting with Metropolitan to acquire supplemental imported water supplies from northern California and the Colorado River for use within Orange County. MWDOC is a regional water wholesaler and resource planning agency, managing all of Orange County's imported water supply with the exception of water imported to the cities of Anaheim, Fullerton, and Santa Ana. MWDOC serves more than 2.3 million residents in a 600-square-mile service area and is Metropolitan's third largest member agency.

Local supplies developed by individual member agencies, primarily groundwater, presently account for about 50 percent of MWDOC's direct water use by its members. The remaining 50 percent of direct water use demand is met by imported water from Metropolitan. See discussion above.

Moulton Niguel Water District—Retail (End-user) Water Supply

The Moulton Niguel Water District's (MNWD) service area encompasses approximately 36.5 square miles and provides water and sewer service to over 172,000 customers. MNWD's service area boundaries are shown in Figure 4.15-1 (Moulton Niguel Water District's Service Area). MNWD provides domestic and nondomestic water service to residential, commercial, and industrial customers within the cities of Aliso Viejo, Laguna Niguel including the Specific Plan area, and portions of the cities of Laguna Hills, Mission Viejo, San Juan Capistrano, and Dana Point. The main source of potable water distributed by MNWD is imported water from the Metropolitan and delivered via its member agencies throughout Southern California. The MNWD is one of twenty-eight MWDOC retailers. MNWD currently relies on 26,726 afy of imported water wholesaled by Metropolitan through MWDOC. Imported water represents approximately 79 percent of MNWD's total water supply. Table 4.15-3 (MNWD Projected Water Supply during Normal Years) shows MNWD's supply projections (averaging around 21,000 afy) over the next



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Source: PSOMAS, May 2011; City of Laguna Niguel Gateway Specific Plan Water Supply Assessment.

Figure 4.15-1

Moulton Niguel Water District's Service Area

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Table 4.15-3 MNWD Projected Water Supply during Normal Years

Water Source	Normal Water Years (afy)				
	2015	2020	2025	2030	2035
Supply					
Imported Water MWDOC	22,700	19,900	20,200	20,600	21,000
Baker Treatment Plant	9,400	9,400	9,400	9,400	9,400
Recycled Water	8,500	8,700	8,900	9,000	9,100
Total Supply	40,600	38,000	38,500	39,000	39,500

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 5.3 (MNWD Projected Water Supply and Demand Normal Water Year), p. 5-19.

25 years as indicated in the WSA approved by the MNWD Board of Directors for the proposed project. Notably, MNWD could access up to 30,000 afy from Metropolitan via MWDOC if its local supplies were reduced (MNWD 2011b, 3-11). However, for conservative water resources planning purposes, this analysis assumes the quantified supplies (from MWDOC) documented in the WSA prepared for the proposed project would be accessible. MNWD also delivers relatively small quantities of recycled water within its service area; recycled water is used for irrigation purposes only.

Recycled Water

Recycled (or reclaimed) water is expected to increase to approximately 23 percent of the supply by 2035 with the planned expansion of MNWD's recycled water distribution system and continued water conservation (Psomas 2011). MNWD provides additional, tertiary treatment to a portion of its secondary treated wastewater, rather than discharging it to the ocean, and distributes it to landscape irrigation services within a separate distribution system. MNWD currently has 15.2 million gallons per day (mgd) of tertiary treatment capacity in compliance with Title 22 Recycled Water requirements. MNWD has 2.4 mgd capacity of recycled water in MNWD Plant 3A; 11.4 mgd capacity of recycled water in the South Orange County Wastewater Authority (SOCWA) Joint Regional Treatment Plant (JRTP); and 1.4 mgd of capacity of recycled water in the SOCWA Coastal Treatment Plant (CPT). MNWD also has 1,000 acre-feet (af) of seasonal storage for its recycled water distribution system.

Groundwater

Groundwater resources are currently unavailable within the MNWD service area due to underlying geology. However, MNWD has some water rights in the San Juan Groundwater Basin. The San Juan Basin is located in southern Orange County within the San Juan Creek Watershed and is comprised of four subbasins: Upper San Juan, Middle San Juan, Lower San Juan, and Lower Trabuco. Groundwater generally flows in a southwesterly direction to the Pacific Ocean. Recharge of the basin is from flow in San Juan Creek, Oso Creek, and Arroyo Trabuco and precipitation to the valley floor (DWR 2004). Water from springs flows directly from Hot Spring Canyon into San Juan Creek, adding to recharge. The San Juan Basin is managed by the San Juan Basin Authority (SJBA), a joint powers authority created in 1971 for the purpose of carrying out water resources development of the San Juan Basin. The members

of the SJBA are MNWD, Santa Margarita Water District, South Coast Water District, and the City of San Juan Capistrano.

In 2000, the California State Water Resources Control Board (SWRCB) granted a water rights permit of 8,026 afy to SJBA for diversion and use from the Basin. Of this, 1,353 afy is allocated to MNWD. The permit also allows additional rights of 2,676 afy in the future depending on certain conditions enumerated in the permit with 1,804 afy of these future rights allocated to MNWD. However, none of MNWD's supplies were from groundwater extracted from this Basin (Psomas 2011).

SJBA completed the Phase I San Juan Basin Desalter Project, also referred as San Juan Groundwater Recovery Project, a reverse osmosis filtration/treatment facility on December 2004. This facility is leased to the City of San Juan Capistrano for a 50-year term. According to the agreement between the SJBA and MNWD, the City of San Juan Capistrano can pump 5,800 afy to produce up to 4,800 afy from the Basin. Of this, 978 af of pumping and 809 af of product water are allocated to MNWD (Psomas 2011). However, MNWD is currently not planning to utilize water from the Basin due to the high cost of pumping, treatment and other considerations.

■ Water Demand

Metropolitan Water District of Southern California

Metropolitan developed its demand forecast by estimating total retail demands for its service area and factoring out water savings attributed to conservation. Projections of local supplies then were derived using data on current and expected local supply programs and the IRP Local Resource Program Target. The resulting difference between demands and local supplies is the expected regional demands on Metropolitan supplies. Major categories used in these tables are defined below (Metropolitan 2011a).

Total Demands

Total demand is the sum of retail demand for Municipal and Industrial (M&I) and agricultural, seawater barrier demand, and replenishment demand. Total demand represents the total amount of water needed by the member agencies (Metropolitan 2011a). Total demands include:

- Retail Municipal and Industrial (M&I) demands represent the full spectrum of water use within the region. These include residential, commercial, industrial, institutional, and unmetered water uses. To forecast urban water demands Metropolitan used the MWD-Main Water Use Forecasting System (MWD-Main), consisting of econometric models that have been adapted for conditions in Southern California. The demographic and economic data used in developing these forecasts were taken from the Southern California Association of Government's (SCAG) 2007 Regional Transportation Plan and from the San Diego County Association of Government's (SANDAG) Series 11: 2030 Regional Growth Forecast Update. The SCAG and SANDAG regional growth forecasts are the core assumptions that drive the estimating equations in Metropolitan's MWD-Main demand forecasting model. SCAG and SANDAG's projections undergo extensive local review and incorporate zoning information from city and county general plans and are backed by Environmental Impact Reports.
- Retail agricultural demands consist of water use for irrigating crops. Member agencies estimate agricultural water use based on many factors, including farm acreage, crop types, historical water

use, and land use conversion. Each member agency estimates their agricultural demand differently, depending on the availability of information. Metropolitan relies on member agencies' estimates of agricultural demands for the 2010 RUWMP

- Seawater barrier demands represent the amount of water needed to hold back seawater intrusion into the coastal groundwater basins. Groundwater management agencies determine the barrier requirements based on groundwater levels, injection wells, and regulatory permits.
- Replenishment demands represent the amount of water member agencies plan to use to replenish their groundwater basins. For the 2010 RUWMP, replenishment deliveries are not included as part of firm demands.

Conservation Adjustment

The conservation adjustment subtracts estimated conservation from total retail demand. The conservation estimates consist of three types:

1. **Code-Based Conservation**—Water savings resulting from plumbing codes and other institutionalized water efficiency measures.
2. **Active Conservation**—Water saved as a direct result of programs and practices directly funded by a water utility (e.g., measures outlined by the California Urban Water Conservation Council's "Best Management Practices"). Water savings from active conservation completed through 2008 will decline to zero as the lifetime of those devices is reached. This will be offset by an increase in water savings for those devices that are mandated by law, plumbing codes, or other efficiency standards.
3. **Price Effect Conservation**—Reductions in customer use attributable to changes in the real (inflation adjusted) cost of water (Metropolitan 2011a).

Water Use Reduction Target

On November 10, 2009, the state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session, referred to as SBX7-7. This new law is the water conservation component to the historic Delta legislative package, and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020 (20x2020). According to Water Code §10608.36, wholesale agencies are required to include in their UWMPs an assessment of present and proposed future measures, programs, and policies that would help achieve the water use reductions required under SBX7-7. Urban wholesale water suppliers are not required to comply with the target-setting and reporting requirements of SBX7-7. Based on Metropolitan's analysis of population and demand and the methodologies for setting targets described in the legislation, compliance with 20x2020 on an individual agency basis throughout the region would result in reduced potable demand of 380,000 af in 2020 through additional conservation and/or recycling (Metropolitan 2011a).

Demand within Municipal Water District of Orange County

Water demand in the MWDOC service area has increased approximately 70 percent since 1970. Water demand increased from 285,200 afy in 1970 to 467,900 afy in 1990 due to significant population growth within the service area. Based largely on conservation efforts, water demand began to decline in 1990, and by 1992 demand was 406,500 afy. From that point on, demand began to increase again. By 2000, demand in the MWDOC service area was 524,000 afy.

In 2010, the total water demand for MWDOC member agencies was approximately 485,311 af consisting of 220,132 af of imported water (treated and untreated), 220,052 af of local groundwater, 5,485 af of local surface water, and 39,642 af of recycled water. Overall, MWDOC's water demands will likely continue to increase, although not as rapidly as in the past. Future demand growth is projected to average just under 0.5 percent per year, as compared to historical demand growth of approximately 1.54 percent per year. This is due to more limitations on new land development (e.g., cost, available space, and environmental restrictions) and the continued commitment to water use efficiency in the region.

MWDOC has taken an active role and continues to be a leader in promoting water use efficiency; however, Orange County is projecting a 17 percent increase in water demand in the next 25 years accompanying a projected 15 percent population growth (MWDOC 2011, 2-2). This projection takes into account economic recovery in the service area that is projected to occur through 2035. This also includes the 20x2020 per capita water use compliance targets for the region. It is important to note that the region wide demand projection differs from the 20x2020 compliance target because some recycled water supplies used different target methods to achieve their 20x2020 target calculations, consistent with allowable methodologies.

As previously identified, with the passage of SBx7-7, the Water Conservation Bill of 2009, the MWDOC will increase efforts in Orange County to reduce the use of potable supplies in the future. This 2009 law requires all of California's retail urban water suppliers serving more than 3,000 afy or 3,000 service connections to achieve a 20 percent reduction in per capita consumption (from a historical baseline) by 2020. While MWDOC, as a wholesaler, is not directly required to comply with the SBx7-7 water use targets; however MWDOC is required to provide an assessment of its present and proposed future measures, programs, and policies to help its retail water users achieve the water use reductions. MWDOC and 26 of its member agencies as well as the cities of Anaheim, Fullerton, and Santa Ana have created the Orange County 20x2020 Regional Alliance in an effort to help these agencies meet the water use reduction targets required by SBx7-7. With a regional alliance, the entire region is able to benefit from regional investments such as the Orange County Water District (OCWD) and Orange County Sanitation District's (OCSD) Groundwater Replenishment System (GWRS), recycled water, and water use efficiency. Under this approach, MWDOC estimates the interim regional target for Orange County would be 174.1 gallons per capita per day (gpcd) in 2015 and the final target would be 156.5 gpcd in 2020.

Local Demand within Moulton Niguel Water District

There are four major land uses in the MNWD service area: (1) residential (single-family and multi-family), (2) commercial (retail and light industrial), (3) schools, and (4) parks. Residential development, primarily single-family, is the predominant land use throughout the MNWD service area. MNWD has 54,442 customer connections to its water distribution system. It is expected to add approximately 1,500 more connections by 2035 (MNWD 2011, 2-4). All connections in MNWD's service area are metered. Approximately 60 percent of MNWD's water demand is residential. Nonresidential demand, including dedicated landscape irrigation, account for the remaining 40 percent of MNWD's water demand.

Currently, the total water demand for retail customers served by MNWD is approximately 33,846 afy consisting of 26,726 af (79 percent) of potable water and 7,120 af (21 percent) of recycled water (MNWD

2011). The future water demand generated by land uses within the Specific Plan Update was accounted for in the MNWD's 2010 UWMP. As such, the demand increases resulting from implementation of the Specific Plan were included within the future demand projections for MNWD and its service area.

Table 4.15-4 (Past, Current, and Projected Connections [Accts] and Water Demand [afy] by Water Use Sector) provides a summary of past, current, and projected water use and the number of water service connections (Accounts) by customer category (in 5-year increments from 2005 to 2035) from MNWD's 2010 UWMP. Unaccounted-for system losses occur due to leaks, hydrant flushing, un-accounted for usage, and miscellaneous other losses. MNWD's unaccounted-for water amounts to approximately 7 percent of MNWD's total demand and is expected to remain so into the future.

Table 4.15-4 Past, Current, and Projected Connections (Accts) and Water Demand (afy) by Water Use Sector

Years	Single-Family		Multi-Family		CII		Landscape		Totals	
	Accts	afy	Accts	afy	Accts	afy	Accts	afy	Accts	Demand (w/o losses)
2005	46,535	19,648	2,048	2,838	2,586	3,020	2,533	10,901	53,702	36,407
2010	47,038	17,589	2,042	2,600	2,744	2,678	2,618	10,980	54,442	33,846
2015	47,175	21,100	2,048	3,118	2,752	3,212	2,626	13,170	54,601	40,600
2020	47,520	19,748	2,063	2,919	2,772	3,006	2,645	12,327	55,000	38,000
2025	47,866	20,008	2,078	2,957	2,792	3,046	2,664	12,489	55,400	38,500
2030	48,211	20,268	2,093	2,995	2,812	3,085	2,683	12,652	55,799	39,000
2035	48,384	20,527	2,100	3,034	2,823	3,125	2,693	12,814	56,000	39,500

SOURCE: Moulton Niguel Water District, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011; adapted by Atkins June 2011).

Accts = accounts and connections; CII = commercial, industrial, and institutional

■ Supply and Demand

Metropolitan presents its supply availability at the regional level, rather than at the member-agency level. This approach does not enable MWDOC to quantify the availability of imported supply from Metropolitan specific to MWDOC. Table 4.15-5 (Metropolitan's Regional Water Supply/Demand Reliability Projections [afy]) summarizes Metropolitan's current imported supply availability and demand projections for average year, single dry year, and multiple dry years over the 20-year period beginning in 2015 and ending in 2035. Metropolitan's 2010 RUWMP finds that Metropolitan will be able to meet full-service demands for the twenty-six member agencies from 2015 through 2035, even under a repeat of the worst drought (Psomas 2011). MWDOC works with its member agencies each year to develop a forecast of future water demands and local supplies. MWDOC then advises Metropolitan annually of how much water MWDOC anticipates to purchase during the next 5-year period. Imported water supply to MNWD is based on projected supply from MWDOC's 2010 Draft Urban Water Management Plan (MNWD 2010 UWMP). MWDOC's 2010 UWMP states MWDOC expects full reliability for normal, single dry-years, and multiple dry-years for the next 25-year period (Psomas 2011).

Table 4.15-5 Metropolitan's Regional Water Supply/Demand Reliability Projections (afy)

<i>Region Wide Projections</i>	2015	2020	2025	2030	2035
Supply					
Projected Supply During an Average Year	4,073,000	4,499,000	5,140,000	4,998,000	4,865,000
Projected Supply During a Single Dry Year	3,219,000	3,644,000	4,013,000	3,859,000	3,726,000
Projected Supply During Average of Multiple 3 Dry Year Period	2,652,000	2,970,000	3,253,000	3,214,000	3,170,000
Demand					
Projected Demand During an Average Year	2,006,000	1,933,000	1,985,000	2,049,000	2,106,000
Projected Demand During a Single Dry Year	2,171,000	2,162,000	2,201,000	2,254,000	2,319,000
Projected Demand During Average of Multiple 3 Dry Year Period	2,236,000	2,188,000	2,283,000	2,339,000	2,399,000
Supply and Demand Comparison					
Projected Surplus During an Average Year	2,067,000	2,566,000	3,155,000	2,949,000	2,759,000
Projected Surplus During a Single Dry Year	1,048,000	1,482,000	1,812,000	1,605,000	1,407,000
Projected Surplus During Average of Multiple 3 Dry Year Period	416,000	782,000	970,000	875,000	771,000

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 5.2 (Metropolitan's Regional Water Supply/Demand Reliability Projections [AFY]), p. 5-16.

MNWD Supply and Demand

Table 4.15-6 (MNWD Projected Water Supply and Demand in Normal Years) from the WSA prepared for the proposed project summarizes the anticipated supply and demand conditions in normal years. As previously stated, the future water demand generated by land uses within the Specific Plan area was accounted for in the MNWD's 2010 UWMP. As such, the demand increases resulting from implementation of the Specific Plan were included within the future demand projections for MNWD and its services area. As shown in the table, supplies from imported water from Metropolitan, the proposed Baker Water Treatment Plant in Lake Forest (see subsequent discussion) and recycled water are sufficient to meet the projected demand.

Water Treatment and Distribution Facilities

Metropolitan owns the Robert B. Diemer Filtration Plant (Diemer Filtration Plant) in northern Orange County. The Diemer Filtration Plant receives a blend of Colorado River water from Lake Mathews and the SWP water through the Yorba Linda Feeder. Currently, the Diemer Filtration Plant has an operating capacity of 520 mgd (Metropolitan 2010) and treats approximately 213 mgd. Treated water from the Diemer Filtration Plant is conveyed to MWDOC and MNWD and ultimately to customers in the MNWD service area including the Specific Plan area.

Table 4.15-6 MNWD Projected Water Supply and Demand in Normal Years

Water Source	Normal Water Years (afy)				
	2015	2020	2025	2030	2035
Supply					
Imported Water MWDOC	22,700	19,900	20,200	20,600	21,000
Proposed Baker Treatment Plant	9,400	9,400	9,400	9,400	9,400
Recycled Water	8,500	8,700	8,900	9,000	9,100
Total Supply	40,600	38,000	38,500	39,000	39,500
Demand					
Gateway Specific Plan Demand Increase	82	257	425	605	642
Existing Service Area	40,518	37,743	38,075	38,395	38,858
Total Supply	40,600	38,000	38,500	39,000	39,500
Supply / Demand Difference	0	0	0	0	0

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 5.3 (MNWD Projected Water Supply and Demand Normal Water Year), p. 5-19.

Water is conveyed to MNWD through two Metropolitan-operated transmission mains, the East Orange County Feeder No. 2 (EOCF No. 2) and the Allen-McColloch Pipeline (AMP). The MNWD receives water from the EOCF No. 2 through the Joint Transmission Main (JTM) and the Eastern Transmission Main (ETM), a branch off the JTM. MNWD receives water directly from takeouts off the AMP and indirectly from the South County Pipeline (SCP). MNWD has capacities in the JTM equal to 43 cubic feet per second (cfs), 10 cfs in the ETM, and 35 cfs in the AMP/SCP (Psomas 2011).

Within the Specific Plan Area, there is a 12-inch-diameter polyvinyl chloride (PVC) potable water line within the 650 pressure zone located in Cabot Road. There is an 8-inch-diameter PVC potable water line within the 450 pressure zone located in Forbes Road. A 16-inch-diameter steel (STL) pipe within the 450 pressure zone is located in Crown Valley Parkway and extends along Oso Creek and through Forbes Road, and terminates at the meter vault on Camino Capistrano. The potable water pipe sizes vary between 8 inches and 10 inches within the 450 pressure zone in Camino Capistrano. A reclaimed water line, used for landscape irrigation purposes only, exists in Cabot Road (Laguna Niguel 2007).

Additionally, MNWD is currently participating in the design of a potable water treatment facility on the Baker pipeline. The Baker Water Treatment Plant will be a new 25 mgd plant at the existing Irvine Ranch Water District's (IRWD) Baker Filtration Plant site in the City of Lake Forest. The Baker Water Treatment Plant will treat imported untreated water from the Santiago Lateral and Irvine Lake through the Baker Pipeline. The proposed project would provide increased water supply reliability to southern Orange County by providing treated water to customers of IRWD, El Toro Water District, MNWD, Santa Margarita Water District, and Trabuco Canyon Water District. It will also help provide a reliable local potable water supply in the event of emergency conditions or scheduled maintenance on the Metropolitan delivery system. The Baker Water Treatment Plant is expected to come online by 2015. MNWD will own 13 cfs of capacity in the plant or approximately one-third of its capacity.

4.15.2 Regulatory Framework

■ Federal

Federal Safe Drinking Water Act

Enacted in 1974 and implemented by the U.S. Environmental Protection Agency (EPA), the federal Safe Drinking Water Act imposes water quality and infrastructure standards for potable water delivery systems nation-wide. The primary standards are health-based thresholds established for numerous toxic substances. Secondary standards are recommended thresholds for taste and mineral content.

Clean Water Act

The EPA established primary drinking water standards in the Clean Water Act, Section 304. States are required to ensure that potable water retailed to the public meets these standards. Standards for a total of eighty-one individual constituents have been established under the Safe Drinking Water Act as amended in 1986. The EPA may add additional constituents in the future. State primary and secondary drinking water standards are promulgated in the California Code of Regulations (CCR) Title 22, Sections 64431–64501. Secondary drinking water standards incorporate nonhealth risk factors including taste, odor, and appearance.

■ State

Urban Water Management Planning Act

The California Urban Water Management Planning Act (California Water Code Division 6, Part 2.6 Sections 10610–10656) requires water suppliers to develop water management plans every 5 years to identify short-term and long-term water resource management measures to meet growing water demands during normal, dry, and multiple-dry years.

Safe Drinking Water Act

California enacted its own Safe Drinking Water Act (SDWA) in 1976. The Department of Health Services (DHS) has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Administrative Code establishes CDHS authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the Federal standards.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950–11954), as reflected below:

11952(a). It is the intent of the Legislature in enacting this chapter to encourage local agencies and private enterprise to implement potential water conservation and reclamation projects. ...

California Water Code Sections 10910 et seq.

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610

amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code (CWC) Sections 10910 et seq.

Water supply planning under CWC Section 10910 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by certain qualifying projects, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. For areas served by public water systems, this information is typically found in the current UWMP. CWC 10910 requires the identification of the public water supplier. Under CWC 10910, a WSA need only be prepared if a project exceeds thresholds of development identified, thereby relieving projects of less significance from the requirements of the bill. SB 610 requires water supply assessments in any environmental documentation for certain projects (as defined in Water Code 10912(a)) subject to CEQA. A WSA was prepared by the MNWD and approved by the MNWD Board of Directors, for the proposed project (EIR Appendix F).

SB 221 requires the legislative body of a city, county, or local agency to include, as a condition in any tentative map that includes a subdivision, a requirement that a sufficient water supply shall be available to serve the subdivision. A “subdivision” is defined in SB 221 as a proposed residential development of more than 500 dwelling units or one that would increase, by at least 10 percent, the number of service connections of a public water system having less than 5,000 connections. “Sufficient water supply” is defined as the total water supplies available during normal, single-dry, and multiple-dry years within a twenty-year projection that will meet the projected demand of a proposed subdivision. SB 221 ensures that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

Recycled Water Regulations

Within the state of California, recycled water is regulated by the EPA, the SWRCB, Regional Water Quality Control Boards (RWQCB), and California Department of Public Health (DPH). SWRCB has adopted Resolution No. 77-1, Policy with Respect to Water Reclamation in California. This policy states that the SWRCB and RWQCB would encourage and consider or recommend for funding water reclamation projects that do not impair water rights or beneficial instream uses, such as maintaining certain riparian habitats or supporting recreational activities.

The RWQCB implements the SWRCB’s Guidelines for Regulation of Water Reclamation and issues waste discharge permits that serve to regulate the quality of recycled water based on stringent water quality requirements. The DPH develops policies protecting human health, and comments and advises on Regional Water Quality Control Board permits.

Title 22

The California Water Code requires the DPH to establish water reclamation criteria. In 1975, the DHS prepared Title 22 to fulfill this requirement. Title 22 regulates the production and use of reclaimed water in California by establishing three categories of reclaimed water: primary effluent, which typically includes grit removal and initial sedimentation or settling tanks; adequately disinfected, oxidized effluent (secondary effluent) which typically involves aeration and additional settling basins; and adequately disinfected, oxidized, coagulated, clarified, filtered effluent (tertiary effluent) which typically involves

filtration and chlorination. In addition to defining reclaimed water uses, Title 22 also defines requirements for sampling and analysis of effluent and requires specific design requirements for facilities.

■ Regional

Metropolitan 2010 Regional Urban Water Management Plan

The RUWMP serves as the master plan for water supply and resources management for the Metropolitan's 26 member agencies. This plan provides the basic policy principles that guide Metropolitan's decision-making process to secure a sustainable water supply.

Municipal Water District of Orange County 2010 Urban Water Management Plan

The 2010 UWMP serves as the master plan for water supply and resources management for the MWDOC's member agencies. This plan provides the basic policy principles that guide MWDOC's decision-making process to secure a sustainable water supply.

Moulton Niguel Water District 2010 Urban Water Management Plan

The UWMP is not only designed to meet the current requirements of the California Urban Water Management Planning Act, but also serves as the master plan for water supply and resources management. The UWMP is not only intended for government officials in Sacramento, but also helps guide policy makers in the City and MNWD, as well as providing important information to citizens of Laguna Niguel. While serving as a valuable resource for information, this plan provides the basic policy principles that will guide MNWD's decision-making process to secure a sustainable water supply.

■ Local

Laguna Niguel General Plan

The Laguna Niguel General Plan establishes goals, policies, and programs that serve as a decision-making tool to guide future growth and development in the City.

Open Space Element

- | | |
|----------------------|---|
| Goal 10 | Effective utilization and Management of Water Resources. |
| Policy 10.1 | Require appropriate water conservation and mitigation measures on all development projects. |
| Action 10.1.1 | Require drought-tolerant landscaping and water conserving fixtures, where feasible. |
| Action 10.1.2 | Where feasible, incorporate reclaimed water systems into landscape irrigation plans. |

Public Facilities Element

- | | |
|-------------------|--|
| Goal 1 | A water and wastewater infrastructure system that supports existing and future development in the City of Laguna Niguel. |
| Policy 1.1 | Encourage water conservation practices. |

- | | |
|---------------------|---|
| Action 1.1.1 | Require water conservation measures to be incorporated into all new development. |
| Action 1.1.2 | Require demonstration of adequate water and wastewater capacity prior to approval of new development. |
| Action 1.1.3 | Require drought tolerant landscaping in industrial, commercial, and residential development. |
| Action 1.1.4 | Cooperate with Moulton Niguel Water District in their water conservation awareness program. |
| Policy 1.2 | Cooperate with Moulton Niguel Water District in analyzing capacity and supply requirements. |
| Policy 1.3 | Coordinate with the Moulton Niguel Water District to make reclaimed water available within the City of Laguna Niguel. |

Consistency Analysis

Implementation of the Specific Plan could include the construction of necessary water conveyance pipeline upgrades, both on- and off-site, to serve future development. Specific future developments for the Specific Plan are not known at this time and no specific development plan has been proposed or presented. However, the water lines associated with future development permitted under the Specific Plan would be required to be sized appropriately for the anticipated design average day demand and appropriate peaking factors. Any impact to water demand and supply would be assessed and mitigated based on individual CEQA documentation. Therefore, Specific Plan would be consistent with the goals, objectives, and policies contained in the General Plan.

City of Laguna Niguel Municipal Code

Laguna Niguel Water Efficient Landscaping Ordinance

Laguna Niguel Municipal Code Section 6-3-603 ensures the protection and preservation of water resources within the city in accordance with the open space/parks/and conservation element of the city's General Plan. The landscaping ordinance ensures protection of water resources from excessive use for plant materials in commercial, industrial, public, and residential developments. The ordinance establishes review procedures to evaluate required reports, plans, and landscape information pertaining to proposed development projects.

4.15.3 Project Impacts and Mitigation

■ Analytic Method

To determine impacts on water supply resulting from future development under the proposed project, this section includes an evaluation of whether the projected increase in water use at the project site falls within the MNWD projected water demands and supplies. It also includes an analysis of whether any

infrastructure improvements would be necessary and whether there will be an adequate and reliable source of water for the proposed project.

Existing Project Project Site Demands

The Specific Plan area is served by the MNWD. Historical water use records for the Specific Plan area were provided by MNWD for fiscal years 2007 through 2010 and are summarized in Table 4.15-7 (Historical Project Area Water Use). Based on average deliveries from 2007 through 2010, the project area has an average historical total water use of approximately 175 afy, including approximately 126 af of potable water and 49 af of reclaimed water. As shown in Table 4.15-7, water demands have steadily decreased since 2007. Some of this reduction is likely due to conservation resulting from area-wide drought and Metropolitan's recent water allocation program. Water demands are expected to increase under nondrought conditions, however, some of the reduction is likely due to permanent water conservation measures. Reduction in water use may also be attributed, in part, to the recent downturn in the economy. Based on existing land use data and billing records, the average unit demand factor for existing retail commercial use within the Project area is equal to approximately 170 gallons per day per thousand square feet (gpd/ksf) and business park and office use averaged approximately 45 gpd/ksf. Using data for 2007 as the highest water use year, unit demands for existing land use within the project area are 183 gpd/ksf for retail commercial and 52 gpd/ksf for office and business park use.

Table 4.15-7 Historical Project Area Water Use

Year	Potable Water (afy) ^a	Reclaimed Water (afy) ^b	Total Water Use (afy)
2007	136	56	192
2008	133	52	185
2009	120	48	168
2010	116	41	156
Average	126	49	175

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 3.3 (Historical Project Area Water Use), p. 3-3.

- Inside water usage is increased based on the additional residential dwelling units and additional retail, office, commercial, and hotel uses.
- Outside reclaimed water usage (irrigation), averaging 49 afy over the past four years, are not included as new demand on the system. It is assumed that these irrigation needs will continue to be met by recycled water and do not impact water supply reliability within the MNWD system. It is also assumed that these demands will remain relatively unchanged due to the intensification. This assumption is based on the fact that the Project area is intended to be an urban environment with attached residential products coupled with commercial development. Extensive landscapes are not anticipated to be utilized in these types of development projects.

Laguna Niguel Gateway Specific Plan Update Demands

The total projected new potable water demand resulting from the proposed Specific Plan Update is 642 afy at build-out, as shown in Table 4.15-8 (Proposed Project Water Demand). Projected water demands for the Specific Plan area were calculated based on the demand factors shown in Table 4.15-8 and described below. The calculated total potable water demand for the Specific Plan area is 726 afy. The existing water use is assumed as the average water demand over the past four years of 126 afy. The

resulting new project demand is 600 afy with an additional 42 afy in system water losses (7 percent water loss based on the MNWD 2010 UWMP).

Table 4.15-8 Proposed Project Water Demand					
Specific Plan Land Uses	Area/Units	Factor (gpd/unit)	Demand		
			gpd	mgd	afy
Residential ^a	2,994 du	123	368,262	0.37	412
Retail Commercial ^b	532 ksf	195	103,671	0.10	116
Office ^c	1,141 ksf	60	68,461	0.07	77
Business Park ^c	400 ksf	60	23,982	0.02	27
Hotel ^d	350 rooms	125	43,750	0.04	49
Auto Sales ^e	17.78 acres	—	40,408	0.040	45
<i>Subtotal</i>	—	—	564,376	0.56	726
Less Existing Demand	—	—	—	—	-126
Total	—	—	—	0.54	600
7% Losses ^f	—	—	—	—	42
Water Demand Increase	—	—	—	0.57	642

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 3.4 (Proposed Project Water Demand), p. 3-4.

du = dwelling units; ksf = thousand square feet

- Inside residential water usage is estimated based on the number of dwelling units times an estimated 1.75 people per dwelling unit and 70 gallons per capita per day. The people per dwelling unit is based on an estimate provided the City. The 70 gallons per capita is based on statistics compiled by the American Water Works Association from the website www.drinktap.org.
- Inside water use for commercial uses is estimated based on 195 gpd/ksf, which is an average of the regional and community commercial land use water demand factors used by IRWD in their Water Resources Master Plan of 180 gpd/ksf and 209 gpd/ksf, respectively. Existing retail commercial water demand within the Project area was equal to 183 gpd/ksf in 2007. The estimate of 195 gpd/ksf is more conservative.
- Inside water use for office uses is estimated based on 60 gallons per day (gpd) per thousand square feet (/ksf). The sources for this duty factor are from actual inside water meter readings compiled by Irvine Ranch Water District (IRWD) in 2004 for 13 office buildings totaling over 2.5 million square feet in the City of Irvine that averaged 66 gpd/ksf. Based on these studies and other information, IRWD1 used 56 gpd/ksf to project inside water demand for office uses in their Water Resources Master Plan dated July 2003. Office and business park demand within the Project area was 52 gpd/ksf in 2007, based on the highest demand year in meter records from 2007 through 2010. City of Anaheim staff also compiled water meter readings for 7 office buildings from 2005 to 2007 totaling over 900,000 sf. The weighted average usage of these readings was 61 gpd/ksf. Some of these uses also included at least a minimal amount of irrigation demand as there were not separate irrigation meters for each property.
- Inside water usage for the hotel is projected at 125 gpd/room. The Los Angeles County Sanitation District uses a sewage generation rate of 125 gpd/room. Meter data from two hotels in Anaheim from 2006 to 2008 recorded average inside water demands of 125 gpd/room and 111 gpd/room.
- Includes 187,599 sf of building space and 587,769 of exterior sales space for a conservative estimate
- A 7 percent allowance was added to the net new demand to account for losses in the water system. This is based on the average system losses experienced by the MNWD and documented in their 2010 UWMP.

Project development is anticipated to occur over a 23-year period beginning in year 2012 with build-out by the end of year 2035. The WSA (included as Appendix F to this EIR) analysis for the Specific Plan area is over a 20-year period at 5-year increments ending in 5 and 0 to match MNWD's UWMP projection periods out to 2035. This meets the required minimum 20-year planning period and maintains consistency with the District's 2010 UWMP. Phased water demand increases as a result of the proposed Project at 5-year increments are shown in Table 4.15-9 (Water Demand Phasing).

	Year 5	Year 10	Year 15	Year 20
Total Specific Plan	222	402	554	726
Less Existing Demand	-126	-126	-126	-126
<i>Demand Increase</i>	96	276	427	600
7% Losses	7	19	30	42
Total New Demand on System	103	295	457	642

SOURCE: Psomas, *Laguna Niguel Gateway Specific Plan Water Supply Assessment* (May 18, 2011), Table 3.5 (Water Demand Phasing), p. 3-6.

As presented in the WSA for the proposed project, current and projected water demand and supply for the MNWD through Year 2035 shows a sufficient water supply for the District and the proposed Specific Plan update through the 20-year planning period. Projected demands for the MNWD were based on their Draft 2010 UWMP. By the year 2035, the MNWD's projected water demand is 39,500 afy based on the Draft 2010 UWMP, including population growth and corresponding demand increases as well as the approximately 642 afy of water demand increase associated with the Specific Plan area. The Specific Plan area demand increase represents 1.6 percent of the MNWD's projected total water demands by Specific Plan build-out in 2035 (2010 UWMP planning period). It is also anticipated that the Specific Plan area will continue to utilize recycled water in the future.

The information included in the WSA (EIR Appendix F) identified a sufficient water supply and reliability to the MNWD's service area to serve the Specific Plan Update area. Although imported water supplies from the SWP through the Delta are of significant concern especially in the near future, the planning and conservation efforts on the state, regional, and local level, ensure that the MNWD will be able to provide a reliable source of water to accommodate its existing and future users.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on utilities/service systems if it would do any of the following:

- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements

■ Effects Found to Have No Impact

No effects have been identified that would have no impact with respect to water supply.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
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Impact 4.15-1 **Implementation of the proposed project could require or result in the construction of new water treatment facilities or expansion of existing facilities, but the construction of which would not cause significant environmental effects. This would be a *less-than-significant* impact.**

The City of Laguna Niguel is served by the MNWD. The majority of the water supply for MNWD is from imported water from the Metropolitan via MWDOC. Metropolitan supplies water from both the Colorado River and the Sacramento-San Joaquin Delta in Northern California. Water is delivered to the City after being treated at the Diemer Filtration Plant located in Yorba Linda. Future Gateway area water supplies would be delivered through existing City supply facilities and new water infrastructure constructed for delivery into specific project sites, per the requirements of the City of Laguna Niguel.

As stated previously the Diemer Filtration Plant has an operating capacity of 520 mgd. The WSA (Appendix F) prepared for the Specific Plan Update estimated daily water demands generated by the proposed project. Implementation of the Specific Plan in a normal water year would increase water demand by 640 afy or 0.53 mgd by build-out year of 2035 as shown in Table 4.15-8. The increase in water demand for normal year for the proposed project represents far less than one percent of the Diemer Filtration Plant total treatment capacity and approximately 0.24 percent of the remaining capacity. As such, no additional water treatment facilities are required to meet water demands associated with the proposed project and the project would not require the construction or expansion of water treatment facilities. Furthermore, Metropolitan manages and maintains all the treatment plants, and any improvements or expansions are the responsibility of Metropolitan (not that of MNWD) and would not adversely affect the supply capabilities of MNWD or the proposed project. Therefore, impacts of the proposed project on water treatment facilities would be *less than significant*. No mitigation is required.

Threshold	Would the proposed project have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements?
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Impact 4.15-2 **Implementation of the proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources, and would not need new or expanded entitlements. This would be a *less-than-significant* impact.**

The WSA (EIR Appendix F) prepared for the Specific Plan Update estimated that implementation of the Specific Plan in a normal water year would increase water demand by 640 afy or 0.53 mgd (up to 642 and 0.57 with losses) by build-out year of 2035 as shown in Table 4.15-8.

Table 4.15-8 summarizes supply, demand, and surplus projections for normal year over the 25-year period beginning in 2015 and ending in 2035. The increase in water demand generated by the implementation of the Specific Plan Update of 640 afy would represent less than one percent of

Metropolitan’s excess water supply. Metropolitan has adequate water supply to meet the water demand of the proposed project. Sufficient water supplies would be available to serve the proposed project, as well as the City, in the future. The increase in water supply by the proposed project would represent less than one percent of the supply capacity. The amount of potable water necessary to meet future demands generated by the proposed project may be obtained by using current water supply facilities. Locally, as shown in Table 4.15-4, the MNWD estimates its water supply and demand situation over the next 25 years including new supplies from the proposed Baker Treatment Plant and use of recycled water. As shown in Table 4.15-4, the MNWD that potable supplies would average approximately 30,000 afy from imported water from the MWDOC and the proposed Baker Treatment Plant. Based on the supply and demand data and the availability of surplus supplies from Metropolitan via MWDOC, the MNWD would have sufficient supplies to meet the projected demand generated by the Specific Plan Update. Since adequate water supplies would be available, the potential impacts to water supplies now and in the future are *less than significant*. No mitigation is required.

It should be noted that approximately 21 percent of the MNWD water supply is from recycled water. Recycled water is expected to increase to approximately 23 percent of the supply by 2035 with the planned expansion of MNWD’s recycled water distribution system (Psomas 2011). There is adequate recycled water supply to meet the water demand of the proposed project.

4.15.4 Cumulative Impacts

Threshold	Would the proposed project require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
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The cumulative impact of growth under the Specific Plan, as well as existing and projected future growth within the water service area of the MNWD and Metropolitan, would be the same as that described above with regards to project-specific impacts. The implementation of the Specific Plan in a normal water year would increase water demand by 642 afy by build-out year of 2035 as shown in Table 4.15-8. The Diemer Filtration Plant has the capacity to accommodate the water demand generated by cumulative new development including those areas severed by MWDOC, the MNWD, and City of Laguna Niguel. With a current treatment capacity of 520 mgd and a remaining capacity of over 300 mgd, projects developed under the Specific Plan would account for less than one percent increase in demand at the Diemer Filtration Plant.

The projects developed under the Specific Plan are cumulatively considerable; however, Metropolitan’s planning accounts for growth and land use changes within its entire service area including the Specific Plan area. As such, Metropolitan plans, constructs, and operates its water service facilities to accommodate planned growth (see Metropolitan Demand discussion) throughout its regional service area. Consequently, the cumulative contribution of the Specific Plan is *less than significant* on water service facilities operated by Metropolitan.

Water supply transmission lines may require upgrading on a project-by-project basis, which would be the obligation of each project developer(s) to complete. Any construction impacts associated with these projects would be addressed in their individual CEQA documentation.

Threshold	Would the proposed project have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements?
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The MNWD prepared a WSA for the proposed project, which was based on its 2010 UWMP pursuant to Water Code Sections 10910 et seq. The 2010 UWMP presents MNWD's water supplies and its ability to adequately meet water demands until 2035. Much of MNWD's supply information is based on information from MWDOC's 2010 UWMP and further supported by Metropolitan's 2010 RUWMP. In its 2010 RUWMP Metropolitan accounted for cumulative growth in water demand within its service area including that of MWDOC and MNWD. As such, current water demand projections throughout the respective service areas of MWDOC and MNWD were accounted for in the water demand projections by Metropolitan. Although the proposed project's contribution to regional demand is cumulatively considerable, Metropolitan's planning and forecasting accounts for growth or land use changes with its entire service area; therefore, the proposed project would have a ***less-than-significant cumulative*** impact on water supplies.

It should be noted that approximately 21 percent of the MNWD water supply is from recycled water. Recycled water is expected to increase to approximately 23 percent of the supply by 2035 with the planned expansion of MNWD's recycled water distribution system (Psomas 2011). There is adequate recycled water supply to meet the water demand of the proposed project.

4.15.5 References

- Laguna Niguel, City of. 2007. *Laguna Niguel Gateway Specific Plan Baseline Conditions Report*, October.
- Metropolitan Water District of Southern California (Metropolitan). 2010. Joseph Jensen Treatment Plant, November. <http://www.mwdh2o.com/mwdh2o/pages/yourwater/plants/jensen01.html> (accessed May 25, 2011).
- . 2011a. *Final Draft 2010 Urban Water Management Plan*, April.
- . 2011b. Press Release: Southland's Improved Water Reserve Conditions Allow Metropolitan's Board to Lift Mandatory Restrictions, April 12.
- Metropolitan Water District of Southern California Board of Directors (Metropolitan Board). 2008. Water Planning and Stewardship Committee Board Meeting. Attachment 2 (2008 Supply Allocation Scenarios—January 22, 2008), February 12.
- Moulton Niguel Water District (MNWD). 2011a. *Laguna Niguel Gateway Specific Plan Water Supply Assessment*, May 18 (adapted by Atkins June 2011).
- . 2011b. *2010 Urban Water Management Plan*, April.
- Municipal Water District of Orange County (MWDOC). 2011. *Draft 2010 Draft Regional Urban Water Management Plan*. Prepared by Malcolm Pirnie, Inc., April.
- Psomas. 2011. *Laguna Niguel Gateway Specific Plan Water Supply Assessment*, May 18.

Wastewater

This section describes the current and future status of wastewater services in the City of Laguna Niguel, including a discussion of the ability of the City's wastewater services to meet the current and future needs

of the City, including build-out of the Specific Plan. No comment letters were received in response to the NOP circulated for wastewater.

Data for this section were taken from the Laguna Niguel Gateway Specific Plan Baseline Conditions Report, and other relevant documents and internet resources related to wastewater. Full reference-list entries for all cited materials are provided in Section 4.15.10 (References).

4.15.6 Environmental Setting

MNWD owns and operates the sewer collection system within the Specific Plan area. Wastewater collected by MNWD is sent to the South Orange County Wastewater Authority (SOCWA) plants for treatment and disposal. SOCWA is a Joint Powers Authority that collects, treats, and disposes of wastewater and sludge in south Orange County. MNWD is a member agency of SOCWA which also includes City of Laguna Beach, Trabuco Canyon Water District, Emerald Bay Services District, South Coast Water District, Irvine Ranch Water District, the City of San Clemente, City of San Juan Capistrano, and Santa Margarita Water District. Costs for the operation and maintenance of treatment facilities are proportioned to each member agency primarily based on volume deliveries and/or capacity ownership of the plants.

The SOCWA J.B. Latham Treatment Plant (LTP) has a design capacity of 13 mgd and the current total average daily flow tributary is 8.5 mgd. The Joint Regional Wastewater Treatment Plant (JRTP) has a capacity of 12 mgd and is currently processing slightly over 10 mgd. MNWD's Plant 3A, located in the City of Laguna Niguel, has a secondary treatment capacity of 8 mgd and is currently processing 4 mgd. MNWD owns 22.7 mgd of secondary treatment capacity in the SOCWA treatment plants (MNDW 2011).

MNWD collects wastewater via a network of gravity lines, lift stations, and force mains throughout the service area. Currently sewer lines exist throughout the Specific Plan area, and pump stations exist on the south side of Crown Valley Parkway and on the west side of Oso Creek. There are existing 20-inch-diameter polyvinyl chloride (PVC) forcemain and 8-inch-diameter vitrified clay pipe (VCP) sewer located in Cabot Road. Forbes Road has an existing 10-inch-diameter VCP sewer north of Crown Valley Parkway and a 15-inch-diameter VCP sewer south of Crown Valley Parkway. Cape Drive has an 8-inch-diameter VCP sewer. Camino Capistrano has sewer pipes in various sizes including 36-inch-diameter, 33-inch-diameter, 30-inch-diameter, 12-inch-diameter, 10-inch-diameter, and 8-inch-diameter VCP sewers (Laguna Niguel 2007).

4.15.7 Regulatory Framework

■ Federal

Federal Water Pollution Control Act (Clean Water Act)

The major piece of federal legislation dealing with wastewater is the federal Water Pollution Control Act, which is designed to restore and preserve the integrity of the nation's waters. The federal Water Pollution Control Act, popularly known as the Clean Water Act, is a comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Enacted originally in

1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. In addition to the federal Water Pollution Control Act, other federal environmental laws regulate the location, type, planning, and funding of wastewater treatment facilities.

■ State

The operation of Treatment Plants is subject to regulations set forth by the California Department of Health Services and the SWRCB.

■ Regional

Regional Water Quality Control Board

Under the San Diego Regional Water Quality Control Board (SDRWQCB) National Pollutant Discharge Elimination System (NPDES) permit system, all existing and future municipal and industrial discharges to surface waters within the City are subject to regulations. The NPDES permit requires that all development within the City is subject to the provisions of the NPDES Storm Water Permit. The NPDES storm water permit was issued by SDRWQCB for municipal storm water and urban runoff discharges for the San Diego Basin region of Orange County.

■ Local

General Plan

Public Facilities Element

- | | |
|---------------------|--|
| Goal 1 | A water and wastewater infrastructure system that supports existing and future development in the City of Laguna Niguel. |
| Policy 1.1 | Encourage water conservation practices. |
| Action 1.1.1 | Require water conservation measures to be incorporated into all new development. |
| Action 1.1.2 | Require demonstration of adequate water and wastewater capacity prior to approval of new development. |
| Action 1.1.4 | Cooperate with Moulton Niguel Water District in their water conservation awareness program. |
| Policy 1.2 | Cooperate with Moulton Niguel Water District in analyzing capacity and supply requirements. |
| Policy 1.3 | Coordinate with the Moulton Niguel Water District to make reclaimed water available within the City of Laguna Niguel. |

Consistency Analysis

Implementation of the Specific Plan would be required to meet applicable City conservation requirements, including those required through the 2010 California Building Code. Wastewater

generation is correlated with water usage and continued water conservation practices would reduce the volume of wastewater generated. New developments under implementation of the proposed Specific Plan Update would continue to comply with all provisions of the NPDES program and would be required to comply with all applicable wastewater discharge requirements issued by the SWRCB and RWQCB. OCSD and the City would maintain local sewer lines and perform upgrades on an as-needed basis. As discussed in the impact analysis, it is anticipated that the increased flows from development under the Specific Plan would not result in required upgrades to the reclamation plants. However, if it is determined at a later date that new facilities would need to be constructed, a project-specific environmental evaluation would be required under CEQA to analyze any potential adverse environmental effects that might result from such a facility. Implementation of the Specific Plan Update would not conflict with the goals and policies of the City's Public Facilities Element.

4.15.8 Project Impacts and Mitigation

■ Analytic Method

Water use and wastewater flows are related. In general, wastewater is generated from indoor water uses, such as toilets, as well as industrial discharges, such as those resulting from commercial operations. To determine the amount of wastewater that would be generated by the implementation of the Specific Plan, wastewater generation factors were applied for the type and amount of proposed land uses (e.g., residential, commercial, and industrial). For the most conservative analysis, the wastewater generation rates found in the City of Los Angeles Draft L.A. CEQA Thresholds Guide, Exhibit K.2-11 (Sewage Generation Factors), were used as a basis for determining the quantity of wastewater that would be generated at the Specific Plan site. These rates provide the wastewater yields that would be expected during peak hour flows (largest volumes); as such, the calculations overestimate the quantities beyond that of the potable inflows. This methodology allows for complete analysis of the wastewater that would need to be treated at the MNWD's SOCWA wastewater treatment facilities. Wastewater impacts were then determined by comparing the estimated future wastewater flows to the capacity of the sewer lines and the water treatment plants to determine whether sufficient capacity exists and/or whether there is a need for additional wastewater conveyance or treatment systems. Table 4.15-10 (Wastewater Generated from Existing Uses and Specific Plan Build-Out) shows the estimated wastewater generation from projects developed under the Specific Plan.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on utilities/service systems if it would do any of the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects

Table 4.15-10 Wastewater Generated from Existing Uses and Specific Plan Build-Out

Land Use	Wastewater Generation Rate	Existing Uses		Specific Plan Build-Out	
		Size	Waste Generated	Size	Waste Generated
Residential	160 gpd/du	n/a	n/a	2,994 du	479,040 gpd
Retail	0.08 gpd/sf	150,895 sf	12,072 gpd	531,648 sf	42,532 gpd
Office	0.15 gpd/sf	173,900 sf	26,085 gpd	1,141,090 sf	171,164 gpd
Auto Sales ^a	0.08 gpd/sf	774,497 sf	61,960 gpd	774,497 sf	61,960 gpd
Light Manufacturing/Business Park	0.08 gpd/sf	802,260 sf	64,181 gpd	399,695 sf	31,976 gpd
Hotels	130 gpd/room	33 rooms	4,290 gpd	317 rooms	41,210 gpd
	Total	—	168,588 gpd 0.16 mgd	—	827,882 gpd 0.82 mgd

SOURCE: City of Los Angeles, *Draft L.A. CEQA Thresholds Guide* (May 14, 1998), Exhibit K.2-11 (Sewage Generation Factors).

a. Includes 187,599 sf of building space and 587,769 of exterior sales space for a conservative estimate of wastewater usage.

- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments

■ Effects Found to Have No Impact

No effects have been identified that would have no impact with respect to wastewater.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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Impact 4.15-3 Implementation of the proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. This would be a *less-than-significant* impact.

The NPDES permit system requires that all existing and future municipal and industrial discharges to surface waters within the City be subject to specific discharge requirements. New development pursuant to implementation of the Specific Plan must to comply with all provisions of the NPDES program and other applicable waste discharge requirements, as enforced by the SDRWQCB and the SWRCB. Therefore, implementation of the Specific Plan would not result in an exceedance of wastewater treatment requirements. Build-out of the Specific Plan would not result in the discharge of wastewater to any surface water. Instead, operational discharges would be sent to the sewer system, which would ultimately be treated at the LTP, JRTP, or Plant 3A. The wastewater reclamation plants are required to comply with associated Waste Discharge Requirements (WDRs) and any updates or new permits issued. WDRs set the levels of pollutants allowable in water discharged from a facility. Compliance with applicable WDRs would ensure that implementation of the Specific Plan would not exceed the applicable wastewater treatment requirements of the SDRWQCB with respect to discharges to the sewer system. This would result in a *less-than-significant* impact. No mitigation measures are required.

Threshold	Would the proposed project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Threshold	Would the proposed project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact 4.15-4 Implementation of the proposed project would require additional wastewater to be treated, but would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. The proposed project would not result in inadequate capacity by wastewater treatment provider to serve the project's projected demand. This is a *less-than-significant* impact.

As shown in Table 4.15-10 implementation of the Specific Plan would increase the amount of wastewater transported by the sewer system by approximately 659,294 gpd (0.66 mgd). The proposed project's wastewater flows would be treated by the LTP, JRTP, or Plant 3A. The LTP has a design capacity of 13 mgd and the current total average daily flow tributary is 8.5 mgd. The JRTP has a capacity of 12 mgd and is currently processing slightly over 10 mgd. MNWD's Plant 3A has a secondary treatment capacity of 8 mgd and is currently processing 4 mgd. With a current capacity of the three treatment facilities, the wastewater generated by the implementation of the Specific Plan would account for less than 1 percent increase in demand at the treatment plants. Based on current treatment levels and the design capacity, there would be ample capacity to treat the full increase in sewage attributable to growth anticipated under build-out of the Specific Plan. There are adequate water and wastewater treatment facilities capacity to serve the proposed project, and would not require the construction or expansion of water or wastewater treatment facilities.

Increased wastewater generation due to implementation of the Specific Plan could be accommodated by the existing treatment infrastructure; therefore, expansion of existing facilities would not be required. However, if it is determined at a later date that new facilities would need to be constructed, a project-specific environmental evaluation would be required under CEQA to analyze any potential adverse environmental effects that might result from such a facility. Therefore, given existing and anticipated future capacity at the treatment facilities and wastewater generation expected from the Specific Plan's build-out, impacts to the wastewater treatment facilities associated with implementation of the Specific Plan would be *less than significant*. No mitigation is required.

4.15.9 Cumulative Impacts

Threshold	Would the proposed project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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The design capacities of the wastewater treatment facilities are based on the regional growth forecast adopted by SCAG, which in turn is based on cities' general plans and other forecasts of SCAG's member cities. As analyzed in Section 4.11 (Population/Housing) of this EIR, full build-out of the proposed

project will not exceed the SCAG's growth projections for the City. Additionally, the existing treatment plants operate well below their design capacity. Thus, it is anticipated that cumulative development would not exceed the capacity of the wastewater treatment system. This cumulative impact is considered *less than significant*.

The City would continue to implement water conservation measures that would result in a decrease in wastewater generation, and each of the wastewater treatment plants would still have excess capacity. Consequently, the proposed Specific Plan Update would not result in a cumulatively considerable contribution to an impact on wastewater treatment. The cumulative impact of the project would be *less than significant*.

Threshold	Would the proposed project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
Threshold	Would the proposed project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The geographic context for the analysis of cumulative impacts associated with wastewater would be the service area of the MNWD. Cumulative impacts from future growth within the City regarding sewer line capacity are mitigated on a project-by-project basis. Should the existing local wastewater collection lines adjacent to a Specific Plan area not be adequate to serve the development, the project developer(s) would be responsible for constructing local mains and extensions to serve their project EPA. The final sewer line configuration would be approved by the City of Laguna Niguel. Additionally, Air Quality, Traffic, and Noise construction impacts associated with such off-site improvements would be assessed in each project's CEQA document. As each project would construct the necessary sewer lines in accordance with existing requirements, there would be a less-than-significant overall cumulative impact. To the extent that future projected growth would result in the treatment capacity of the wastewater treatment plant being inadequate, each project would be required to mitigate its individual impacts to wastewater treatment facilities, and any potential increase in the demand for wastewater treatment facilities would require the payment of fees to upgrade the impacted wastewater systems. Future projects would be required to pay fees and develop construction schedules that would reduce the overall impacts to current and future residents in the area. Therefore, the impact of cumulative development on wastewater treatment would not be significant. Because development under the Specific Plan would also comply with these requirements, the cumulative impact of the Specific Plan is *less than significant*.

4.15.10 References

- Laguna Niguel, City of. 2007. *Laguna Niguel Gateway Specific Plan Baseline Conditions Report*, October.
- Los Angeles, City of. 1998. *Draft L.A. CEQA Thresholds Guide*. Exhibit K.2-11 (Sewage Generation Factors), May 14.
- Moulton Niguel Water District (MNWD). 2011. *2010 Urban Water Management Plan*, April.

Solid Waste

This section describes the current status of solid waste services in the City of Laguna Niguel and analyzes the potential physical environmental effects related to solid waste impacts created by construction of new or additional facilities associated with future development due to implementation of the Specific Plan. Solid waste is defined as refuse requiring collection, recycling, or disposal into a landfill.

Data for this section were taken from a variety of sources including the Laguna Niguel General Plan, Laguna Niguel Public Works Department, correspondence with CR&R Waste and Recycling Services (CR&R), and the Department of Resources Recycling and Recovery (CalRecycle). Full reference-list entries for all cited materials are provided in Section 4.15.15 (References). No comment letters were received regarding solid waste in response to the NOP for this project.

4.15.11 Environmental Setting

CR&R is the exclusive franchised hauler of all solid waste in the City of Laguna Niguel. This operation is administered by the Public Works Department and overseen by the Public Works Director.

CR&R operates one transfer station and two material recovery facilities (MRF) that serve the City of Laguna Niguel. A transfer station is a solid waste facility where smaller refuse-collection vehicles dump their loads of waste onto a tipping floor. This waste is then placed into larger transfer vehicles for transport to the point of ultimate disposal. Use of this type of facility reduces hauling costs and also reduces the number of trucks on the highway. At the MRFs, trash is mechanically and manually sorted in order to ensure that the maximum amount goes towards recycling and the minimum amount is separated for landfill disposal. The facilities serving Laguna Niguel are Stanton Recycling and Transfer Facility (Stanton RTF) located at 11232 Knott Avenue in Stanton, Prima Deshecha Materials Recovery Facility (Prima Deshecha MRF) located at 32250 La Pata Avenue in San Juan Capistrano, and CR&R South County Materials Recovery Facility (South County MRF) located at 31641 Ortega Highway in San Juan Capistrano. Stanton RTF has a permitted capacity of 1,800 tons per day, Prima Deshecha MRF has a permitted capacity of 1,000 tons per day, and South Coast MRF has a permitted capacity of 980 tons per day.

CR&R currently collects residential, commercial, and construction and demolition (C&D) waste. Residential collection includes both single-family and multi-family residences. In 2010, CR&R collected a total of 61,167 tons of refuse from Laguna Niguel, and diverted a total of 28,455 tons from ending up in a landfill. Diversion includes sorting activities that take place at the MRFs. This equates to an overall trash diversion rate of 46.5 percent (this does not take into account recycling activities). For the different collection types, 47.4 percent of residential waste was diverted, 35.2 percent of commercial waste was diverted, and 72.6 percent of C&D waste was diverted (CR&R 2010). CalRecycle has issued jurisdiction waste diversion rate targets equivalent to 50 percent of the waste stream as expressed in pounds per person per day (these take into account recycling activities, which explains the difference from the CR&R numbers). Laguna Niguel's target is 6.6 pounds per person per day, which if exceeded, would signify that the City is not meeting their goal. In 2009, Laguna Niguel achieved 3.7 pounds per person per day. This exceeds their 50 percent goal by 2.9 pounds per person per day.

Landfills

Solid waste disposal is overseen by Orange County Waste and Recycling, which owns all the landfills serving Orange County. These facilities are described in Table 4.15-11 (Landfill Capacity).

<i>Landfill</i>	<i>Location</i>	<i>Current Remaining Capacity (cubic yards)</i>	<i>Maximum Capacity (cubic yards)</i>	<i>Estimated Close Date</i>	<i>Maximum Daily Load (tons)</i>	<i>2010 Average Daily Load (tons)</i>	<i>Remaining Permitted Daily Load (tons)</i>
Frank R. Bowerman	11002 Bee Canyon Access Road Irvine, CA 92618	59,411,872	127,000,000	2053	8,500	3,812	4,688
Olinda Alpha	1942 North Valencia Avenue Brea, CA 92823	38,578,383	74,900,000	2021	8,000	4,737	3,263
Prima Deshecha	32250 La Pata Avenue San Juan Capistrano, CA 92675	87,384,799	172,900,000	2067	4,000	1,090	2,910

SOURCE: California Department of Resources Recycling and Recovery, Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360) (2011), <http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/Detail/> (accessed March 4, 2011); California Department of Resources Recycling and Recovery, Facility/Site Summary Details: Olinda Alpha Sanitary Landfill (30-AB-0035) (2011), <http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/> (accessed March 4, 2011); California Department of Resources Recycling and Recovery, Facility/Site Summary Details: Prima Deshecha Sanitary Landfill (30-AB-0019) (2011), <http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0019/Detail/> (accessed March 4, 2011); Christine Knapp, personal communication with Manager of Recycling Program, Orange County Waste and Recycling (March 4, 2011).

In 2009, the most recent year data is available, the City of Laguna Niguel sent 743 tons of waste to Olinda-Alpha, 5,149 tons to Frank R. Bowerman, and 38,378 tons to Prima Deshecha (CalRecycle 2009). As discussed above, the Specific Plan area generated 14.4 tons of waste per day. Based on CR&R's diversion rates, this equates to approximately 9.3 tons per day going to landfills. As shown in Table 4.15-11, these amounts are well below the maximum daily loads for the three landfills serving the Specific Plan. Presently, it is anticipated that the Orange County landfill system will have adequate capacity to operate until 2067. Materials that cannot be salvaged for reuse are sent to the Frank R. Bowerman Landfill in Irvine. Permitted capacity for the landfill is limited to 8,500 tons per day. Trucks are diverted to one of the other two landfills in the county (Olinda Alpha in Brea and Prima Deshecha in San Juan Capistrano) if the per day capacity is reached at the Bowerman Landfill. Based on the average daily tonnage delivered to Orange County landfills in 2010, the waste disposal system has room to accommodate an additional 10,861 tons of solid waste per day.

The Regional Landfill Options for Orange County (RELOOC) Strategic Plan is a long-range strategic planning project initiated by the Orange County Integrated Waste Management Department (OCIWMD) to assess the County's existing disposal system capabilities and develop viable long-range solid waste disposal options for the County. Updates to the Strategic Plan are provided annually. As discussed in the latest 2007 Strategic Plan Update, Frank R. Bowerman is currently scheduled to close in 2022 but upon completion of the Plan's short-term strategy No. 2, the scheduled closure date will be 2053. In addition, Olinda Alpha was scheduled to close in 2013 but due to the Plan's short-term strategy No. 3, the

scheduled closure date is now 2021. OCIWMD remains committed to the implementation of both the Phase 1 (short-term) and Phase 2 (long-term) strategies identified within the Plan (OCIWMD 2007).

■ Recycling Facilities

Waste generated in the City may also be diverted from landfills and recycled. The Public Works Director oversees the recycling program for the City. Curbside residential pickup is offered by CR&R for glass, metal, plastic, and paper, as well as green waste collection. Commercial on-site pickup is also provided. Additional recycling programs in the City include a business waste reduction program, food waste composting, biosolids/sludge treatment, tire collection and re-use, residential drop-off and buy-back, and material exchange via thrift shops (City of Laguna Niguel 2011). In 2009, the single-family residential curbside program diverted 16,515 tons of material, the multi-family program diverted 3,508 tons, and the commercial program diverted 2,302 tons. The California Department of Resources Recycling and Recovery (CalRecycle) is the California state agency that promotes the importance of reducing waste and oversees California's waste management and recycling efforts. As discussed above, CalRecycle has issued jurisdiction waste diversion rate targets equivalent to 50 percent of the waste stream as expressed in pounds per person per day. Laguna Niguel's target is 6.6 pounds per person per day, which if exceeded, would signify that the City is not meeting their goal. In 2009, Laguna Niguel achieved 3.7 pounds per person per day. This exceeds their 50 percent goal by 2.9 pounds per person per day.

■ Household Hazardous Waste

Household hazardous waste may not be disposed of in automated containers and must be disposed of at a certified collection center. It is illegal to dispose of hazardous and universal waste in the garbage, down storm drains, or onto the ground, and certain items such as lights, batteries, electronics, mercury-containing items, chemicals, paints, solvents, and building materials must be disposed of at appropriate facilities. These items are discussed in more detail in Section 4.7 (Hazards and Hazardous Materials). The nearest collection center is located at the Prima Deshecha Landfill. Additionally, CalRecycle has certified used oil collection locations throughout the state, including several located within Orange County. These locations accept uncontaminated oil throughout the year.

4.15.12 Regulatory Framework

■ Federal

There are federal regulations related to the location and operational standards of solid waste disposal sites. However, there are no applicable federal laws, regulations, or policies that pertain to solid waste as it relates to the project.

■ State

California Department of Resources Recycling and Recovery (CalRecycle)

At the state level, the management of solid waste is governed by regulations established by CalRecycle, which delegates local permitting, enforcement, and inspection responsibilities to local enforcement

agencies. Historically, these duties were handled by the California Integrated Waste Management Board (CIWMB), but the CIWMB was recently reorganized and became a fully integrated part of CalRecycle.

Assembly Bill 939

The State Legislature, through Assembly Bill 939, The California Integrated Waste Management Act of 1989, mandated that all cities and counties prepare, adopt, and submit a comprehensive solid waste management plan to the county. The plan must address and detail each individual community's efforts and intended policies in the areas of waste characterization, source reduction, recycling, composting, solid waste facilities, education/public information, funding, special wastes, and hazardous wastes. The law also mandates that communities meet certain specific identified targets for percentages of waste reduction and recycling over specified time periods (25 percent by 1995 and 50 percent by the year 2000).

Senate Bill 63

On July 28, 2009, Senate Bill 63 was approved, abolishing the California Integrated Waste Management Board (CIWMB) and transferring its duties and responsibilities to a new department called the Department of Resources Recycling and Recovery, or CalRecycle. This legislation was passed in order to combine the state's solid waste and recycling programs. The combination of the Waste Management Division and the Division of Recycling to form CalRecycle went into effect on January 1, 2010.

Local

Countywide Integrated Waste Management Plan (CIWMP)

The CIWMP consists of many parts. Each city in the County, and the unincorporated area of the County, has several planning documents that outline their proposals for waste diversion methods. Specifically, the CIWMP is composed of the Siting Element, Summary Plan, Source Reduction and Recycling Element, Nondisposal Facility Elements, and the Household Hazardous Waste Element. All of these planning documents must be kept current and are submitted to the CIWMB for approval and acceptance. The entity assigned with the task of overseeing the submittal of these documents is the County of Orange, Waste Management Commission/Local Task Force.

General Plan Public Facilities Element

The City's General Plan Public Facilities Element focuses on the City's water and sewer services, flood control, solid waste, hazardous materials and waste, law enforcement, fire and emergency medical services, and community facilities. Applicable goals and policies of this element related to solid waste management include the following:

Goal 3 A solid waste management system that provides for the safe and efficient collection, transportation, recovery, and disposal of solid wastes.

Policy 3.1 Establish regulations to reduce the solid waste stream.

Action 3.1.1 Implement the City's Source Reduction and Recycling Element.

- Policy 3.2** Support clean-up efforts on both private and public properties.
- Policy 3.3** Work with the County of Orange in developing strategies and programs to manage solid and hazardous wastes.
- Policy 3.4** Support development of a recyclable separation facility in South Orange County.

Consistency Analysis

Future development under the Specific Plan project would be served by CR&R and Orange County, which have been contracted by the City to maintain solid waste disposal needs. No actions brought forth by the proposed project would be in conflict with the goals outlined in the Public Facilities Element of the City's General Plan.

Laguna Niguel Municipal Code (LNMC)

Solid Waste Management

LNMC Section 6-3-2 addresses solid waste management within the City. Topics include solid waste storage and removal, collector permits, charges and payment of service, hours, and schedule of collections, transport of solid waste, designation of disposal stations, unlawful dumping, payment of disposal fees, and rules for the solid waste management plan.

Construction and Demolition Debris Ordinance

LNMC Section 6-3-603 requires that construction, renovation, and demolition projects shall reuse, recycle, or divert from a landfill or a transformation facility at least 50 percent of the construction and demolition waste generated from the project.

4.15.13 Project Impacts and Mitigation

■ Analytic Method

To determine the amount of solid waste generated by the proposed project, solid waste generation factors provided by Orange County as determined by CalRecycle are applied to the square footage for the existing and proposed project as presented in Table 4.15-12 (Solid Waste Generated from Existing Uses and Specific Plan Build-Out). The County of Orange uses the following solid waste generation rates (Arнау 2011):

- Residential: 12.23 pounds per dwelling unit per day
- Offices: 1 pound per 100 square feet per day
- Commercial/Retail: 3.12 pounds per 100 square feet per day
- Industrial: 1.42 pounds per 100 square feet per day
- Schools: 1 pound per student per day
- Hotel/Motel: 4 pounds per room per day
- Public/Institutional: 0.007 pounds per square feet per day

Table 4.15-12 Solid Waste Generated from Existing Uses and Specific Plan Build-Out

Land Use	Solid Waste Generation Rates	Existing Uses		Specific Plan Build-Out	
		Size	Waste Generated (lbs/day)	Size	Waste Generated (lbs/day)
Residential	12.23 lbs/du/day	N/A	N/A	2,994 du	36,617
Retail	0.0312 lbs/sf/day	150,895 sf	4,708	531,648 sf	16,587
Office	0.01 lbs/sf/day	173,900 sf	1,739	1,141,090 sf	11,411
Auto Sales ^a	0.0142 lbs/sf/day	774,497 sf	10,998	774,497 sf	10,998
Light Manufacturing/ Business Park	0.0142 lbs/sf/day	802,260 sf	11,392	399,695 sf	5,676
Hotels	4 lbs/room/day	33 rooms	132	317 rooms	1,268
Total		—	28,969 lbs/day 5,286 tons/year	—	82,557 lbs/day 15,066 tons/year

SOURCE: John Arnau, personal communication with CEQA and Habitat Program Manager, Orange County Waste and Recycling (March 4, 2011).

a. Includes 187,599 sf of building space and 587,769 of exterior sales space for a conservative estimate of solid waste generation.

To determine solid waste impacts associated with implementation of the proposed project, estimated future solid waste generation amounts are compared to the total anticipated remaining capacity at landfills that serve the City to determine whether adequate capacity exists.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on utilities/service systems if it would do any of the following:

- 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

■ Effects Found to Have No Impact

No effects have been identified that would have no impact with respect to solid waste.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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Impact 4.15-5 Implementation of the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. This would be a *less-than-significant* impact.

As identified in Table 4.15-12, existing uses for the Specific Plan produce approximately 28,969 pounds per day (lbs/day), or approximately 5,286 tons/year, of solid waste. The proposed Specific Plan would

produce approximately 82,557 lbs/day or approximately 15,066 tons/year, of solid waste. This translates to a net increase of approximately 53,588 lbs/day or approximately 9,779 tons/year of solid waste at full build-out (2035) for the proposed Specific Plan Update.

The transfer station and two MRFs serving the City have a combined capacity of 3,780 tons per day. The net increase in solid waste generation proposed by full build-out of the Specific Plan would be approximately 22.76 tons per day. The daily solid waste contribution to the transfer station and MRFs would be less than one percent of design capacity. As identified in Table 4.15-11, there are three landfills that could serve the project site, which have a combined design capacity of 20,500 tons per day. Based on landfill capacity, the solid waste project contribution of 22.76 tons per day to any of the three landfills that serve the project site is less than one percent of their total allowed daily capacity. The landfills serving the City have a combined remaining permitted daily capacity of 10,861 tons (County of Orange Health Care Agency 2003, 2005, 2009). The net increase in solid waste generation proposed by full build-out of the Specific Plan would be well below the capacities of the landfills serving the City of Laguna Niguel.

These solid waste facilities would have adequate capacity to accommodate future development under the proposed Specific Plan. In addition, this estimated increase in waste resulting from the project does not take into account that at least 50 percent will be diverted from the landfills, which is consistent with CalRecycle goals and past waste diversion performance by the City, in accordance with the LNMC Section 6-3-603 (Construction and Demolition Debris Ordinance). Further, according to the RELOOC, the scheduled closure dates for the Frank R. Bowerman Landfill will be extended to 2053. Because the RELOOC is a long-term planning document intended to ensure that the County’s future disposal needs are met, and because the existing landfills demonstrate sufficient capacity to accept the increase in waste stream, solid waste impacts are considered *less than significant*. No mitigation is required.

Threshold	Would the proposed project comply with federal, state, and local statutes and regulations related to solid waste?
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Impact 4.15-6 Implementation of the proposed project would comply with federal, state, and local statutes and regulations related to solid waste. This would be a *less-than-significant* impact.

All future development under the proposed project would be required to comply with all federal, state, and local statutes and regulations related to solid waste handling, transport, and disposal during construction and long-term operation. However, the Specific Plan would result in more waste generation than currently occurs. As discussed under Impact 4.15-5, existing facilities have sufficient capacity to serve the estimated increase in waste disposal demand. Additionally, the City of Laguna Niguel has met its CalRecycle diversion targets every year since 2004 and, therefore, is in compliance with this legislation. The City remains committed to continue its existing waste reduction and minimization efforts with recycling programs. Additionally, the provisions of the City’s Municipal Code, which governs the procedures for collection, transfer, processing, disposal, and recycling of solid waste would be observed, including requirements for commercial wastes, and a description of prohibited substances. Compliance with these regulations would ensure that local, state, and federal regulations are observed. Therefore the

Specific Plan would result in a *less-than-significant* impact related to solid waste regulations and no mitigation measures are required.

4.15.14 Cumulative Impacts

Threshold	Would the proposed project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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OCIWMD has the ability to take up to 20,500 tons of solid waste per day into its three landfills. With the implementation of the AB 939 provisions, which mandates the reduction of solid waste disposal in landfills, the amount of solid waste disposed of in landfills is required to be 50 percent lower than actual waste production (at a minimum). The RELOOC Strategic Plan provides a mechanism for long-term planning of the solid waste needs of Orange County. As discussed in the latest annual update, one of the three landfills is planned to have their closure dates extended beyond what was originally assumed in order to accommodate increased capacities. All developments (existing and planned) generate solid waste that eventually leads to closure of landfills once they have reached their maximum capacity. However, because the County has a system in place, such as the RELOOC, to monitor and respond to solid waste capacity issues, it is assumed that cumulative growth would not result in a significant impact. In addition, the increase in solid waste generation as a result of future development under the Specific Plan at full build-out would represent less than 1 percent of the remaining permitted daily capacity at the three landfills and approximately 7 percent of the current solid waste generated by the City. Therefore, the proposed project would not create demands for solid waste services that exceed the capabilities of the County's waste management system. Consequently, the proposed project would not have a significant cumulative contribution to solid waste impacts. Therefore, cumulative impacts associated with solid waste in Orange County would be considered *less than significant*.

Threshold	Would the proposed project comply with federal, state, and local statutes and regulations related to solid waste?
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Development under the Specific Plan is expected to continue to comply with federal, state, and local statutes and regulations and each individual project will be required to mitigate its solid waste impacts. As all projects must comply with the applicable federal, state, and local statutes and regulations, a less-than-significant cumulative impact would occur. Projects developed under the Specific Plan would be subject to similar requirements. Therefore, the cumulative impact of the Specific Plan is *less than significant*.

4.15.15 References

- Arnau, John. 2011. Personal Communication with CEQA and Habitat Program Manager, Orange County Waste and Recycling, March 4.
- California Department of Resources Recycling and Recovery (CalRecycle). 2009. *Jurisdiction Disposal by Facility: Disposal During 2009 for Laguna Niguel*.
- . 2011a. Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360). <http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/Detail/> (accessed March 4, 2011).

- . 2011b. Facility/Site Summary Details: Olinda Alpha Sanitary Landfill (30-AB-0035). <http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/> (accessed March 4, 2011).
- . 2011c. Facility/Site Summary Details: Prima Deshecha Sanitary Landfill (30-AB-0019). <http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0019/Detail/> (accessed March 4, 2011).
- CR&R Waste and Recycling Services (CR&R). 2010. *City of Laguna Niguel 2009–2010 Solid Waste & Recycling Tons Summary Report*, December.
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- Laguna Niguel, City of. *Annual Recycling Report (2009)*, March 14.
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- . 2009. Solid Waste Facility Permit 30-AB-0445, July 1.
- Orange County Integrated Waste Management Department (OCIWMD). 2007. *RELOOC Strategic Plan Update 2007*, November.
- Orange County Waste and Recycling (OCWR). 2011. *Orange County Five-Year Countywide Integrated Waste Management Plan (CIWMP) Review*, January 13.

Energy

This section describes the current status of energy (electricity and natural gas) services in the City of Laguna Niguel and analyzes the potential physical environmental effects related to energy demand impacts created by construction of new or additional facilities associated with implementation of the Specific Plan.

Data for this section were taken from a variety of sources including the City of Laguna Niguel General Plan, San Diego Gas and Electric (SDG&E), and Southern California Gas Company (SoCalGas). Full reference-list entries for all cited materials are provided in Section 4.15.20 (References).

4.15.16 Environmental Setting

■ Electricity

Energy consumption, including electricity, by new buildings in California, is regulated by the state Building Energy Efficiency Standards, embodied in CCR Title 24. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided that these standards meet or exceed those provided in Title 24 guidelines.

SDG&E supplies power to a population of 1.4 million business and residential accounts in a 4,100 square-mile service area spanning two counties and twenty-five communities (SDG&E 2010b). The utility was incorporated in 1881 and is a regulated public utility that has been providing service in San

Diego and Orange Counties for over 125 years (SDG&E 2010a). The Specific Plan area is currently served by six electric distribution circuits out of two electric distribution substations (Olvio-Gomez 2011).

■ Natural Gas

SoCalGas, a subsidiary of Sempra Energy and the nation's largest natural gas distribution utility, distributes natural gas to 20.7 million residential, commercial, and industrial customers through a 5.8 million meter pipeline system covering more than 500 communities. The company's service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border (SCGC 2011).

The Specific Plan area is served by a regulator station in the cul-de-sac of Getty Drive, which feeds 12-inch-diameter mains in Getty Drive and Forbes Road. There is also a line under Crown Valley Parkway that has both ten-inch and 8-inch-diameter sections. The regulator station is fed gas by a high-pressure line that parallels the railway (Kimbrough 2011). Natural gas service is provided in accordance with SoCalGas's policies and extension rules on file with the California Public Utilities Commission (PUC) at the time contractual agreements are made.

As a public utility, SoCalGas is under the jurisdiction of the PUC, but can be affected by the actions of federal regulatory agencies. Should these agencies take any action affecting natural gas supply or the conditions under which service is available, natural gas service would be provided in accordance with those revised conditions.

The 2010 California Gas Report has projections regarding future demand for natural gas in the Southern California region. SoCalGas predicts gas demand to contract at an annual average rate of approximately 0.2 percent from 2010 to 2030. Demand is expected to be virtually flat for the next 21 years due to modest economic growth, CPUC-mandated Demand-Side Management (DSM) goals and renewable electricity goals, decline in commercial and industrial demand, and savings linked to advanced metering modules. The forecasted contraction in demand is caused by the slump in the housing market for the next few years, a reduced employment forecast, a higher gas price projection, and aggressive energy efficiency savings goals (California Gas and Electric Utilities 2010).

4.15.17 Regulatory Framework

■ Federal

The federal Energy Regulatory Commission (FERC) duties include the regulation of the transmission and sale of electricity in interstate commerce, licensing of hydroelectric projects, and oversight of related environmental matters.

■ State

California Public Utilities Commission (PUC)

The PUC Decision 95-08-038 contains the rules for planning and construction of new transmission facilities, distribution facilities, and substations. The Decision requires permits for the construction of certain power line facilities or substations if the voltages would exceed 50 kV or the substation would require the acquisition of land or an increase in voltage rating above 50 kV. Distribution lines and substations with voltages less than 50 kV need not comply with this Decision; however, the utility must obtain any nondiscretionary local permits required for the construction and operation of these projects. CEQA compliance is required for construction of facilities constructed in accordance with the Decision.

Title 20 and Title 24, California Code of Regulations

Title 20 (Public Utilities and Energy) contains the regulations related to power plant siting certification. Title 24 (California Building Standards) contains the energy efficiency standards related to residential and nonresidential buildings. Title 24 standards are based, in part, on a state mandate to reduce California's energy demand.

■ Local

General Plan Public Facilities Element

The City's General Plan Public Facilities Element focuses on the City's water and sewer services, flood control, solid waste, hazardous materials and waste, law enforcement, fire and emergency medical services, and community facilities. Applicable goals and policies of this element related to energy management include the following:

- | | |
|-------------------|---|
| Goal 8 | Adequate electrical, natural gas, and telecommunication systems to meet the demand of new and existing development. |
| Policy 8.1 | Encourage development that minimizes net energy use and consumption of natural resources. |
| | Action 8.1.1 Support the use of solar energy to supplement conventional heating systems. |
| Policy 8.3 | Locate utilities to minimize aesthetic impacts on the surrounding area. |
| | Action 8.3.1 Require undergrounding of new distribution lines. |
| | Action 8.3.2 Pursue the undergrounding of existing overhead distribution lines. |

Consistency Analysis

Future development under the proposed project could include the expansion of energy infrastructure throughout the project site. As discussed below, an adequate supply of electricity is anticipated to be available to serve the proposed project. Further, all future developments under the Specific Plan would

comply with the provisions of Title 24 of the CCR. Also, because SDG&E has a long term procurement plan, it is anticipated that the electricity demand generated by future development projects could be supplied without the need for additional construction or expansion of energy facilities beyond that which was previously planned. Therefore, the proposed project would not conflict with the applicable goals, objectives, and policies of the City's General Plan Public Facilities Element.

4.15.18 Project Impacts and Mitigation

■ Analytic Method

To determine whether implementation of the Specific Plan would result in impacts on electricity and natural gas supplies, the projected increase in energy demand for each utility was analyzed and calculated using a per-square-foot or per-unit consumption rate. Table 4.15-13 (Electricity Demand from Existing Uses and Specific Plan Build-Out) and Table 4.15-14 (Natural Gas Demand from Existing Uses and Specific Plan Build-Out), below, provide electricity and natural gas demand associated with the full build-out of the Specific Plan area. Because demand rates are based on type and amount of land use, this analysis focuses upon residential (high density), retail, office and commercial uses, and restaurant components included in the Specific Plan area.

■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2011 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on utilities/service systems if it would do any of the following:

- Require or result in the construction of new energy production or transmission facilities, or expansion of existing facilities, the construction of which could cause a significant environmental impact

■ Effects Found to Have No Impact

No effects have been identified that would have no impact with respect to energy.

■ Impacts and Mitigation Measures

Threshold	Would the proposed project require or result in the construction of new energy production or transmission facilities, or expansion of existing facilities, the construction of which could cause a significant environmental impact?
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Impact 4.15-7 **Implementation of the proposed project would not require or result in the construction of new energy production or transmission facilities, or expansion of existing facilities, the construction of which could cause a significant environmental impact. This would be a *less-than-significant* impact.**

Electricity

To determine the amount of electricity demanded by the proposed project, electricity demand factors provided by South Coast Air Quality Management District (SCAQMD) are applied to net growth under build-out of the Specific Plan, as presented in Table 4.15-13 (Electricity Demand from Existing Uses and Specific Plan Build-Out).

Table 4.15-13 Electricity Demand from Existing Uses and Specific Plan Build-Out

Land Use	Energy Consumption Rates	Existing Uses		Specific Plan Build-Out	
		Size	Electricity Demand (kWh/yr)	Size	Electricity Demand (kWh/yr)
Residential	5,626.50 kWh/du/year	N/A	N/A	2,994 du	16,845,741
Retail	13.55 kWh/sf/year	150,895 sf	2,044,627	531,648 sf	7,203,830
Office	12.95 kWh/sf/year	173,900 sf	2,252,005	1,141,090 sf	14,777,116
Auto Sales ^a	15.3 kWh/sf/year	774,497 sf	11,849,804	774,497 sf	11,849,804
Light Manufacturing/ Business Park	15.3 kWh/sf/year	802,260 sf	12,274,578	399,695 sf	6,115,334
Hotels ^b	9.95 per kWh/sf/year	15,114 sf	150,384	145,186 sf	1,444,600
Total		—	28,571,398	—	58,236,425

SOURCE: South Coast Air Quality Management District, *CEQA Air Quality Handbook* (November 1993), Natural Gas and Electricity Consumption Rates.

a. Includes 187,599 sf of building space and 587,769 sf of exterior sales space for a conservative estimate of electricity generation.

b. Assumes approximately 458 sf per hotel room.

The total annual electricity consumption by existing uses is estimated to be approximately 28,571,398 kilowatt-hour (kWh) per year. The total annual electricity consumption by projects developed under the Specific Plan is estimated to be approximately 58,236,425 kWh/year. This signifies an increase in use over existing conditions by 29,665,027 kWh/year. The state is currently experiencing constraints related to energy delivery. These constraints are generally limited to peak demand days during the summer months, such that for the majority of the days during the year adequate energy supplies are reliably provided to consumers. Implementation of the Specific Plan would increase use of electricity within the project area, in particular, the demand for electricity to light, heat, and air condition residential and commercial uses. On peak days, the incremental demand from the Specific Plan would contribute to electricity supply and delivery constraints. The Specific Plan would be required to comply with the energy conservation measures contained in Title 24, which would reduce the amount of energy needed for the operation of any buildings constructed as a part of the Specific Plan. An adequate supply of electricity is anticipated to be available to serve the proposed project. According to SDG&E, the existing infrastructure currently serving the project area is sufficient to serve the proposed project (Olvio-Gomez 2011). However, further evaluation of the site-specific developments would be required in order to adequately provide the electricity required to the individual projects. These needs would be identified during site-specific review and additional coordination with SDG&E. According to SDG&E's response and the existing infrastructure serving the project area, impacts to electricity would be *less than significant*.

Natural Gas

To determine the amount of natural gas demanded by the proposed project, natural gas demand factors provided by SCAQMD are applied to net growth under build-out of the Specific Plan, as presented in Table 4.15-14 (Natural Gas Demand from Existing Uses and Specific Plan Build-Out).

Land Use	Natural Gas Demand Rates	Existing Uses		Specific Plan Build-Out	
		Size	Natural Gas Demand (cfy)	Size	Natural Gas Demand (cfy)
Residential	48,138 cfy/du	N/A	N/A	2,994 du	144,125,172 cfy
Retail	34.80 cfy/sf	150,895 sf	5,251,146 cfy	531,648 sf	18,501,350 cfy
Office	24 cfy/sf	173,900 sf	4,173,600 cfy	1,141,090 sf	27,386,160 cfy
Auto Sales ^a	34.8 cfy/sf	774,497 sf	26,952,496 cfy	774,497 sf	26,952,496 cfy
Light Manufacturing/ Business Park	34.8 cfy/sf	802,260 sf	27,918,648 cfy	399,695 sf	13,909,386 cfy
Hotels ^b	57.60 cfy/sf	15,114 sf	870,566	145,186 sf	8,362,713 cfy
	Total	—	65,166,456 cfy	—	239,237,277 cfy

SOURCE: South Coast Air Quality Management District, CEQA Air Quality Handbook (November 1993), Natural Gas and Electricity Consumption Rates.

a. Includes 187,599 sf of building space and 587,769 sf of exterior sales space for a conservative estimate of natural gas generation.

b. Assumes approximately 458 sf per hotel room.

The total annual natural gas consumption by existing uses is estimate to be approximately 65,166,456 cubic feet per year (cfy). The total annual natural gas consumption by projects developed under the Specific Plan is estimated to be approximately 239,237,277 cfy. This signifies an increase in use over existing conditions by 174,070,821 cfy. SoCalGas was contacted to determine the impact of this increase in natural gas demand. However, SoCalGas requires a natural gas survey in order to assess impacts on demand, and only allows evaluation of project-specific impacts at the time of project implementation due to variances in natural gas supplies over time. However, as SoCalGas declares itself a “reactive” utility that will provide natural gas as customers request its services, SoCalGas has indicated that an adequate supply of natural gas is currently available to serve the proposed project and that the natural gas level of service provided to the surrounding area would not be impaired by the proposed project. If new or extended natural gas lines are required to serve future development, such infrastructure would be located underground and would be constructed in accordance with the policies of SoCalGas and extension rules on file with the CPUC at the time contractual agreements are made. Because the natural gas demand projected for the proposed project would not exceed available or planned supply, new infrastructure would not be required to serve the project site. Therefore, this impact would be *less than significant*, and no mitigation is required.

4.15.19 Cumulative Impacts

Threshold	Would the proposed project require or result in the construction of new energy production or transmission facilities, or expansion of existing facilities, the construction of which could cause a significant environmental impact?
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SDG&E indicates that existing facilities serving the Specific Plan area have adequate capacity to deliver increased electricity demand based on build-out of the proposed project (Olvio-Gomez 2011). Additionally, SDG&E completed a Long Term Procurement Plan in 2006, which addresses all short-term and long-term electricity procurement needs for the utility. It is anticipated that the electricity demand generated by future development could be supplied without the need for additional construction or expansion of energy facilities beyond that which was previously planned. Because SDG&E is able to meet future projected demands, and an action plan has been identified to address energy issues on a broader scale, cumulative impacts would be less than significant. Projects developed under the Specific Plan would have a *less-than-significant* contribution to these impacts.

Development in the geographic area surrounding the Specific Plan would result in continued use of natural gas. The area surrounding the Specific Plan is currently served by existing infrastructure that projects developed under the Specific Plan would also use. Since SoCalGas declares itself a “reactive” utility that will provide natural gas as customers request its services, SoCalGas has indicated that an adequate supply of natural gas is currently available to serve the Specific Plan and that the level of service provided to the surrounding area would not be impaired by future development. The cumulative impact related to the supply of natural gas and to the need for additional or expanded facilities is less than significant, and the Specific Plan projects’ contribution would not be cumulatively considerable. This is considered to be a *less-than-significant* impact.

4.15.20 References

- California Gas and Electric Utilities. 2010. *2010 California Gas Report*.
- Kimbrough, Daniel. 2011. Personal correspondence with Orange Coast Region, Southern California Gas Company (SoCalGas), March 10.
- Olvio-Gomez, Edalia. 2011. Personal correspondence with Environmental Services, San Diego Gas & Electric (SDG&E), March 8.
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- South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*, November.
- Southern California Gas Company (SCGC). n.d. Company Profile. <http://www.socalgas.com/aboutus/profile.html> (accessed January 27, 2011).

CHAPTER 5 Other CEQA Considerations

Section 15126 of the 2011 California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, (4) growth-inducing impacts of the proposed project, (5) mitigation measures proposed to minimize significant effects, and (6) alternatives to the proposed project.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

Table 2-1 (Summary of Environmental Effects and Code Requirements/Mitigation Measures), which is contained in Chapter 2 (Summary) of this PEIR, and Sections 4.1 through 4.15 of this PEIR provide a comprehensive identification of the proposed project's environmental effects, including the level of significance both before and after mitigation.

5.2 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Development of the proposed project would result in the following significant and unavoidable project-related and/or cumulative impacts:

■ Air Quality

- > **Project Specific and Cumulative**—Operation and construction of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation in that AQMD thresholds would be exceeded for carbon monoxide (CO), mono-nitrogen oxides (NO_x), reactive organic gases (ROGs), and both respirable and fine particulate matter (PM₁₀ and PM_{2.5}, respectively)
- > **Project Specific and Cumulative**—Operation and construction of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is designated as nonattainment under applicable federal or state ambient air quality standard for both PM₁₀ and PM_{2.5}.
- > **Project Specific and Cumulative**—Operation of the proposed project could expose sensitive receptors, such as residential uses and daycare facilities, to substantial pollutant concentrations emitted from: vehicles traveling on the Interstate 5 freeway and the SR-73 toll road; trains traveling on the BNSF railroad, and; potential adjacent uses such as dry cleaners or gas stations.

■ Noise

- > **Project Specific**—Operation of the Amtrak, Metrolink, and freight rail line would potentially expose noise-sensitive land uses, primarily residential projects, located within the Specific Plan area to noise levels that exceed the standards established by the City of Laguna Niguel General Plan and Noise Ordinance.

■ Transportation/Traffic

Implementation of the proposed project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- > **Project Specific**—One intersection would operate at less than acceptable levels of service (LOS):
 - The intersection of Avery Parkway and Marguerite Parkway currently operates at LOS E and would continue to operate at LOS E (ICU methodology)
 - > **Cumulative**—Several intersections and roadway segments would operate at less than acceptable levels of service (LOS), including:
 - Four intersections using Intersection Capacity Utilization (ICU) methodology and threshold LOS D criteria, adopted by the Cities of both Laguna Niguel and Mission Viejo:
 - > Crown Valley Parkway and Marguerite Parkway (LOS F, with the project contributing approximately 8.0 percent of the total traffic at that intersection)
 - > Crown Valley Parkway and Los Altos (LOS E, with the project contributing approximately 12.8 percent of the total traffic at that intersection)
 - > Crown Valley Parkway and Medical Center Road (LOS E, with the project contributing approximately 13.0 percent of the total traffic at that intersection)
 - > Avery Parkway and Marguerite Parkway (LOS F, with the project contributing approximately 7.5 percent of the total traffic at that intersection)
 - Three intersections using the Highway Capacity Manual (HCM) delay-based methodology and Caltrans target LOS D criteria as requested by Caltrans for Caltrans facilities (all three intersections operate at acceptable LOS using ICU methodology):
 - > Avery Parkway and I-5 Southbound Ramps (LOS F)
 - > Crown Valley Parkway and I-5 Northbound Ramps (LOS E)
 - > Crown Valley Parkway and I-5 Southbound Ramps (LOS F)
 - Three roadway segments, using volume to capacity (v/c) ratio methodology and Congestion Management Program (CMP) threshold LOS E criteria:
 - > Crown Valley Parkway between the I-5 Northbound Ramps and Puerta Real (LOS F)
 - > Avery Parkway between Camino Capistrano and Marguerite Parkway (2 segments, LOS F)
 - Two Highway Segments, using density in passenger cars per mile per lane (pc/mi/ln) methodology and Caltrans target LOS D criteria as requested by Caltrans for Caltrans facilities:
 - > Northbound SR-73 on-ramp from Greenfield Drive (LOS E)
 - > Northbound SR-73, north of Greenfield Drive (LOS E)

- > **Cumulative**—Implementation of the proposed project would conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways, including Crown Valley Parkway, in that the segment of Crown Valley Parkway between the I-5 northbound ramps and Puerta Real would operate at an LOS of F, where a minimum of LOS E is acceptable in the CMP.

5.3 EFFECTS FOUND TO HAVE NO IMPACT

The following impacts were found to have no impact and were, therefore, not further analyzed in this PEIR.

5.3.1 Agriculture and Forestry Resources

Potential impacts to Agriculture and Forestry Resources were determined not to be significant. As shown in Figure 3-2 (Existing Land Uses) in Chapter 3 (Project Description) of this PEIR, there is no land designated for agricultural purposes within the Specific Plan. The Specific Plan area is designated as Urban/Built-Up and Other Land by the California Department of Conservation, and the proposed project would not convert Farmland to non-agricultural uses. As such, no farmland would be at risk for conversion and no conflicts would exist with any Williamson Act contracts due to implementation of the Specific Plan. Additionally, the project area contains no forest land and implementation of the Specific Plan would not convert forest land to nonforest use. Therefore, impacts to Agriculture and Forestry Resources were not further analyzed in this PEIR.

5.3.2 Mineral Resources

Potential impacts to Mineral Resources were determined not to be significant. No state-designated mines or mineral producers currently exist within the project vicinity. The project site does not maintain any natural mineral resources. Mineral resources are not discussed in the Open Space/Parks/Conservation Element of the General Plan. Therefore, impacts to Mineral Resources were not further analyzed in this PEIR.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

CEQA Guidelines Section 15126.2(c) requires a discussion of any significant irreversible environmental changes that the proposed project would cause. Specifically, Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. Section 15126.2(c)

The Gateway Specific Plan accommodates new, high-density residential and mixed-use development within an existing industrial district developed primarily in the 1970s and '80s. Pedestrian and transit-

oriented neighborhoods and districts are envisioned to revitalize the Gateway district, which includes the Metrolink transit station on south Forbes. Future development in the Gateway area will be in-fill, with traffic and TOD benefits realized due to proximity to the transit station, as well as close access to existing highway infrastructure (I-5 and SR-73). As such, the proposed projects' demand on resources would be significantly less than a typical, suburban, greenfield, and non-TOD project of the same size.

Still, future development that would be permitted under implementation of the proposed project would entail the commitment of energy, human resources, and building materials. Manpower would also be committed for the construction of buildings and public facilities and services necessary to support the new development.

Ongoing maintenance and operation of future development in the project area would entail a further commitment of energy resources in the form of natural gas, electricity, and water resources. Long-term impacts would also result from an increase in vehicular traffic, and associated air pollutant and noise emissions. This commitment of energy resources would be a long-term obligation in view of the fact that, it is virtually impossible to return the land to its original condition once it has been developed.

5.5 GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126.2(d) requires that this section discuss the ways in which the proposed project could foster economic, population, or housing growth, either directly or indirectly, in the surrounding environment. Growth-inducing impacts are caused by those characteristics of a project that tend to foster or encourage population and/or economic growth. Inducements to growth include the generation of construction and permanent employment opportunities in the service sector of the economy. A project could also induce growth by lowering or removing barriers to growth or by creating an amenity that attracts new population or economic activity.

The proposed Specific Plan is intended to foster economic growth within the Specific Plan area by promoting revitalization through public and private investment and the development of housing supply and commercial uses. Additionally, some short-term employment opportunities would be provided by construction activity resulting from the proposed project. Given that the primary objective of the Specific Plan is to foster revitalization in the Specific Plan area, the Specific Plan would also be growth inducing. Thus, although implementation of the Specific Plan would induce growth in the Specific Plan area, such growth inducement would be consistent with the objectives of the Specific Plan.

The Specific Plan would not induce growth in an area that is not already developed with infrastructure to accommodate such growth. The proposed project site is located within a highly developed urban setting, and as discussed in Section 4.12 (Public Services) and Section 4.15 (Utilities/Service Systems), does not include the construction of new infrastructure that would promote growth in an inappropriate location. It is anticipated that existing and/or upgrading of existing water, fire mains, and sewer utility lines could adequately service the proposed project. Police and fire services in the area would also adequately serve the proposed project. Thus, in this manner, the necessary infrastructure that normally triggers growth when introduced is already in place within the Specific Plan area.

A project's growth-inducing potential does not automatically result in growth, whether it is a portion of growth or actually exceeds projected levels of growth. Growth at the local level is fundamentally controlled by the land use policies of local municipalities or counties, which are determined by each local jurisdiction. As discussed in Section 4.9 (Land Use/Planning) and Section 4.11 (Population/Housing), the Specific Plan would make changes to the land use designations and zoning within the Specific Plan area in order to induce growth in the area; that is the purpose of the project. The Specific Plan will refocus the Gateway area into a mixed-use village with residential and commercial uses with the purpose of creating a gateway into the City of Laguna Niguel. This growth will help the City realize its SCAG growth projections and revitalize a currently underutilized portion of the City.

5.5.1 Extension of Public Facilities

Future development under the proposed project would require expansion and/or upgrades to sewer, water, and gas lines in the project area. These systems would connect to the existing infrastructure located in the area. Expansion of facilities would not result in the extension of services to undeveloped areas outside the Specific Plan area.

Roadway and interchange improvements can induce growth because the provision of better vehicular access can facilitate development. Development of mixed-use neighborhoods and districts would include improvements to roadways within the Specific Plan area; these improvements are designed to improve access and circulation to the project area. Although the project would provide better access to the Specific Plan area, it would not induce or facilitate development on previously undeveloped parcels outside the Specific Plan.

5.5.2 Employment Generation

The proposed Specific Plan (at its buildout capacity) could result in a total of 2,994 new dwelling units and 2,259,961 sf of nonresidential uses, an increase of 881,882 sf of nonresidential uses compared to existing conditions in the Specific Plan area (refer to Table 3-1 [Land Use Development Capacity]). In many cases, existing structures would be replaced with development for new uses. This additional level of commercial development would result in a total of approximately 6,438 jobs.¹⁵ However, non-residential development under the Specific Plan would be within the build-out considered in the City of Laguna Niguel General Plan Final Environmental Impact Report (The Planning Center, 1992), and would not result in indirect population growth not previously analyzed.

Future development under the proposed project would generate short-term, construction-related employment opportunities. Given the supply of construction workers in the local work force, it is likely that these workers would come from within the Orange County area, and no significant in-migration of workers would be anticipated. Due to the nature of construction activities, the employment opportunities resulting from future construction would not be considered permanent.

¹⁵ Based on an average of 3.3 jobs per 1,000 sf of nonresidential uses, excluding autosales, and 0.8 employees per hotel room. The estimate number of new jobs was based on 868,827 sf of new nonresidential development and 317 new hotel rooms. Jobs generated by auto-sales were not included because no increase in acreage dedicated to auto-sales would occur with implementation of the proposed project and the auto sales employment factor is based on acres. (KMA 2010)

In addition, future development would generate long-term employment opportunities associated with commercial uses in the Specific Plan area. Long-term employment opportunities could induce growth in the region and could potentially be considered a growth-inducing impact to the region.

5.6 MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

Table 2-1, which is contained in Chapter 2 of this PEIR, provides a comprehensive identification of the proposed project's environmental effects and proposed mitigation measures.

5.7 ALTERNATIVES TO THE PROPOSED PROJECT

Alternatives to the proposed project are presented in Chapter 6 (Alternatives to the Proposed Project) of this PEIR.

5.8 REFERENCES

Keyser Marston Associates Inc. (KMA). 2010. *Fiscal Impact Analysis*.

CHAPTER 6 Alternatives to the Proposed Project

CEQA Guidelines Section 15126.6(a) requires that an EIR describe a range of reasonable alternatives to the project or to the location of the project that could feasibly attain the basic objectives of the project while reducing significant project impacts. An EIR is not required to consider every conceivable alternative to a project; rather, it must consider a range of potentially feasible alternatives that will foster informed decision-making and public participation. In addition, an EIR should evaluate the comparative merits of the alternatives. Therefore, this chapter sets forth potential Alternatives to the proposed project and evaluates them, as required by CEQA.

Key provisions of the CEQA Guidelines relating to the alternatives analysis (Sections 15126.6 et seq.) are summarized below:

- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The “no project” alternative shall be evaluated along with its impact. The “no project” analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project is not approved.
- The range of alternatives required in an EIR is governed by a “rule of reason”; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

6.1 RATIONALE FOR SELECTING POTENTIALLY FEASIBLE ALTERNATIVES

The alternatives may include a different type of project, modification of the proposed project, or suitable alternative project sites. However, the range of alternatives discussed in an EIR is governed by a “rule of reason” which CEQA Guidelines Section 15126.6(f) defines as:

... set[ting] forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in CEQA Guidelines Section 15126.6(f)(1)) are environmental impacts, site suitability,

economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative whose effects could not be reasonably identified, and whose implementation is remote or speculative.

For purposes of this analysis, the project alternatives are evaluated to determine the extent to which they attain the basic project objectives, while significantly lessening any significant effects of the project. As discussed in the Specific Plan, the proposed project is intended to enhance the economic performance, physical beauty, and functionality of the Gateway area. The ultimate goal is to create a high-density urban district that provides employment opportunities, a variety of housing types, as well as commercial services, all within easy access of regional transportation and transit, and all interconnected by a system of pedestrian and bicycle trails. More specifically, the objectives, as stated in the Specific Plan, include the following:

■ Land Use

- > Provide for the Gateway's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. The mix and choices of use should enable residents and workers to meet their basic needs in the Gateway area without traveling to outside communities.
- > Develop land uses and densities that maximize ridership and support public investment in transit facilities, while reducing regional traffic congestion, pollution, and greenhouse gas emissions.
- > Develop housing in the Gateway area for a variety of persons and households who choose to live in an active, urban environment.
- > Match new housing opportunities with jobs in the Gateway area, enabling residents to live close to where they work.
- > Allow for flexibility in the mix of land uses that responds to market conditions as they evolve over the next 20 years and beyond.
- > Provide opportunities for the development of uses that complement one another, such as locating retail, restaurants, hotels, and financial services near offices and residences.
- > Maintain opportunities within portions of the Gateway area for businesses that support community needs, such as light industrial, commercial services, and automobile sale and service facilities in an attractive environment.
- > Develop uses that contribute significant revenues for needed capital improvements and on-going public services for residents and workers in the Laguna Niguel Gateway area.

■ Community Design

- > Build quality residential neighborhoods, office and retail districts that are desirable in the marketplace and hold their value over time.
- > Locate buildings to create an intimate "village" environment that encourages walking. Establish zoning and design guidelines for ground floor uses and facades, streets, sidewalks, landscaping, lighting, and signage that facilitate pedestrian use.

- > Establish design standards for buildings and streets that create a unified and desirable street character, with parking located behind or below structures.
- > Allow for diversity of architectural design within the framework of unified building setbacks from the street, building scale and mass, and building heights.
- > Create an enhanced identity for the area through a comprehensive signage and way-finding program.
- > Capitalize on and improve the Oso Creek corridor as an aesthetic and recreational amenity for the Gateway area.
- > Establish an urban design framework that distinguishes the Gateway area as a symbolic and functional entry to Laguna Niguel.

■ **Mobility**

- > Promote and support the completion of necessary and identified roadway infrastructure improvements to accommodate existing and anticipated development in the Gateway area.
- > Improve access to the City and Gateway area from Interstate 5 (I-5) and the San Joaquin Hills Transportation Corridor (SR-73) through improvements to Crown Valley Parkway.
- > Promote and support the completion of multi-use trails, sidewalks, and pathways to provide connectivity within the Gateway area and to the City's trail system to maximize nonmotorized mobility.
- > Maximize the use of transit by residents and workers through the placement and density of land uses, and the creation of safe and attractive pedestrian and bike routes to the Metrolink station.
- > Consider breaking-up internal "superblocks" into a smaller grid of streets that promotes pedestrian activity.
- > Limit and phase development based on the ability to maintain an acceptable level of service on Crown Valley Parkway, Forbes Road, Cabot Road, and other roadways within the Gateway area.
- > Support opportunities for the improvement to the I-5/Crown Valley Parkway and I-5/Avery Parkway interchanges.
- > Support regional efforts to provide alternative access to I-5.

■ **Streetscapes and Parklands**

- > Provide for an attractive street scene with enhanced landscaping and pedestrian amenities.
- > Develop an area-wide greenways network and parklands to unify and provide recreational amenities for residents and workers in the Gateway area.
- > Develop the Oso Creek corridor as a linear greenway for pedestrians, bicyclists, and equestrians, with amenities such as a bridge to provide access across Crown Valley Parkway and across the creek, benches and tables, interpretive signage, and native landscape.
- > Consider "softening" the Oso Creek flood control channel with native landscapes that enhance its visual character while maintaining its integrity as a flood control facility.
- > Promote the development of small, urban-scaled parklands, plazas, and public spaces providing recreational opportunities for residents and workers.

- > Promote the joint use of Galivan Basin for active and passive recreational uses during dry seasons, while maintaining its integrity and safety as a major flood control facility and natural habitats.

6.2 ALTERNATIVES REJECTED AS INFEASIBLE

6.2.1 Alternatives Considered to Reduce Significant Impacts

An alternative was considered that reduces the size of the project to the point where the operational air emissions would fall below significance thresholds. In order for the development under the Laguna Niguel Gateway Specific Plan to meet the SCAQMD thresholds for Air Quality, one of the following scenarios could be developed, assuming that all mitigation still applies:

- 805 dwelling units OR
- 781,880 square feet (sf) of nonresidential land use OR
- Up to 698 dwelling units and 351,840 sf of nonresidential uses

Table 6-1 (Mitigated Emissions—Maximum Reduction of Air Quality Impacts) summarizes the pollutant emissions from each of these development scenarios.

<i>Land Use Type</i>	<i>Max per Unit Type</i>	<i>CO</i>	<i>NO_x</i>	<i>ROG</i>	<i>SO_x</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>
Threshold	—	550	55	55	150	150	55
Residential	805.27 du	1,897.63	1,747.83	805.27	158,162.15	1,270.89	1,627.40
Nonresidential	781.88 tsf	2,180.13	1,188.17	2,647.29	158,050.55	781.88	2,284.24
Residential + Nonresidential	698 du + 351.84 tsf	291.07	38.25	54.98	1.00	149.88	32.06
Significant?	—	No	No	No	No	No	No

du = dwelling unit; tsf = thousand square feet

The level of development allowed under any of these three scenarios is extremely low, below the level of existing development in the area, and would severely limit future development. This Alternative would not achieve the project objectives and was therefore rejected from further consideration in the EIR.

■ Maximum Reduction of Traffic Impacts

The City’s traffic consultant for the proposed project (Iteris) attempted to determine whether an alternative exists that would reduce the significant traffic impacts on the Crown Valley Parkway/Marguerite Parkway intersection (the failing intersection in the Specific Plan Study Area with the poorest LOS). Based on the traffic consultant’s findings, even if no new development were to occur within the Specific Plan area, the traffic impacts at this intersection would remain significant at LOS E. At the Avery Parkway/Marguerite Parkway intersection, the No Build scenario would still result in a volume-to-capacity (V/C) ratio that is above 1.00 and would result in a LOS F. By eliminating all land uses in the southern portion of the Specific Plan area, the V/C ratio would still be in the LOS E range. Therefore, there is no reduction in Specific Plan traffic that would bring the V/C ratio to a less-than-

significant level at these two intersections. Since there is no scenario that would eliminate the significant traffic impacts of the proposed project, this Alternative was eliminated from further consideration in the EIR.

6.2.2 Reduced Residential Land Use Scenarios

The 315-acre Specific Plan area is currently developed with a variety of commercial service, light industrial, auto sales and service, retail, and office uses. The Zoning Code designation for the entire Specific Plan area is “S-Laguna Niguel Gateway Specific Plan.” The 1999 Specific Plan created six land use designations and one overlay designation applicable to properties within the Specific Plan area, which included Automotive Commercial (CA), Hospitality Commercial (CH), Commercial/Light Industrial (C/LI), Mixed Use (MU),¹⁶ Public/Institutional (PI), Open Space (OS), and Transit Overlay. It would be possible to promote a different pattern of land uses that would result in a reduction in residential uses from that proposed within the Specific Plan area; however, the Specific Plan Update was developed to transform the future development pattern of the Specific Plan area into a cohesive, pedestrian-friendly, transit-oriented mix of uses that would maximize use of transit, in addition to other considerations such as open space connectivity. Table 6-2 (Reduced Residential Land Use Scenarios) summarizes the three reduced residential scenarios.

Table 6-2 Reduced Residential Land Use Scenarios				
<i>Land Use / Planning District</i>	<i>Proposed Specific Plan</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
Residential (du)				
District E	1,427	500	500	650
District G	142	142	0	0
District H	863	863	363	363
Total	2,432	1,505	863	1,013
Commercial (sf)				
District E	87,338	143,650	135,650	135,650
District H	76,000	76,000	76,000	100,000
Total	163,338	219,650	211,650	235,650
Office (sf)				
District E	203,425	446,650	446,650	409,450
District H	240,100	240,100	240,100	290,000
Total	443,525	686,750	686,750	699,450

■ Air Quality Impacts

For all three Options, pollutant emissions were calculated to determine if the significant operational air quality impacts of the project could be reduced. These data are summarized in Table 6-3 (Comparison of

¹⁶ This MU designation does not include residential uses.

Operational Emissions—Proposed Project and Alternative Land Use Scenarios). Data sheets containing these calculations are included in Appendix G. As can be seen in Table 6-3, all three Options reduce CO, ROG, SO_x, and PM_{2.5} levels compared to the proposed project. Option 1 increases the emissions of NO_x, whereas Options 2 and 3 reduce the emissions of NO_x compared to the proposed project. Regardless of the reductions, all criteria pollutant levels exceed significance thresholds and this Alternative would not reduce the significant air quality impacts of the project.

Table 6-3 Comparison of Operational Emissions—Proposed Project and Alternative Land Use Scenarios

<i>Land Use Type</i>	<i>Units</i>	<i>CO</i>	<i>NO_x</i>	<i>ROG</i>	<i>SO_x</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>
Mitigated Emissions (Proposed Project)							
Residential	2,994 du	867.76	94.21	204.49	2.84	353.38	101.19
Nonresidential	2,259,931 tsf	609.87	111.90	50.22	2.29	463.78	58.21
Total	—	1,477.64	206.12	254.71	5.13	817.15	159.39
Threshold	—	550	55	55	150	150	55
Significant?	—	Yes	Yes	Yes	No	Yes	Yes
Reduced Mitigated Emissions—Scenario 1 (reduced residential, increased nonresidential land use)							
Residential	1,505 du	537.00	58.30	126.55	1.76	218.68	62.62
Nonresidential	1,153.85 tsf	823.50	151.10	67.82	3.10	626.23	78.60
Total	—	1,360.50	209.40	194.36	4.86	844.91	141.21
Threshold	—	550	55	55	150	150	55
Significant?	—	Yes	Yes	Yes	No	Yes	Yes
Reduced Mitigated Emissions—Scenario 2 (reduced residential, increased nonresidential land use)							
Residential	863 du	307.93	33.43	72.56	1.01	125.40	35.91
Nonresidential	1,145.85 tsf	823.50	151.10	67.82	3.10	626.23	78.60
Total	—	1,131.43	184.53	140.38	4.11	751.63	114.50
Threshold	—	550	55	55	150	150	55
Significant?	—	Yes	Yes	Yes	No	Yes	Yes
Reduced Mitigated Emissions—Scenario 3 (reduced residential, increased nonresidential land use)							
Residential	1,013 du	361.45	39.24	85.18	1.18	147.19	42.15
Nonresidential	1,182.74 tsf	844.12	154.88	69.52	3.18	641.91	80.56
Total	—	1,205.57	194.13	154.69	4.36	789.10	122.71
Threshold	—	550	55	55	150	150	55
Significant?	—	Yes	Yes	Yes	No	Yes	Yes

SOURCE: Atkins (2011) (calculation sheet provided in Appendix G).
 du = dwelling unit; tsf = thousand square feet

■ Transportation Impacts

PM peak hour V/C ratios were calculated at each of the intersections significantly impacted by the proposed project for each of the options. Data sheets containing these calculations are included in Appendix G.

Option 1 slightly decreases the PM peak hour V/C ratio (by 0.01) at the intersection of Marguerite Parkway and Crown Valley Parkway, but increases the PM peak hour V/C ratio at I-5 southbound Ramps/Crown Valley Parkway by 0.01. The V/C ratio at other significantly impacted intersections would remain the same. All significant traffic impacts identified with the proposed project would remain significant under this Option.

Option 2 reduces the PM peak hour V/C ratio by 0.02 at the intersection of Marguerite Parkway and Crown Valley Parkway, but the impact would remain significant. This option would not change the PM peak hour V/C ratio at the other significantly impacted intersections.

Option 3 reduces the Marguerite Parkway/Crown Valley Parkway PM peak hour V/C ratio by 0.01, but it still remains greater than 1. The PM peak hour V/C ratios at the other impacted intersections would remain the same as identified under the proposed project.

Because the project generates relatively little traffic through the Marguerite Parkway/Avery Parkway intersection, no calculations were performed for that intersection. A straight reduction of the scale of land uses compared to the proposed project would reduce the impact at that location, but not to less-than-significant levels. This Alternative was rejected from further consideration in the EIR because it does not reduce the significant traffic impacts of the proposed project.

An alternative mix of uses that would still achieve the proposed project's objectives would not be substantially different from the proposed plan and would not reduce any of the project's significant impacts. Creating a plan with one primary use predominating could possibly reduce the impacts of the proposed project, e.g., if open space were to be the predominant land use, but this scenario would not achieve any of the project objectives. Therefore, this Alternative was rejected from further consideration in the EIR because it is impractical and infeasible.

6.2.3 Alternative Site

An alternate site for the proposed project was rejected because the Gateway Specific Plan Area already exists and the physical conditions that the existing Specific Plan and the proposed Specific Plan Update are intended to address are concentrated within the existing plan boundaries.

6.2.4 Alternative Site Configuration

An alternative that was considered and rejected was redistribution of the land uses, which could be achieved by rearranging the locations of residential and business park uses, for example. However, the proposed Specific Plan has given great consideration to establishing a mix of uses in locations that would promote synergy between jobs, services, and housing, maximize the effectiveness for use of the Metrolink station, provide pedestrian and bicycle connectivity both within the Specific Plan and outside

the plan area, and provide a “village-like” atmosphere to encourage community activity and vitality. Given the size and shape of the Specific Plan area, other site configurations, while possible, would not reduce the significant impacts of the project and would not achieve the project objectives to the same extent as the proposed Specific Plan. Therefore, an Alternative Site Configuration was eliminated from further consideration.

6.3 ALTERNATIVES TO THE PROJECT

Two scenarios representing a range of reasonable alternatives to the proposed project were selected for detailed analysis. The goal for evaluating any of these Alternatives is to identify ways to avoid or lessen the significant environmental effects resulting from implementation of the proposed project, while attaining most of the project objectives. While no specific alternative can reduce any of the known significant impacts to a less-than-significant level (as discussed above in Section 6.2), still achieve the project objectives, and be economically feasible, consideration was given to reduction in allowable development to determine the varying levels of impacts and how those would compare to the proposed project. Alternatives selected for further analysis include the following:

- **Alternative 1—No Project/No Build:** Under this alternative, no further development would occur within the Specific Plan area. The current Specific Plan would not be built out.
- **Alternative 2—No Project/Reasonably Foreseeable Development (Continuation of Existing Specific Plan):** The adopted 1999 Specific Plan and General Plan Land Use Element allow up to 3,777,000 sf of nonresidential development. Under this Alternative, development on the project site would occur under the existing Specific Plan and zoning designations. This Alternative allows the decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.
- **Alternative 3—Reduced Project Alternative:** Under this Alternative, the maximum allowable future development would be reduced by approximately 50 percent (excluding the Costco and the Metrolink Station parking) to a maximum of 1,216 residential units and 489,295 sf of nonresidential uses. This Alternative was chosen for further analysis because it reduces the project size, and thus its impacts, while still potentially achieving most of the project objectives.

6.4 ANALYSIS OF ALTERNATIVES TO THE PROPOSED PROJECT

6.4.1 Alternative 1: No Project/No Build Alternative

■ Description

This Alternative would represent continuation of current conditions, with no further development in the Specific Plan area.

■ Impacts

As no further development would occur, there would be no adverse impacts. However, the goals and benefits of the proposed Specific Plan Update would not be realized—to continue to improve the fragmented and low-intensity development pattern and provide an attractive and desirable transit- and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and

districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks. This Alternative would not provide a mix and choices of use that would enable residents and workers to meet their basic needs within the Gateway area. Regional traffic would continue to increase to beyond the levels of service that would occur with implementation of the proposed project, because the mix of land uses and transit-oriented standards in the Specific Plan would reduce vehicle miles traveled, and because the Specific Plan includes significant roadway improvements, none of which would be realized under this alternative.

Greater traffic would result in greater impacts to air quality, noise, greenhouse gas emissions, and traffic congestion than under the proposed project. This, in turn, could lead to conflicts with regional plans such as SCAG's Regional Transportation Plan and Compass Growth Visioning program, which seek to improve the quality of life by promoting transit-oriented development and reducing dependence on the automobile.

■ **Attainment of Project Objectives**

If no further development were to occur, the goals of the current Specific Plan and the proposed Specific Plan Update would not be realized, and this Alternative would therefore not meet any of the objectives of the proposed project.

6.4.2 Alternative 2: No Project/Reasonably Foreseeable Development (Continuation of Existing Specific Plan)

■ **Description**

Implementation of the No Project/Reasonably Foreseeable Development Alternative would represent the continuation of the existing Specific Plan and zoning designations to guide future growth and development within the project site.

Currently, the Specific Plan area contains approximately 1,378,000 sf of nonresidential development (Laguna Niguel 2011). The primary land uses within the Specific Plan area are light manufacturing and auto sales, with approximately 17.78 acres dedicated to auto sales, and 878,740 sf of light manufacturing located within the Specific Plan area. Office uses comprise approximately 173,900 sf, and retail uses total approximately 150,895 sf within the Specific Plan area.

There are no residential uses located within the Specific Plan area. There are also no existing public parks or active recreation areas in the Specific Plan area. However, approximately 115 acres (37 percent) of the project site is classified as Open Space, including Oso Creek, the Galivan basin, and hillside areas. Most of the designated open space is not suitable for either passive or active recreation. Figure 3-2 (Existing Land Uses) depicts the existing land uses on each parcel within the Gateway area. Existing building heights within the Specific Plan area range in height from one to six stories, but the majority of buildings are one or two stories. Within the Gateway area, parcels range in size from 0.22 acre (A's Burgers) at the southern end of Camino Capistrano, up to 21.7 acres (Mercedes Benz dealership), also at the southern end of the Specific Plan Area. Parcel shapes and dimensions are varied throughout the Specific Plan area.

The existing fragmented ownership patterns throughout the Gateway area, as well as the preponderance of small businesses in multi-tenant buildings make major transitions of land use challenging.

For this Alternative, impacts would be analyzed under a maximum build-out scenario within the plan area with the allowed land uses and development standards designated in the existing Specific Plan and zoning designations. Table 6-4 (Current and Proposed Gateway Specific Plan Build-Out Land Use) illustrates a comparison of population, housing, and employment for this alternative.

<i>Land Use Type</i>	<i>Proposed Specific Plan</i>	<i>Current Specific Plan (Alternative 2)</i>	<i>Increase/Decrease (Proposed Plan versus Current Plan)</i>
2. Single Family Attached	2,994 du	0 du	2,994 du
4. General Commercial	531.63 tsf	552.67 tsf	(21.04 tsf)
8. Business Park	399.69 tsf	216.00 tsf	183.69 tsf
12. General Office	1,141.02 tsf	1,762.84 tsf	(621.82 tsf)
17. Auto Sales-New	17.80 acres	22.30 acres	(4.5 acres)
21. Hotel	350 rooms	450 rooms	(100 rooms)
38. Commercial Regional	0 tsf	547.23 tsf	(547.23 tsf)
57. Entertainment Complex	0 tsf	394.22 tsf	(394.22 tsf)
61. Metrolink Transit Parking	1,200 ps	345 ps	855 ps

SOURCE: Atkins, Inc. and Austin-Foust Associates, 2011
 du = dwelling units; tsf = thousands of square feet; ac = acres; ps = parking spaces

Implementation of the proposed Specific Plan Update would result in an increase of 2,994 housing units, an increase in business park square footage, and a decrease in hotel rooms, auto sales, general commercial, general office, commercial regional, and entertainment complex uses in the Specific Plan area.

■ Impacts

Aesthetics

With the exception of the hillside area on either side of Cabot Road north of Crown Valley Parkway, and the Oso Creek drainage channel, the Specific Plan area is generally flat and does not contain any topographic features that could be considered visual resources. There are no significant views from or to the Specific Plan area. The Specific Plan area and surrounding area currently have typical ambient nighttime light levels for an urbanized area. The current low-rise buildings within the Specific Plan area presently create limited shade and shadow patterns that are contained within a close proximity to each low-rise building. Alternative 2 would continue the 1999 Specific Plan, which contains design guidelines and specifications to regulate the visual quality of development. The current Specific Plan goals seek to unify the project area through implementation of a strong landscape, architectural and street-scene program. The major difference between the proposed project and Alternative 2 is the inclusion of residential uses, where the 1999 Specific Plan would develop only nonresidential uses. From an aesthetics

standpoint, development of strictly nonresidential uses under Alternative 2 would result in a less lively atmosphere than under the proposed project, and the overall visual quality of development under Alternative 2 would be somewhat less than under the proposed project. Overall, the proposed project contains stronger architectural guidelines compared to the existing plan; therefore, the visual quality envisioned by the proposed Specific Plan could be somewhat diminished under Alternative 2, compared to the proposed project. Similar to the proposed project, no scenic views would be obstructed.

The Gateway area topography generally slopes downward from west to east, with building sites along Forbes Road between 20 and 80 feet below the building sites along Cabot Road. As such, the properties along Forbes Road under the proposed project may be developed with building heights as high as 120 feet, or ten stories, where under the current plan a maximum height of 80 feet, or six stories, is allowed. Therefore, continuation of the existing plan would result in shorter structures in specific locations along Forbes Road. However, implementation of mitigation measure MM4.1-1 would ensure that new buildings do not impact adjacent properties and would reduce the project impact to less than significant. Therefore, shade and shadow impacts would be substantially similar and less than significant under Alternative 2, compared to the proposed project's impacts.

As the level of allowable development is generally similar under the proposed project and the current plan, the level of increased light and glare would also be similar. Municipal Code Section 9-1-35.15 requires that all outdoor lighting be directed to prevent light spillage onto adjacent properties that contain any residential uses. Similar to the proposed project, development under the current plan would comply with the provisions of the Municipal Code relative to lighting, and would result in a similar less-than-significant impact as the proposed project. With regard to glare from reflective building surfaces, development under the current plan could result in a greater amount of glare, since it does not include the mitigation measure proposed under the project that would further reduce glare from reflective building surfaces.

All aesthetic impacts of Alternative 2 would be less than significant, similar to the proposed project.

Air Quality

A similar amount of construction would occur under Alternative 2 as the proposed project. While the amount of nonresidential square footage would be greater under Alternative 2, no residential uses would be developed. Construction emissions are dependent on the number of construction and delivery vehicles operating, the length of time in operation, and the amount of soil that is disturbed on a daily basis. Without a known schedule or an anticipated annual or daily level of construction, emissions cannot be accurately estimated, similar to the proposed project. Implementation of mitigation measures and compliance with SCAQMD regulations would reduce construction impacts, but not necessarily to a less-than-significant level, since the South Coast Air Basin is in nonattainment for some criteria pollutants and threshold levels for additional emissions are fairly low. Due to the unknown level of construction activity that would occur on any given day during Alternative 2 build-out, this is considered a potentially significant impact. Individual development project could, even with implementation of the identified mitigation, result in an air quality violation or a substantial contribution to an existing air quality violation. Therefore, this would be a significant and unavoidable impact for Alternative 2, similar to the proposed project.

Projects that are consistent with the projections of employment and population forecasts identified in the Growth Management chapter of the SCAG's Regional Comprehensive Plan and Guide (RCPG) are considered consistent with the AQMP growth projections. The current SCAG projections show a Citywide population estimate of 73,163 by 2035. As of 2010, the population of Laguna Niguel is 62,979. As Alternative 2 does not include a residential component, it would not have a direct impact on population growth and would be consistent with growth projections, similar to the proposed project (despite inclusion of residential uses that would increase population, the proposed project's direct growth in population would still be below projections). The nonresidential uses, which could result in indirect population growth, are similarly within the growth forecasts. Alternative 2 would be consistent with the 2007 AQMP and would not interfere with implementation of an air quality plan, similar to the proposed project.

As noted in Section 4.2 (Air Quality), vehicle miles traveled (VMT) estimations under Alternative 2, would be 881,137 at build-out, compared to the proposed project's build-out VMT of 719,933. Therefore, Alternative 2 would result in greater vehicle emissions compared to the proposed project, although VMT estimations under the current plan are, similar to the project, accounted for in the SCAG Projections and are therefore consistent with the AQMP. The proposed project, with implementation of mitigation measures, would result in significant and unavoidable impacts with respect to operational emissions of CO, NO_x, ROG, PM_{2.5}, and PM₁₀. Given that Alternative 2 would result in a greater number of vehicle trips than the proposed project, it would similarly result in a significant and unavoidable impact with respect to emissions of these pollutants.

The South Coast Air Basin is designated as a federal-level severe nonattainment area for ozone, meaning that federal ambient air quality standards will likely not be met for more than 18 years, and as nonattainment areas for PM₁₀ and PM_{2.5}. The Basin is a state-level extreme nonattainment area for ozone, and is a state-level nonattainment area for PM_{2.5} and PM₁₀. Because emissions from the Specific Plan area would be significant on a project level, and the Basin is in nonattainment for PM₁₀ and PM_{2.5}, this is considered to be a potentially significant cumulative impact. Implementation of mitigation measures would reduce these impacts, but emissions would still exceed the daily regulatory thresholds. Therefore, Alternative 2 would make a considerable contribution to the cumulative impact, similar to the proposed project, and would result in the same significant and unavoidable cumulative impact.

As illustrated in Table 4.2-5 (Build-Out Localized Carbon Monoxide Concentrations) in Section 4.2, CO emissions under the proposed project are well below 1-hour and 8-hour standards. The increased number of trips and intersection volumes under Alternative 2 are not substantial enough to result in an exceedance of these standards, and the impact would be less than significant, similar to the proposed project. However, with respect to toxic air contaminants (TAC) emissions, because Alternative 2 does not include residential uses, there would be no increased risk from exposure of future residents to diesel particular matter. Operational activities under the proposed Specific Plan may include siting of sensitive receptors in the vicinity of existing TAC emitters, including the I-5 and SR-73 Freeways and the existing rail line. Implementation of mitigation measures would reduce this impact, but not to less than significant. Therefore, implementation of Alternative 2 would reduce the significant and unavoidable impact of the proposed project to less than significant.

Biological Resources

As the level of allowable development would be substantially similar under the current plan as the proposed plan and approximately the same amount of area would be disturbed, impacts to biological resources would be substantially similar under Alternative 2. Development adjacent to Oso Creek or natural hillside areas could disturb special-status species, result in habitat modifications, or adversely affect riparian areas or wetlands. The current plan does not contain the mitigation measures as proposed, and could result in a greater impact than the proposed project if special-status species, wetlands, or sensitive natural communities exist in the identified areas. Therefore, the impact of Alternative 2 to biological resources would be greater than the proposed project's impact, which was reduced to less than significant with mitigation, and could be significant.

Cultural Resources

The project site is surrounded by commercial and residential land uses, bordered by Interstate 5 (I-5) on the east and by the San Joaquin Hill Transportation Corridor (SR-73) on the west, and is predominately developed, with the exception of Open Space areas such as the Oso Creek flood channel, the Galivan Basin, and steep hillside areas. It is therefore doubtful that any cultural or historic resources of significance are present in the Specific Plan area. The proposed project contains mitigation measures to reduce all impacts on historic, archaeological, and paleontological resources to less than significant that are not contained in the current plan, although there are goals in the current plan to protect these resources. However, as the goals in the current plan are not subject to the same enforceability standard as are mitigation measures, development under Alternative 2 could result in significant impacts to these cultural resources. Therefore, the impact of Alternative 2 would be greater than the less-than-significant impact of the proposed plan, and would be potentially significant.

Geology/Soils

Similar to the proposed project, this alternative could expose people and/or structures to potentially substantial adverse effects resulting from strong seismic groundshaking or seismic-related ground failure. All impacts associated with geological and soil impacts that were identified for the proposed project would also apply to this alternative. The risks to people and structures would not be increased regardless of the size or type of development, as adherence to existing regulations would assure seismic safety to the greatest extent possible. All future development in the project area would be required to adhere to the most recent California Building Code (CBC), which includes strict building specifications to ensure structural and foundational stability, similar to the proposed project. Projects requiring grading permits must satisfy the City's Grading and Excavation Code, which sets forth the policies and practices used in projects requiring site grading. The City's Grading Manual requires both Soils Reports and Engineering Geology Reports for projects requiring a Grading Permit. The recommendations contained in the reports are incorporated into grading plans and specifications and become conditions of approval of the grading permit. A Soils Report is required for all subdivisions, commercial/industrial, multi-family residential, and similar developments involving structures and/or earthwork for which a grading permit is required. Single-family residential projects may also need to prepare a Soils Report, if determined necessary by the Building Official. Soils Reports are required to contain information regarding the physical properties of

the soil, the site's suitability for the proposed grading, recommendations for general and corrective grading procedures, foundation and pavement design criteria, and other recommendations.

A Preliminary Engineering Geology Report is required for all developments on sites where geologic conditions are considered to have a substantial effect on existing and/or future site stability. Reports may also be necessary for sites suspected to be adversely impacted by faulting. After the Reports are completed, they are reviewed by the appropriate City staff and technical consultants. If the conclusions of the reports are not consistent with the professional opinions of the City's experts or if an acceptable factor of safety is not provided, grading permits and building permits are not issued. Therefore, because all future development projects would be required to comply with existing regulations, impacts associated with rupture of a known earthquake fault, strong seismic groundshaking, seismic-related ground failure, and landslides would be less than significant under Alternative 2, the same as for the proposed project.

Similar to the proposed project, future development under the existing Specific Plan would result in ground-disrupting activities such as excavation and trenching for foundations and utilities; soil compaction and site grading; and the erection of new structures, all of which would temporarily disturb soils. This could result in soil erosion; however, Applicants for specific development projects must submit a Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) for coverage under the Statewide General Construction Activity Stormwater Permit and must comply with all applicable requirements, including the preparation of a SWPPP, applicable NPDES Regulations, and best management practices (BMP). Implementation of the City's Codes, regulatory requirements, in combination with the City's standard grading and building permit requirements and the application of Best Management Practices, would ensure that potential impacts from erosion or loss of topsoils would be less than significant, similar to the proposed project. Such compliance would ensure that erosion and other soil instability impacts resulting from future construction would be less than significant.

Through compliance with federal, state, and local regulations related to seismic safety, impacts associated with geology and soils would remain less than significant, similar to the proposed project.

Greenhouse Gas Emissions

Implementation of the Laguna Niguel Gateway Specific Plan would generate greenhouse gases through the construction and operation of new residential and commercial uses. Greenhouse gas emissions from the revised project would specifically arise from sources associated with project operation, including direct sources such as motor vehicles, and natural gas consumption, and indirect sources such as solid waste handling and treatment and electricity generation. Compliance with state-mandated and SCAQMD regulations pertaining to reduction of greenhouse gas emissions would reduce impacts from future development. Specific mitigation measures have been identified for the proposed project that could reduce GHG emissions from construction and operations by as much as 34.76 percent from business-as-usual levels and would meet the AB 32 reduction threshold. It is assumed that development under Alternative 2 would comply with all requirements, although there are no specific mitigation measures in the current plan to further reduce GHG emissions. In addition, the number of vehicle trips would be greater under this alternative than under the proposed Specific Plan. Therefore, it is possible that GHG emissions from implementation of Alternative 2 would be substantially greater than under the project

and not meet the AB32 reduction threshold. This impact would be potentially significant and greater than under the proposed project.

Hazards and Hazardous Materials

The Specific Plan area is urbanized and already heavily developed with nonresidential uses. Implementation of this alternative would result in a continuation of similar development that already exists, but would include residential units, which are not currently allowed on the project site. Similar to existing conditions and those discussed for the proposed project, operation of the uses permitted under the existing Specific Plan would involve the use of hazardous materials in the form of basic cleaning materials and landscaping chemicals. Future development under the existing Specific Plan would be required to comply with applicable laws and regulations that would reduce the risk of hazardous materials use, transportation, and disposal through the implementation of established safety practices, procedures, and reporting requirements. Compliance with existing regulations would also minimize the risks associated with the exposure of sensitive receptors, including schools, to hazardous materials.

Construction and operation activities within the project site with respect to emergency response or evacuation plans due to temporary construction barricades or other obstructions that could impede emergency access would be subject to the City's permitting process, which coordinates with the Police and Fire Departments to ensure that emergency access is maintained at all times. As part of standard development procedures, plans would be submitted to the City for review and approval to ensure that all new development has adequate emergency access, including turning radius in compliance with existing City regulations. Should new helipads or heliports be proposed in the future within the project site, such developments would be required to be submitted through the City to the Airport Land Use Commission (ALUP) for Orange County for review and action (pursuant to Public Utilities Code Section 2166.5). While not anticipated, any future helipad or heliport project must comply with the state permit procedure provided by law and with all conditions of approval imposed or recommended by the Federal Aviation Administration (FAA), by the ALUC for Los Angeles County, and by Caltrans/Division of Aeronautics, in addition to any other local requirements. Therefore, although the type of development under Alternative 2 would differ from the proposed project in that no residential uses would be permitted, all potential impacts with respect to hazards and hazardous materials would be substantially similar and would remain less than significant.

Hydrology/Water Quality

Drainage and Flooding

Similar to the proposed project, construction and operation of future uses under the existing Specific Plan could increase impervious surfaces or alter drainage patterns in a manner that would increase peak flow or volume of stormwater discharged to existing systems. Similar to the proposed project, existing General Plan policies would help minimize potential impacts. In addition, the Municipal Code includes requirements for methods of reducing flood losses (Section 9-1-404). With implementation of existing City of Laguna Niguel policies and compliance with the Municipal Code, future development under the existing Specific Plan would not lead to increased flooding as a consequence of increased development and changes to existing drainage patterns and would not cause flooding during a projected 50-year storm event that would have the potential to harm people or damage property or sensitive biological resources,

similar to the proposed project. However, the proposed Specific Plan contains mitigation measures to further reduce the risk of flooding that do not exist under the existing plan. Therefore, the risks of flooding under the existing plan, while less than significant, could be greater than under the proposed project.

Implementation of the existing City of Laguna Niguel policies and regulatory requirements would ensure that future development under the existing Specific Plan would not place housing or structures within a flood hazard zone or in an area that would impede or redirect flood flows. Therefore, similar to the proposed project, compliance with existing regulations would ensure that impacts associated with risks to people or structures, from placement of structures within a flood hazard area and dam failure would be less than significant.

The Specific Plan area is not located in an area subject to tsunami hazards, nor is it located next to an enclosed body of water that could be subject to seiche. Risks from mudflow in the hillside areas during periods of heavy rainfall would be the same for development of Alternative 2 as under the proposed project.

Water Quality

The Specific Plan area is located within the San Juan Creek Watershed and drains into Oso Creek, which runs north to south through the area. The Oso Creek drainage channel parallels Forbes Road and crosses underneath Crown Valley Parkway. Oso Creek ultimately discharges to Arroyo Trabuco Creek, which outlets to the Pacific Ocean. Drainage could potentially become contaminated with uncontrolled pollutants from nonpoint sources (resulting from roof and parking lot runoff, pesticides and fertilizers, and sediment) flowing from development on the project site under the existing Specific Plan. The City of Laguna Niguel has comprehensive standard requirements for new developments to ensure that violations of water quality standards do not occur. For example, the City enforces its Standard Urban Storm Water Mitigation Plan (SUSMP), a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The goals and objectives of the SUSMP are achieved through the use of BMPs that attempt to manage runoff water quality. Site design or planning management BMPs are used to minimize runoff from new development and to discourage development in environmentally sensitive areas that are critical to maintaining water quality. Requirements of the SUSMP are enforced through the City's plan approval and permit process and all new development projects are subject to City inspection. Compliance with existing regulations would ensure that construction would not violate any water quality standards or discharge requirements or otherwise substantially degrade water quality and impacts would be less than significant, similar to the proposed project.

Development activities under the existing Specific Plan would not involve direct groundwater withdrawal or injection. The Specific Plan area is located just north of the San Juan Valley Groundwater Basin (DWR Groundwater Basin No. 9-01) in southern Orange County within the San Juan Creek Watershed. Recharge of the basin is from flow in San Juan Creek, Oso Creek, and Arroyo Trabuco and precipitation to the valley floor. Water flows directly from Hot Spring Canyon into San Juan Creek, adding to recharge. Compliance with the SUSMP and stormwater BMPs would ensure that stormwater infiltration,

if any, would not represent a substantial risk to groundwater quality degradation. Therefore, impacts on groundwater quality would be less than significant, similar to the proposed project.

Development of future projects under the existing Specific Plan would cause negligible changes in surface drainage patterns and surface water bodies in a manner that could cause erosion or siltation. The Construction General NPDES Permit was prepared by the SWRCB to ensure that construction activities do not provide substantial additional sources of polluted runoff and implement practices protective of water quality standards. The City of Laguna Niguel's plan review and permit process provides for erosion control from construction activities. As such, compliance with existing permitting and regulatory requirements would ensure that construction impacts to water quality are less than significant. Thus, similar to the proposed project, impacts from erosion and siltation for development under Alternative 2 would be less than significant.

Land Use

By statute, the Specific Plan must be consistent with the goals, policies, and implementation programs of the City of Laguna Niguel General Plan. Alternative 2 would be consistent with the General Plan, which currently does not allow residential uses on the project site. However, as part of the project, the General Plan would be amended to allow residential uses on the project site, ensuring consistency between the Specific Plan Update and the General Plan. Development proposals under Alternative 2 must be found to be consistent with the policies of both the General Plan and the Specific Plan, the same as for the proposed project. Because the proposed Specific Plan focuses on mixed uses and transit-oriented development, which reduces vehicle miles traveled and their associated impacts to air quality, traffic, greenhouse gas emissions, and noise, the proposed project would facilitate achievement of regional goals contained in SCAG's Regional Transportation Plan and Compass Growth Vision program. This would be a benefit and policy consistency that would not be realized under Alternative 2.

The existing plan does not physically divide an established community, similar to the proposed project. There are no applicable habitat conservation plans or natural community conservation plans for the proposed project site. Therefore, Alternative 2 would result in similar less-than-significant impacts related to land use as the proposed project, although it would not achieve the same level of consistency with regional goals and policies, as noted, above. In fact, continued implementation of the existing plan could result in inconsistencies with SCAG policies, as it would not develop mixed uses and fully realized transit-oriented development, a potentially significant impact that would not occur under the proposed project.

Noise

Development of projects as part of the proposed project and for this alternative would require the use of heavy equipment for demolition, site excavation, installation of utilities, site grading, paving, and building fabrication. The Laguna Niguel Municipal Code (Sections 6-6-1 through 15, Noise Control) identifies exterior and interior noise standards, specific noise restrictions, exemptions, and variances for sources of noise within the City. Noise levels from various mechanized construction equipment that would be utilized for future development projects would exceed 75 dBA at distances of 50 feet from the equipment, which could exceed the limitations established in the Municipal Code. Depending on the location of construction activities and the closest noise-sensitive receptor, typical construction noise

levels could still exceed the 75 dBA limit. Construction noise activities are exempt from the Noise Ordinance, provided that the construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sundays or federal holidays. As long as the construction activities occur during the hours prescribed in the Municipal Code, the impact would be less than significant, the same as for the proposed project. Additionally, in order to ensure that construction noise impacts are reduced to the extent feasible, mitigation measures are provided in the proposed plan that are not included in the existing plan. Therefore, unlike the proposed project, construction noise would result in a significant and unavoidable impact under Alternative 2 compared to the less-than-significant impact of the proposed project if it occurs outside of the hours exempted by the Municipal Code.

As noted, the Municipal Code identifies interior and exterior noise standards for project operation. During the development review process, noise impacts related to individual projects would be specifically addressed for conformance with Noise Element of the General Plan. Sound-attenuating features such as sound walls, equipment shielding, earth berms, or relocating/reorienting a building, may be required to reduce potential noise impacts. Compliance with the Municipal Code and consistency with the Noise Element would ensure that noise levels would remain below Municipal Code thresholds and exposure to persons to noise levels above City standards would not occur; therefore, impacts would be similar to those identified for the proposed project, and would be less than significant.

With Metrolink and Amtrak both utilizing the corridor, and a passenger station located within the Specific Plan, train noise is a daily occurrence within the project area. As stated previously, typical commuter train noise produces a noise level of 80 dBA at 50 feet from the tracks, while a stopped commuter train would produce a noise level of 65 dBA. Per the Federal Railway Administration, noise levels associated with trains are anticipated to attenuate/reduce at a rate of 4.5 dBA for each doubling of distance. Under the proposed project, potentially noise-sensitive uses, such as residential structures, would likely experience noise levels ranging from 60.5 to 75.5 dBA due to the physical movement and idling of commuter trains along the rail line. This impact would not occur under Alternative 2, as there would be no residential units constructed in the Specific Plan area. However, in compliance with Action 5.2.1 and Action 5.2.2 of the Noise Element, all new developments under either the current plan or the proposed Specific Plan would utilize site design and alternative architectural layouts to situate noise-tolerant land uses and rooms (parking lots, garages, kitchens, etc.) closer to stationary noise sources such as railroad tracks in an effort to buffer noise-sensitive uses and rooms (bedrooms, living rooms, etc.) from the offending noise sources. When mixed-use developments are located adjacent to the railroad tracks, noise tolerant project components such as the parking garages could be built on the backside of the development facing the tracks, in an effort to reduce the noise levels experienced at the residential uses. The garages could act as a buffer and help attenuate the noise generated by the trains. Additionally, under Noise Element Policy 6.1, sound walls could be developed adjacent to the railroad tracks to mitigate train noise. Despite compliance with these policies, the proposed project would result in a significant and unavoidable impact related to train noise that would not occur under Alternative 2.

Section 6.6.7(5) of the Noise Ordinance exempts construction noise, including construction-related vibration levels, provided that the construction activities do not occur between the hours specified, above. Compliance with the Noise Ordinance and implementation of the mitigation measures discussed

above would ensure this impact remains less than significant for development under either the current plan or the proposed Specific Plan. Therefore, impacts from construction vibration would be less than significant under either plan. Groundborne vibration resulting from operation of development under Alternative 2 would be somewhat greater than under the proposed project, as operational vibration primarily generated by trucks making periodic deliveries to the uses within the Specific Plan boundaries would be greater (given more nonresidential uses versus residential uses that typically do not require this type of delivery). However, vibrational impacts from train operation would potentially affect the new vibration-sensitive residential uses, an impact that would not occur under Alternative 2. While implementation of mitigation measure MM4.10-8 under the proposed plan would reduce the experienced vibration to below significance thresholds and render the impact less than significant, this impact would not occur at all under the current plan.

With regard to a permanent increase in ambient noise (primarily due to increased vehicular traffic), Alternative 2 would result in greater traffic volumes and delay at area intersections. Therefore, noise from vehicular traffic would be greater under Alternative 2 than for the proposed project. Pursuant to the data contained in Table 4.10-13 (Current and Future [2035] Roadway Noise Levels) in Section 4.10 (Noise), Alternative 2 would result in greater roadway noise impacts by 4 dBA CNEL; some roadway segments would experience greater noise than with the proposed project, and some segments would have less roadway noise. The most significant increases (greater than 2 dBA CNEL) compared to the proposed project would occur along Camino Capistrano north of Paseo De Colinas and Forbes Road north of Crown Valley Parkway. The increases attributable to the proposed project would all be below the 3.0 dBA threshold of significance, and the impact was identified as less than significant. For Alternative 2, three roadway segments would experience increases of greater than 3.0 dBA and would result in a significant and unavoidable impact, compared to the less-than-significant impact of the proposed project. Therefore, the impact of Alternative 2 with respect to permanent increase in ambient noise would be greater than the proposed project impact.

Population/Housing

Alternative 2 would not include a housing component and would not result in direct population growth, and nonresidential square footage would be within the development allowed by the City of Laguna Niguel General Plan (1992). With amendment of the General Plan as part of the proposed project, the associated population growth that would occur in the Laguna Niguel Gateway Specific Plan area would be consistent with General Plan forecasts. Both Alternative 2 and the proposed project would be consistent with the City's General Plan, although under Alternative 2, the City could not include any Gateway sites in its inventory to accommodate affordable housing, as allocated in the RHNA. There would be no significant impact on population and housing with Alternative 2, similar to the proposed project.

Public Services

Implementation of Alternative 2 would not result in direct population growth, although it would create greater indirect population growth through provision of increased job opportunities. While provision of public services such as schools and libraries is based on resident population and growth forecasts in the General Plan, the total amount of development of all types, citywide, is taken into account with respect

to police and fire protection needs. As noted in Section 4.12 (Public Services), the OCFA standards of cover are for the first unit responding to emergencies to arrive on scene within 7 minutes 20 seconds, 80 percent of the time. According to OCFA, stations 9, 39, and 7 serving the Specific Plan area are operating within acceptable service levels and below their maximum capacity. Personnel to population ratios are not evaluated when considering levels of service.

Compliance with the regulations of the amended California Fire Code, as set forth in the Laguna Niguel Fire Code Ordinance, pertaining to fire protection systems and equipment, general safety precautions, and many other general and specialized fire-safety requirements for new and existing buildings and premises, would assist in ensuring consistency with the General Plan goals and policies related to new construction and site design. The proposed Specific Plan includes mitigation to require developers of future projects to potentially enter into a Secured Fire Protection Agreement with OCFA to determine individual projects' fair share of costs for needed improvements to maintain levels of fire protection service. Alternative 2 would not include this provision and, therefore, could result in a potentially significant impact on fire protection services that does not exist under the proposed project.

With respect to police protection, the Laguna Niguel Police Station has approximately 0.54 sworn positions per 1,000 residents, serving the estimated 2010 resident population of approximately 62,979 residents. As noted in Section 4.12, this ratio is currently acceptable to the OCSO. The Laguna Niguel Police Station also possesses the required equipment to maintain an acceptable level of service. The equipment includes patrol cars, radios, in-car computers and video systems, and supportive office equipment. Increases in staffing are evaluated by the OCSO during its annual budgetary process, and personnel are hired, or overtime pay is funded for existing personnel, as needed, to ensure that adequate police protection services are provided. Development under Alternative 2 would be within the growth allowed in the General Plan, similar to the proposed project. Therefore, Alternative 2 would result in a similar less-than-significant impact as the proposed project.

There would be no schools impact under Alternative 2, since no residential uses would be included. However, the proposed project's schools impact is identified as less than significant. Payment of fees pursuant to the Interim Schools Facilities Fee imposed in the Municipal Code to address school overcrowding as well as those pursuant to SB 30 would fully mitigate the project's impacts to less than significant. These fees would not be necessary under Alternative 2. Alternative 2 would result in no impact on schools, compared to the less-than-significant impact of the proposed project.

Alternative 2 does not contain a residential component and therefore would not result in an increased demand on library services. However, increased property tax revenue associated with the development under the proposed Specific Plan would mitigate increased demand for library services as a result of the direct population growth to less than significant. Additionally, a new, fully funded, 14,000 sf Laguna Niguel Branch Library is scheduled to reopen in fall 2011. The renovated library is anticipated to address the existing and future demand for library services in the City, including maintenance of the level of service standard, established in the General Plan Community Service Standards Element, to provide 0.2 sf of library space per capita. Alternative 2 would result in no impact on library services, compared to the less-than-significant impact of the proposed project.

Recreation

Alternative 2 would develop a mixture of commercial, office, and light industrial uses to increase the City's employment base and reduce trips in and out of the City. Because there is no residential component in the current plan, there would be no change in the park ratio, which in 2010 was 4.1 acres per 1,000 residents. The City's Open Space Element of the General Plan requires parkland dedication or in-lieu fees equal to 3 acres per 1,000 residents when establishing future parkland. Even if Alternative 2 attracts new residents to the City through indirect population growth, the current amount of parkland in the City would provide adequate parkland space and Alternative 2 would have no impact on parkland. Compared to Alternative 2, the proposed project's increased direct population would reduce the 2010 park ratio to 3.8, which is still above the threshold. Further, residential development would be required to pay park fees; the impact of the project would be less than significant. Therefore, the impact of Alternative 2 on recreation would be less than under the proposed project.

The proposed Specific Plan calls for the construction of a new multi-use trail to connect the existing Oso Creek Trail with the Colinas Bluff Trail. The environmental impacts of the trail improvements, since they are a component of the proposed project, have been considered in the technical sections of the EIR and do not have direct impacts. This improvement is not provided for in the current Specific Plan, although it includes policies for installation of bikeways and pedestrian links to minimize potential traffic impacts, and this benefit of the proposed plan would not be realized. Alternative 2 would have less impact than the proposed project relative to impacts from construction of these recreational components, but impacts on recreation would be less than significant for both Alternative 2 and the proposed project.

Transportation/Traffic

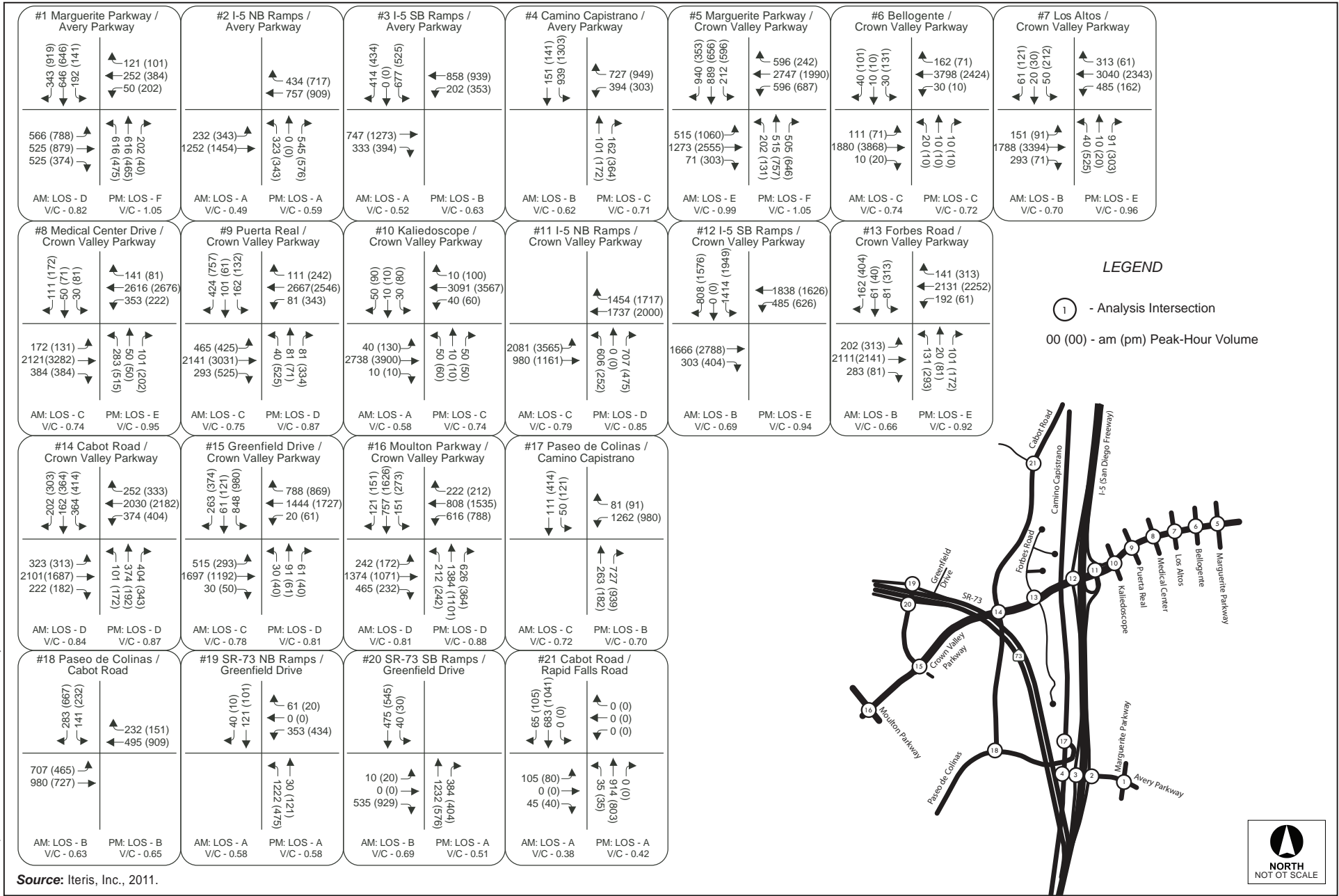
The build-out year traffic volumes for Alternative 2 were assigned to the area roadway network using the SCSAM model described in Section 4.14 (Transportation/Traffic). The use of the regional forecast model to assign traffic in the area allows for a dynamic assignment of both local and regional traffic allowing for a balancing of traffic through the network and a minimization of delay.

Based on the model assignment data, the trips related to just the development within the Specific Plan areas were identified at the link level and are illustrated in Figure 6-1 (Year 2035 Traffic Volumes—Current Specific Plan) for the existing plan. It is important to note that these volumes represent traffic generated by the entire Specific Plan area and not trips generated above existing development levels.

Intersections

To quantify the delay at the study area intersections, the intersections were analyzed using Synchro and the HCM delay-based methodology. Table 6-5 (Year 2035 No Project Weekday AM and PM Peak Hour Intersection Volumes), Table 6-6 (Year 2035 No Project Weekday Peak Hour Intersection Operating Conditions—With Committed Improvements), and Table 6-7 (Year 2035 No Project Weekday Peak Hour Intersection Operating Conditions—With Ultimate Crown Valley Parkway Cross-Section) summarize the no project intersection operating conditions in 2035 with and without improvements.

With committed improvements, Alternative 2 would result in two intersections operating at LOS F: Marguerite Parkway at its intersection with Avery Parkway and Crown Valley Parkway. These are the



LEGEND

- ① - Analysis Intersection
- 00 (00) - am (pm) Peak-Hour Volume



Figure 6-1
Year 2035 Traffic Volumes—Current Specific Plan

Table 6-5 Year 2035 No Project Weekday AM and PM Peak Hour Intersection Volumes

	<i>N/S Street</i>	<i>E/W Street</i>	<i>Peak Hour</i>	<i>NBL</i>	<i>NBT</i>	<i>NBR</i>	<i>SBL</i>	<i>SBT</i>	<i>SBR</i>	<i>WBL</i>	<i>WBT</i>	<i>WBR</i>	<i>EBL</i>	<i>EBT</i>	<i>EBR</i>	<i>Total</i>
1	Marguerite Pkwy	Avery Pkwy	AM	616	616	202	192	646	343	566	525	525	50	252	121	4,654
			PM	475	465	40	141	646	919	788	879	374	202	384	101	5,414
2	I-5 NB Ramps	Avery Pkwy	AM	323	0	545	0	0	0	232	1,252	0	0	757	434	3,543
			PM	343	0	576	0	0	0	343	1,454	0	0	909	717	4,342
3	I-5 SB Ramps	Avery Pkwy	AM	0	0	0	677	0	414	0	747	333	202	858	0	3,231
			PM	0	0	0	525	0	434	0	1,273	394	353	939	0	3,918
4	Camino Capistrano	Avery Pkwy	AM	0	101	162	939	151	0	0	0	0	394	0	727	2,474
			PM	0	172	364	1,303	141	0	0	0	0	303	0	949	3,232
5	Crown Valley Pkwy	Marguerite Pkwy	AM	202	515	505	212	889	940	515	1,273	71	596	2,747	596	9,061
			PM	131	757	646	596	656	353	1,060	2,555	303	687	1,990	242	9,976
6	Crown Valley Pkwy	Bellogente	AM	20	10	10	30	10	40	111	1,808	10	30	3,798	162	6,039
			PM	10	10	10	131	10	101	71	3,868	20	10	2,424	71	6,736
7	Crown Valley Pkwy	Los Altos	AM	40	10	91	50	20	61	151	1,788	293	485	3,040	313	6,342
			PM	525	20	303	212	30	121	91	3,394	71	162	2,343	61	7,333
8	Crown Valley Pkwy	Medical Center	AM	283	50	101	30	50	111	172	2,121	384	353	2,616	141	6,412
			PM	515	50	222	81	71	172	131	3,282	384	222	2,676	81	7,887
9	Crown Valley Pkwy	Puerta Real	AM	40	91	81	162	101	424	465	2,141	293	81	2,667	111	6,657
			PM	525	71	334	132	61	757	425	3,031	525	343	2,546	242	8,992
10	Crown Valley Pkwy	Kaleidoscope	AM	50	10	30	30	10	50	40	2,738	10	40	3,091	10	6,109
			PM	60	10	30	80	10	90	130	3,900	10	60	3,567	100	8,047
11	Crown Valley Pkwy	I-5 NB Ramps	AM	606	0	707	0	0	0	0	2,081	980	0	1,737	1,454	7,565
			PM	252	0	475	0	0	0	0	3,565	1,161	0	2,000	1,717	9,170
12	Crown Valley Pkwy	I-5 SB Ramps	AM	0	0	0	1,414	0	808	0	1,666	303	485	1,838	0	6,514
			PM	0	0	0	1,949	0	1,576	0	2,788	404	626	1,626	0	8,969

Table 6-5 Year 2035 No Project Weekday AM and PM Peak Hour Intersection Volumes

	<i>N/S Street</i>	<i>E/W Street</i>	<i>Peak Hour</i>	<i>NBL</i>	<i>NBT</i>	<i>NBR</i>	<i>SBL</i>	<i>SBT</i>	<i>SBR</i>	<i>WBL</i>	<i>WBT</i>	<i>WBR</i>	<i>EBL</i>	<i>EBT</i>	<i>EBR</i>	<i>Total</i>
13	Crown Valley Pkwy	Forbes Rd	AM	131	20	101	81	61	162	202	2,111	283	192	2,131	141	5,616
			PM	293	81	172	313	40	404	313	2,141	81	61	2,252	313	6,464
14	Crown Valley Pkwy	Cabot Rd	AM	101	374	404	364	162	202	323	2,101	222	374	2,030	252	6,909
			PM	172	192	343	414	364	303	313	1,687	182	404	2,182	333	6,889
15	Crown Valley Pkwy	Greenfield Dr	AM	30	91	61	848	61	263	515	1,697	30	20	1,444	788	5,848
			PM	40	61	40	980	121	374	293	1,192	50	61	1,727	869	5,808
16	Crown Valley Pkwy	Moulton Pkwy	AM	212	1,384	626	151	757	121	242	1,374	465	616	808	222	6,978
			PM	242	1,101	364	273	1,626	151	172	1,071	232	788	1,535	212	7,767
17	Cabot Road	Crown Valley Parkway	AM	0	263	727	50	111	0	0	0	0	1,262	0	81	2,494
			PM	0	182	939	121	414	0	0	0	0	980	0	91	2,727
18	Camino Capistrano	Paseo De Colinas	AM	0	0	0	141	0	283	707	980	0	0	495	232	2,838
			PM	0	0	0	232	0	667	465	727	0	0	909	151	3,151
19	Greenfield Drive	SR-73 SB Ramps	AM	1,222	30	0	0	121	40	0	0	0	353	0	61	1,827
			PM	475	121	0	0	101	10	0	0	0	434	0	20	1,161
20	Greenfield Drive	SR-73 NB Ramps	AM	0	1,232	384	40	475	0	10	0	535	0	0	0	2,676
			PM	0	576	404	30	545	0	20	0	929	0	0	0	2,504
21	Cabot Road	Rapid Falls Road	AM	35	914	0	0	683	65	105	0	45	0	0	0	1,847
			PM	35	803	0	0	1,041	105	80	0	40	0	0	0	2,104
Total AM																105,634
Total PM																122,591

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

Table 6-6 Year 2035 No Project Weekday Peak Hour Intersection Operating Conditions—With Committed Improvements

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	V/C Ratio	LOS	V/C Ratio
1. Marguerite Parkway / Avery Parkway	D	0.84	F	1.05
2. I-5 NB Ramps / Avery Parkway	A	0.49	A	0.59
3. I-5 SB Ramps / Avery Parkway	A	0.52	B	0.63
4. Camino Capistrano / Avery Parkway	B	0.62	C	0.71
5. Crown Valley Parkway / Marguerite Parkway	E	0.99	F	1.05
6. Crown Valley Parkway / Bellogente	C	0.74	C	0.72
7. Crown Valley Parkway / Los Altos	B	0.70	E	0.96
8. Crown Valley Parkway / Medical Center	C	0.74	E	0.95
9. Crown Valley Parkway / Puerta Real	C	0.75	D	0.87
10. Crown Valley Parkway /Kaleidoscope	A	0.58	C	0.74
11. Crown Valley Parkway / I-5 NB Ramps	C	0.79	D	0.85
12. Crown Valley Parkway / I-5 SB Ramps	B	0.69	E	0.94
13. Crown Valley Parkway / Forbes Road	B	0.66	E	0.92
14. Crown Valley Parkway / Cabot Road	D	0.84	D	0.87
15. Crown Valley Parkway / Greenfield Drive	C	0.78	D	0.81
16. Crown Valley Parkway / Moulton Parkway	D	0.81	D	0.88
17. Cabot Road / Paseo De Colinas	C	0.72	B	0.70
18. Camino Capistrano / Paseo De Colinas	B	0.63	B	0.65
19. SR-73 SB Ramps / Greenfield Drive	A	0.58	A	0.58
20. SR-73 NB Ramps / Greenfield Drive	B	0.69	A	0.51
21. Cabot Road / Rapid Falls Road	A	0.38	A	0.42

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

Table 6-7 Year 2035 No Project Weekday Peak Hour Intersection Operating Conditions—With Ultimate Crown Valley Parkway Cross-Section

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	V/C Ratio	LOS	V/C Ratio
12. Crown Valley Parkway / I-5 SB Ramps	B	0.69	E	0.94
13. Crown Valley Parkway / Forbes Road	C	0.51	B	0.72
14. Crown Valley Parkway / Cabot Road	B	0.74	C	0.67

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

same two intersections that would be at LOS F with the proposed project. These two intersections would experience peak-hour volumes of 4,654 (AM) and 5,414 (PM) [Intersection 1] and 9,061 (AM) and 9,976

(PM) [Intersection 5]. Alternative 2 would represent an increase in both AM and PM peak hour volumes for Intersection 1, a slight decrease (29 trips) in the AM for Intersection 5, and an increase of 59 PM peak trips for Intersection 5 compared to the project. Overall, total peak-hour volumes for all intersections under Alternative 2 would be 105,634 (AM) and 122,591 (PM), a decrease of 1,043 AM peak-hour trips and an increase of 4,378 PM peak-hour trips compared to the proposed project, for a net increase of 3,335 trips in the peak hours. In addition, four intersections would worsen to LOS E under Alternative 2, compared to the two intersections for the proposed project. Thus, the intersection impacts would be greater under Alternative 2 compared to the proposed project.

As shown in Table 6-8 (Future No Project Weekday Peak-Hour Intersection Delay), several of the intersections would experience extensive delays because of a combination of large traffic volumes, close intersection spacing, and turning movements and traffic signal phasing that limit the ability to more effectively progress traffic. These three intersections would operate at the same levels of service as under the proposed project, although the V/C ratio would be slightly less.

As shown in Table 6-8, 11 of the 21 intersections are projected to operate at LOS D or better conditions during both of the analyzed peak hours under the existing plan. Of the remaining intersections, 3 are projected to operate at LOS E during one or more of the peak hours, 4 are projected to operate at LOS F during only the PM peak hour, and 3 are projected to operate at LOS F during both the AM and PM peak hours. Thus, Alternative 2 would result in one more intersection operating at LOS D or better during peak hours, one less intersection at LOS E during one of the peak hours, and one less intersection at LOS F during both peak hours compared to the proposed project. Vehicular delay under Alternative 2 would be greater than under the proposed project at 11 of the 21 intersections (Intersections 1, 5, 11 to 16, and 18 to 20) and less than under the proposed project at the remaining 10 intersections (2 to 4, 6 to 10, 17, and 21).

The intersections of Marguerite Parkway with both Crown Valley Parkway and Avery Parkway are projected to experience substantial traffic volume increases related to local and regional development in the area. A significant portion of that traffic increase is related to growth at both the medical center and college located nearby. The intersection of Marguerite Parkway/Crown Valley Parkway was recently expanded to its ultimate width. The Marguerite Parkway/Avery Parkway intersection was recently studied as part of the I-5/Avery Parkway interchange study and no significant capacity increase was identified without acquisition of additional right-of-way, which was deemed feasible.

The intersections along Crown Valley Parkway, between and including Los Altos and Kaleidoscope, are projected to operate at poor levels of service based on the delay methodology because of a combination of high outbound turning movement volumes generated by the expanded land uses combined with the split-phase traffic signal operation. As previously discussed, the additional lost time induced at the intersections at each signal would increase delay and queuing lengths on the intersection approaches. In addition, to provide through traffic progression along Crown Valley Parkway, the side street traffic must be given a limited amount of green time at the signals, which results in substantial vehicular delay. As no additional improvements are feasible at these two intersections per the City of Mission Viejo, the delay would need to be addressed through land use scale reductions along these side streets, reconfiguration of the side street through and turning lanes to eliminate the split-phase traffic signals, or both.

Table 6-8 Future No Project Weekday Peak-Hour Intersection Delay

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Average Vehicular Delay (sec.)	LOS	Average Vehicular Delay (sec.)
1. Marguerite Parkway / Avery Parkway	F	91.9	F	204.4
2. I-5 NB Ramps / Avery Parkway	C	26.0	D	38.5
3. I-5 SB Ramps / Avery Parkway	D	47.4	E	56.9
4. Camino Capistrano / Avery Parkway	D	49.3	C	23.9
5. Crown Valley Parkway / Marguerite Parkway	F	123.7	F	176.9
6. Crown Valley Parkway / Bellogente	C	31.4	C	26.7
7. Crown Valley Parkway / Los Altos	F	180.4	F	184.3
8. Crown Valley Parkway / Medical Center	E	80.0	F	149.9
9. Crown Valley Parkway / Puerta Real	E	66.6	F	163.5
10. Crown Valley Parkway /Kaleidoscope	D	45.4	F	202.1
11. Crown Valley Parkway / I-5 NB Ramps	E	58.0	D	50.0
12. Crown Valley Parkway / I-5 SB Ramps	C	31.0	F	114.3
13. Crown Valley Parkway / Forbes Road	B	18.4	C	27.6
14. Crown Valley Parkway / Cabot Road	D	41.3	D	36.4
15. Crown Valley Parkway / Greenfield Drive	E	56.5	E	69.0
16. Crown Valley Parkway / Moulton Parkway	D	46.4	D	48.5
17. Cabot Road / Paseo De Colinas	C	24.8	C	21.9
18. Camino Capistrano / Paseo De Colinas	D	42.6	C	27.9
19. SR-73 SB Ramps / Greenfield Drive	A	5.9	B	14.1
20. SR-73 NB Ramps / Greenfield Drive	C	23.5	C	26.4
21. Cabot Road / Rapid Falls Road	A	9.0	A	7.9

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

While delay-based analysis shows that portions of the Crown Valley Parkway corridor will experience high levels of delay, the determination of significant impacts is based on the ICU methodology per the City of Laguna Niguel analysis standards.

For the intersection of the I-5 Southbound Ramps and Crown Valley Parkway, the poor operating condition is a result of the high traffic volumes related to both traffic exiting southbound I-5 going both east and west and traffic traveling both eastbound and westbound on Crown Valley Parkway that must all pass through this intersection. Without reconfiguration of the interchange to provide an alternative with more capacity the interchange would operate at a poor level of service during the PM peak hour.

The results of the Synchro analysis show that most of the intersection can operate at acceptable levels of service if the traffic signals along the corridor are coordinated and operate as a cohesive system. It also confirmed the need for long-term improvements at the Crown Valley Parkway and I-5 interchange, because the current tight-diamond design would not accommodate future traffic volumes.

Roadway Segments

The daily operating conditions for selected street segments in the study area are listed in Table 6-9 (Year 2035 No Project Weekday Average Daily Roadway Traffic Volumes with Committed Improvements). The analysis indicates that 10 of the 19 analyzed links in the study area are projected to operate at acceptable conditions on a daily basis. The street sections projected to operate at LOS F are:

- Crown Valley Parkway between Greenfield Drive and Forbes Road (two segments)
- Crown Valley Parkway between the I-5 Northbound Ramps and Medical Center Drive (two segments)
- Avery Parkway between Camino Capistrano and Marguerite Parkway (two segments)
- Camino Capistrano from north of Paseo De Colinas to Avery Parkway (two segments)
- Forbes Road north of Crown Valley Parkway

Table 6-9 Year 2035 No Project Weekday Average Daily Roadway Traffic Volumes With Committed Improvements

Street	From	To	Capacity	2035 ADT	V/C Ratio	LOS
1. Crown Valley Parkway	Glen Rock Drive	Greenfield Drive	56,000	49,490	0.88	D
2. Crown Valley Parkway	Greenfield Drive	Cabot Road	56,000	64,640	1.15	F
3. Crown Valley Parkway	Cabot Road	Forbes Road	70,350	70,700	1.00	F
4. Crown Valley Parkway	Forbes Road	I-5 SB Ramp	70,350	67,670	0.96	E
5. Crown Valley Parkway	I-5 NB Ramp	Puerta Real	75,000	86,860	1.16	F
6. Crown Valley Parkway	Puerta Real	Medical Center	75,000	75,750	1.01	F
7. Crown Valley Parkway	Los Altos	Marguerite Parkway	75,000	70,700	0.94	E
8. Avery Parkway	Camino Capistrano	I-5 SB Ramp	36,000	40,400	1.12	F
9. Avery Parkway	I-5 NB Ramp	Marguerite Parkway	36,000	41,410	1.15	F
10. Paseo De Colinas	El Sur	Cabot Road	36,000	31,310	0.87	D
11. Paseo De Colinas	Cabot Road	Camino Capistrano	36,000	23,230	0.65	B
12. Camino Capistrano	n/o Paseo De Colinas	—	13,000	14,140	1.09	F
13. Camino Capistrano	Paseo De Colinas	Avery Parkway	30,000	30,300	1.01	F
14. Camino Capistrano	s/o Avery Parkway	—	18,000	9,090	0.51	A
15. Forbes Road	n/o Crown Valley Parkway	—	19,500	34,340	1.76	F
16. Forbes Road	s/o Crown Valley Parkway	—	18,000	11,110	0.62	B
17. Cabot Road	Oso Parkway	Vista Viejo	37,500	18,180	0.48	A
18. Cabot Road	Vista Viejo	Crown Valley Parkway	37,500	16,160	0.43	A
19. Cabot Road	Crown Valley Parkway	Paseo De Colinas	37,500	11,110	0.30	A

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update (May 2011)*.

With the ultimate widening of Crown Valley Parkway, the section between Greenfield Drive and Forbes Road is projected to improve to LOS E.

Under Alternative 2, four additional intersections would operate at LOS F compared to the proposed project. These are Intersections 3, 6, 12, and 13, which would operate at LOS E or better. All of the intersections operating at LOS F with Alternative 2 would experience an increased V/C ratio compared to the proposed project.

Table 6-10 (Year 2035 No Project Weekday Average Daily Roadway Traffic Volumes with Ultimate Crown Valley Parkway Cross-Section) illustrates the LOS on Crown Valley Parkway after its widening.

<i>Street</i>	<i>From</i>	<i>To</i>	<i>Capacity</i>	<i>2035 ADT</i>	<i>V/C Ratio</i>	<i>LOS</i>
2. Crown Valley Parkway	Greenfield Drive	Cabot Road	65,700	64,640	0.98	E
3. Crown Valley Parkway	Cabot Road	Forbes Road	75,000	70,700	0.94	E
4. Crown Valley Parkway	Forbes Road	I-5 SB Ramp	75,000	67,670	0.90	D

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

The roadways within the study area are projected to operate at acceptable levels of service on a daily basis with the exception of Crown Valley Parkway between the I-5 Northbound Ramps and Medical Center Drive, Avery Parkway between Marguerite Parkway and Camino Capistrano, and Forbes Road north of Crown Valley Parkway. As with the projected future intersection conditions, the sections of Crown Valley Parkway between I-5 and Medical Center Drive are projected to operate at a poor LOS as a result of both an increase in regional traffic and the substantial increase in projected activity in the land uses located along that section of the corridor and to the east. The capacity and operations of the segment of Crown Valley Parkway just east of I-5 are substantially affected by the concentration of traffic from the nearby land uses to the east, the number of turn lanes that are contained in that section of the roadway, and the close spacing of traffic signals. No substantial capacity enhancements are feasible at this time; however, efforts to enhance and maintain the traffic signal coordination along that segment of roadway would be important in minimizing future delay.

The proposed project includes a new mix of land uses in the plan area that promotes the use of non-auto trip making and interaction between land uses in a village-type environment. The result is a reduction in both peak-hour and daily trips generated by Specific Plan development and a reduction of the impacts on the local and regional roadway system. Overall, compared to the proposed project, Alternative 2 would result in greater traffic volumes, greater traffic delays, and additional roadway segments adversely impacted.

Highways and Ramps

The projected Year 2035 traffic forecasts project almost a doubling of traffic volumes along the SR-73 corridor north of Greenfield Drive and about a 15 percent increase in traffic volumes along I-5 by Year 2035. Based on the analysis results summarized in Table 6-11 (Year 2035 No Project Highway Segment

and Ramp Operating Conditions), most of the highway segments and ramps in the study area would continue to operate at acceptable levels (LOS D or better), with the exception of northbound SR-73 north of Greenfield Drive and the weaving area for the northbound SR-73 on-ramp from Greenfield Drive. Both are projected to operate at LOS E during the AM peak hour.

Compared to the proposed project, Alternative 2 would result in the same levels of service on the identified segments and sections. However, it would result in a greater density of passenger cars for 9 freeway segments and 9 ramp sections compared to the proposed project.

CMP Analysis

There are two CMP highways within the study area, Moulton Parkway and Crown Valley Parkway. There is not projected to be any impact on the Moulton Parkway corridor. Along Crown Valley Parkway, with completion of the widening on only the south side of Crown Valley Parkway between Cabot Drive and the I-5 northbound ramps the No Project V/C ratio for the segments between Greenfield Drive Forbes Road would be in the LOS F range. With the ultimate widening of the Crown Valley Parkway the LOS along that section would improve to LOS E, an acceptable level for the CMP. For the segments of Crown Valley Parkway between I-5 and Medical Center Drive, the V/C ratios are projected to be above 1.0. However, much of the traffic generated along these segments is related to the land uses accessed at Medical Center Road/El Regateo and Puerta Real. This is evidenced by the projected traffic volumes east and west of these segments that are expected to be at LOS E or better. The City of Mission Viejo has stated that these segments have been widened to their ultimate width, and, therefore, no additional improvements are possible to improve the LOS to E or better. Because no feasible mitigation exists to reduce the impact, the impact of the proposed project on the congestion management program would be significant and unavoidable, the same as for the proposed project.

Utilities/Service Systems

The General Plan does not establish a specific level of service standard for water facilities and for sewer service. The General Plan instead establishes a policy of cooperating with water districts to provide sufficient water supplies to meet projected demand and encourage conservation and the use of reclaimed water. The General Plan's standard for sanitary sewer facilities is to provide sufficient treatment capacity to service Laguna Niguel and other system users and to ensure that line capacities meet Moulton Niguel Water District standards.

Existing potable water use in the Specific Plan area has averaged 126 acre-feet per year (afy) over the past four years and recycled water use has averaged 49 afy. At build-out, Alternative 2 would result in a potable water demand of 510 afy. This 510 afy of net demand increase will require additional potable water supply of 546 afy, accounting for a 7 percent system loss percentage. Recycled water demand within the Specific Plan area is anticipated to remain the same as current demand. Total District water demand for fiscal year 2030/31 is projected to be approximately 39,100 afy, with the new demand from Alternative 2 of 546 afy included in that total and equivalent to 1.4 percent of total District-wide demand. Table 6-12 (Alternative 2 Water Demand Increase [2035]) summarizes the potable water demand from implementation of Alternative 2.

Table 6-11 Year 2035 No Project Highway Segment and Ramp Operating Conditions

<i>Analysis Type and Location</i>	<i>Period</i>	<i>Density (pc/mi/ln)*</i>	<i>LOS</i>
Freeway Segments			
Northbound I-5 north of Crown Valley Parkway	AM	26.6	D
	PM	30.2	D
Southbound I-5 north of Crown Valley Parkway	AM	32.3	D
	PM	31.8	D
Southbound SR-73 north of Greenfield Drive	AM	9.7	A
	PM	30.9	D
Northbound SR-73 north of Greenfield Drive	AM	41.5	E
	PM	13.1	B
Weaving Segments			
Southbound I-5—Crown Valley Parkway to Avery Parkway	AM	22.4	C
	PM	25.66	C
Northbound I-5—Avery Parkway to Crown Valley Parkway	AM	31.07	D
	PM	27.47	C
Ramp Merge Sections			
Southbound I-5—Avery Parkway On-Ramp	AM	18.4	B
	PM	23.1	C
Northbound I-5—Eastbound Crown Valley Parkway On-Ramp	AM	27.9	C
	PM	31.5	D
Northbound SR-73—Greenfield Drive On-Ramp	AM	35.0	E
	PM	12.6	B
Southbound SR-73—Greenfield Drive On-Ramp	AM	10.4	B
	PM	22.2	C
Ramp Diverge Sections			
Southbound I-5—Crown Valley Parkway Off-Ramp	AM	3.2	A
	PM	12.4	B
Northbound I-5—Avery Parkway Off-Ramp	AM	3.1	A
	PM	4.2	A
Northbound SR-73—Greenfield Drive Off-Ramp	AM	27.5	C
	PM	11.8	B
Southbound SR-73—Greenfield Drive Off-Ramp	AM	7.7	A
	PM	25.4	C

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

* pc/mi/ln = passenger cars/per mile/per lane

Table 6-12 Alternative 2 Water Demand Increase (2035)					
<i>Land Use</i>	<i>Unit</i>	<i>Build-Out</i>	<i>Factor (gpd/unit)</i>	<i>Demand</i>	
				<i>(gpd)</i>	<i>(afy)</i>
General Commercial/Commercial Regional	ksf	1,099.90	195	214,481	240
Office	ksf	1,762.84	60	105,770	118
Lt. Manuf/Business Park	ksf	216.00	60	12,960	15
Hotel	rooms	450	125	56,250	63
Auto Sales	acres	22.30	2,277	50,777	57
Entertainment Complex	ksf	394.22	350	127,750	143
<i>Subtotal</i>	—	—	—	567,988	636
Less Existing Demand	—	—	—	—	-126
<i>Total</i>	—	—	—	—	510
7% Losses	—	—	—	—	36
<i>Water Demand Increase</i>	—	—	—	—	546

SOURCE: Moulton Niguel Water District, *Laguna Niguel Gateway Specific Plan Water Supply Assessment*, (May 18, 2011; adapted by Atkins June 2011).
ksf = thousand square feet

Alternative 2 would result in a water demand increase of 546 afy compared to the 642 afy, a reduction of approximately 15 percent.

The Moulton Niguel Water District is responsible for servicing the water needs of the Specific Plan area. District standards and water conservation/reclamation programs meet the required state regulations. Both the current plan and the proposed Specific Plan encourage the conservation of water, and the use of reclaimed water for irrigation purposes. Both plans promote conservation of water by encouraging businesses to incorporate water-saving devices, such as low-flush toilets. Drought-tolerant plantings and drip irrigation systems are included in both plans. The project area is also serviced by the City’s reclaimed water distribution system, with lines running along Cabot Road, Paseo De Colinas, and southward along the Oso Creek drainage channel. The use of reclaimed water is encouraged by policies in both the existing and proposed Specific Plans. As Alternative 2 would result in lower water demand than the proposed project, the impact would be less, although less than significant under both Plans.

Sewer lines exist throughout the entire study area, and pump stations exist on the south side of Crown Valley Parkway, adjacent to Costco Wholesale, and on the west side of Oso Creek, adjacent to the Mercedes-Benz dealership. Utilizing the wastewater generation factors in Table 4.15-4 (Wastewater Generated from Existing Uses and Specific Plan Build-Out) in Section 4.15 (Utilities/Service Systems), wastewater generation for Alternative 2 would total 630,112 gpd, 155,108 fewer gpd than with the proposed project, as illustrated in Table 6-13 (Alternative 2 Wastewater Generation).

As adequate sewerage facilities and capacities exist to serve the Specific Plan area as identified for the proposed project, there would similarly be adequate facilities to accommodate the wastewater generated by Alternative 2. Under both the proposed project and Alternative 2, the impact would be less than significant.

Table 6-13 Alternative 2 Wastewater Generation

Land Use	Wastewater Generation Rate	Proposed Project		Alternative 2	
		Size	Wastewater Generated	Size	Wastewater Generated
Residential	160 gpd/du	2,994 du	479,040 gpd	0 du	0 gpd
Retail	0.08 gpd/sf	531,648 sf	42,532 gpd	1,099,900 sf	87,992 gpd
Office	0.15 gpd/sf	1,141,090 sf	171,164 gpd	1,763,000 sf	264,450 gpd
Auto Sales	0.08 gpd/sf	187,599 sf	15,008 gpd	971,388 sf	77,711 gpd
Light Manufacturing/ Business Park	0.08 gpd/sf	399,695 sf	31,976 gpd	216,000 sf	17,280 gpd
Hotel	130 gpd/room	350 rooms	45,500 gpd	450 rooms	58,500 gpd
Entertainment Complex	0.315 gpd/sf	0 sf	0 gpd	394,220 sf	124,179 gpd
		Total	785,220 gpd	—	630,112 gpd

SOURCE: City of Los Angeles, *Draft L.A. CEQA Thresholds Guide* (May 14, 1998), Exhibit K.2-11 (Sewage Generation Factors).

With respect to solid waste, build-out of Alternative 2 would result in generation of 12,613 tons of solid waste per year, as illustrated in Table 6-14 (Alternative 2 Estimated Solid Waste Generation). This represents 3,092 more tons per year than under the proposed project.

Table 6-14 Alternative 2 Estimated Solid Waste Generation

Land Use	Solid Waste Generation Rates (pounds/day)	Size	Waste Generated (pounds/day)	Waste Generated (tons/year)
Retail	3.12 per 100 sf	1,494,120 sf	46,617	8,507
Office	1 per 100 sf	1,762,840 sf	17,628	3,217
Light Manufacturing/ Business Park	1.42 per 100 sf	216,000 sf	3,067	560
Hotel	4 per room	450 rooms	1,800	329
Total			69,112	12,613

SOURCE: John Arnau, personal Communication with CEQA and Habitat Program Manager, Orange County Waste and Recycling (March 4, 2011).

The existing land uses in the Specific Plan area generate approximately 28,837 pounds of waste per day, for a difference of 40,275 pounds per day or 7,350 tons per year. The transfer station and two material recovery facilities (MRF) serving the City have a combined capacity of 3,780 tons per day. As identified in Table 4.15-2 (Wholesale Reliability for Imported Supplies to the MWDOC) in Section 4.15, the landfills serving the City have combined remaining permitted daily capacity of 10,861 tons (County of Orange Health Care Agency 2003, 2005, 2009). The net increase in solid waste generation proposed by full build-out of Alternative 2 would be approximately 20 tons per day, below the capacities of the transfer station, MRFs, and landfills serving the City of Laguna Niguel. Therefore, these solid waste facilities would have adequate capacity to accommodate future development under Alternative 2. While Alternative 2 would generate approximately 50 percent more solid waste than the proposed project, the impact on solid waste would be less than significant, similar to the proposed project's impact.

■ Attainment of Project Objectives

Alternative 2 would not meet most of the project objectives, as it would not provide the complementary mix of uses as under the proposed project. It would not: provide for the Gateway's transition from its predominately low-intensity and fragmented development pattern into an attractive and desirable transit and pedestrian-oriented urban community containing distinct and quality mixed-use neighborhoods and districts with housing, office, retail, restaurants, personal services, hotels, community facilities, and parks; develop a mix and choices of use to enable residents and workers to meet their basic needs within the Gateway area; develop land uses and densities that maximize ridership and support public investment in transit facilities, while reducing regional traffic congestion, pollution, and greenhouse gas emissions; develop housing in the Gateway area for a variety of persons and households who choose to live in an active, urban environment; match new housing opportunities with jobs in the Gateway area, enabling residents to live close to where they work; allow for flexibility in the mix of land uses that responds to market conditions as they evolve over the next 20 years and beyond; provide opportunities for the development of uses that complement one another, such as locating retail, restaurants, hotels, and financial services near offices and residences; locate buildings to create an intimate "village" environment that encourages walking; establish zoning and design guidelines for ground floor uses and facades, streets, sidewalks, landscaping, lighting, and signage that facilitate pedestrian use; promote and support the completion of multi-use trails, sidewalks, and pathways to provide connectivity within the Gateway area and to the City's trail system to maximize nonmotorized mobility; maximize the use of transit by residents and workers through the placement and density of land uses, and the creation of safe and attractive pedestrian and bike routes to the Metrolink station; break up internal "superblocks" into a smaller grid of streets that promotes pedestrian activity; develop an area-wide greenways network and parklands to unify and provide recreational amenities for residents and workers in the Gateway area; promote the development of small, urban-scaled parklands, plazas, and public spaces providing recreational opportunities for residents and workers; or develop the Oso Creek corridor as a linear greenway for pedestrians, bicyclists, and equestrians, with amenities such as a bridge to provide access across Crown Valley Parkway and across the creek, benches and tables, interpretive signage, and native landscape. It would meet some of the project objectives related to improving the aesthetics and architectural appearance of the Gateway area, providing a symbolic and functional entry to the city, increasing revenues and jobs, and improving roadway infrastructure.

The proposed Specific Plan contains numerous and specific goals intended to improve both the appearance and functionality of the Gateway area, and, importantly, provide for transit-oriented development in a pattern that promotes walkability and bicycle use, as well as direct access to the Metrolink station. Although the current plan includes a transit overlay zone to allow for transit-oriented uses, it does not include residential, which use is necessary to realize the full benefit of transit-oriented development. Alternative 2 would not achieve these goals, and would result in greater traffic than the proposed project, which would increase air quality, greenhouse gas emissions, noise, and traffic impacts compared to the proposed project. Further, it would not reduce the significant impacts of the proposed project.

6.4.3 Alternative 3: Reduced Project

■ Description

This alternative would reduce the maximum development of the proposed project to determine if the significant air quality and traffic impacts could be reduced to less than significant with a development scenario that would still achieve most of the project objectives. This alternative represents an approximately 50 percent reduction in all land uses except the Costco store and Metrolink Station parking compared to the proposed plan. Under this scenario, 1,216 dwelling units would be constructed, with 489,295 sf of nonresidential uses.

The impacts of Alternative 3 on Aesthetics, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, and Noise would be substantially similar to the proposed project's impacts, and would be less than significant. As there would be less direct and indirect population growth as a result of Alternative 3, impacts to Greenhouse Gas Emissions, Population/Housing, Public Services, and Utilities/Service Systems would be less than under the proposed project. However, these impacts were not identified as significant for the proposed project, and would remain less than significant under Alternative 3 as well. Therefore, these issue areas are not discussed in this section, which focuses on Air Quality and Transportation impacts.

Air Quality

The reduction in the number of residential units and commercial uses developed would reduce operational air emissions, as vehicular traffic would be reduced. Table 6-15 (Alternative 3 Reduced Mitigated Emissions) summarizes the emissions of criteria pollutants during operation that would occur, assuming all project mitigation is implemented. As noted, while the total emissions would be less than under the proposed project, they would still exceed SCAQMD thresholds of significance for CO, NO_x, ROG, PM₁₀, and PM_{2.5}. Compared to the proposed project, emissions would be reduced by approximately 50 percent for residential and by 43 percent for nonresidential land uses. None of the significant air quality impacts of the proposed project would be reduced under this alternative.

<i>Land Use Type</i>	<i>Units</i>	<i>CO</i>	<i>NO_x</i>	<i>ROG</i>	<i>SO_x</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>
Residential	1,216 du	434	47	102	1.4	177	51
Nonresidential	489 tsf	846	118	146	3	468	91
Total	—	1,280	165	248	4.4	645	142
Threshold	—	550	55	55	150	150	55
Significant?	—	Yes	Yes	Yes	No	Yes	Yes

SOURCE: Atkins (2011).

du = dwelling unit; tsf = thousand square feet

Transportation/Traffic

Based on the model assignments, the land use that is projected to generate the majority of the impact at the significantly affected intersections is residential use. Traffic volumes were calculated for reductions in those Districts (E, G, and H) that would have the most residential trips through the impacted intersections. While Districts C, D, and F would have some residential traffic, the effect at the impacted intersections would be minimal.

As seen in Table 6-16 (Alternative 3 Compared Intersection Impacts), the impact at the significantly impacted intersections is reduced, but the intersections of Marguerite Parkway, Los Altos, and Medical Center with Crown Valley Parkway would still be significantly impacted. The impact at the I-5 southbound ramps with Crown Valley Parkway would be reduced to less than significant.

<i>Intersection</i>	<i>Proposed Project</i>	<i>Alternative 3</i>	<i>Significant Impact?</i>
Marguerite/Crown Valley Parkway	1.05	1.02	Yes
Los Altos/Crown Valley Parkway	0.95	0.92	Yes
Medical Center/Crown Valley Parkway	0.93	0.91	Yes
I-5 SB Ramps / Crown Valley	0.90	0.85	No

SOURCE: Iteris, Inc., *Traffic Study for the Laguna Niguel Gateway Specific Plan Update* (May 2011).

■ Attainment of Project Objectives

Alternative 3 would meet most of the project objectives, as it would provide the complementary mix of uses as under the proposed project. It would not meet the following objectives to the same extent as the proposed project, although some benefit could still be realized: develop land uses and densities that maximize ridership and support public investment in transit facilities, while reducing regional traffic congestion, pollution, and greenhouse gas emissions; develop housing in the Gateway area for a variety of persons and households who choose to live in an active, urban environment; match new housing opportunities with jobs in the Gateway area, enabling residents to live close to where they work; promote and support the completion of multi-use trails, sidewalks, and pathways to provide connectivity within the Gateway area and to the City's trail system to maximize nonmotorized mobility; increase revenues and jobs; or maximize the use of transit by residents and workers through the placement and density of land uses, and the creation of safe and attractive pedestrian and bike routes to the Metrolink station. It would improve the aesthetics and architectural appearance of the Gateway area, provide a symbolic and functional entry to the city, and improve roadway infrastructure. Overall, Alternative 3 would reduce one of the significant traffic impacts compared to the proposed project. All other identified significant impacts would remain significant under Alternative 3.

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 6-17 (Summary of Impacts of Alternatives) provides a side-by-side comparison of the proposed project with each of the alternatives analyzed in this document. Based on the information provided,

Alternative 1 (No Project/No Development Alternative) is environmentally superior, as it reduces the significant air quality impacts of the proposed project to no impact. CEQA Guidelines require that an additional alternative be chosen as the Environmentally Superior alternative from among the remaining alternatives. Alternative 2 (No Project/Reasonably Foreseeable Development) does not reduce the significant impacts of the proposed project to a less-than-significant level (all impacts remain significant and unavoidable). In fact, many of the project’s impacts would be greater (Air Quality [criteria pollutants], Biological Resources, Cultural Resources, GHG Emissions, Land Use, Vehicular Noise, Traffic, and Solid Waste). Impacts to Air Quality (TAC emissions), Noise (from trains on sensitive receptors), Population/Housing, Public Services (schools and libraries), and Recreation would be less than under the proposed project. Alternative 2 would not achieve many of the project objectives. Therefore, the Environmentally Superior alternative other than the No Project alternative would be Alternative 3 (Reduced Project Alternative). Alternative 3 would reduce one of the project’s traffic impacts to less than significant and achieve all of the project objectives, although many to a lesser extent than the proposed project because it would not maximize the transit-oriented objectives of the project.

Table 6-17 Summary of Impacts of Alternatives

<i>Impact Area</i>	<i>Proposed Project Impacts</i>	<i>Alternative 1: No Project/No Build</i>	<i>Alternative 2: No Project/Reasonably Foreseeable Development</i>	<i>Alternative 3: Reduced Project</i>
Aesthetics	LTS	Less	Similar	Similar
Air Quality	SU	Less	Greater (criteria pollutants) Less (TAC emissions)	Less but still SU
Biological Resources	LTS	Less	Greater (potentially significant)	Similar
Cultural Resources	LTS	Less	Greater (potentially significant)	Similar
Geology/Soils	LTS	Less	Similar	Similar
Greenhouse Gas Emissions	LTS	Less	Greater (potentially significant)	
Hazards and Hazardous Materials	LTS	Less	Similar	Similar
Hydrology/Water Quality	LTS	Less	Similar	Similar
Land Use/Planning	LTS	Less	Greater (potentially significant)	Similar
Noise	SU	Less	Less (train noise/sensitive receptors) Greater (vehicular noise) Similar (construction noise)	Less but still SU
Population and Housing	LTS	Less	Less	Less
Public Services	LTS	Less	Similar (police, fire) Less (schools, libraries)	Similar
Recreation	LTS	Less	Less	Less
Transportation/Traffic	SU	Less	Greater	Less but still SU
Utilities/Service Systems	LTS	Less	Similar (Water, Wastewater) Greater (Solid Waste)	Less
Achieve Project Objectives?	—	No	Some	Yes
Reduce SU Impacts of Project to LTS?	—	Yes	No	Yes (one traffic impact)

LTS = less than significant SU = significant and unavoidable

6.6 REFERENCES

- Iteris, Inc. 2011. *Traffic Study for the Laguna Niguel Gateway Specific Plan Update*, May.
- Los Angeles, City of. 1998. *Draft L.A. CEQA Thresholds Guide*. Exhibit K.2-11 (Sewage Generation Factors), May 14.
- Moulton Niguel Water District (MNWD). 2011. *Laguna Niguel Gateway Specific Plan Water Supply Assessment*, May 18 (adapted by Atkins June 2011).

CHAPTER 7 Report Preparers

This PEIR was prepared by Atkins, under contract to the City of Laguna Niguel. Assisting Atkins in this task was one subconsultant (Iteris—Traffic Engineering), the City of Laguna Niguel staff members, and other public service providers. The following agencies and persons were directly involved in the preparation of this PEIR.

It is recognized that no one individual can be an expert in all of the environmental analysis presented in this PEIR. Consequently, an interdisciplinary team, consisting of technicians and experts in various issue areas, was required to prepare and complete this PEIR. Table 7-1 provides a list of PEIR preparers.

Table 7-1 List of PEIR Preparers			
Name	Issue Area/Role	Name	Issue Area/Role
LEAD AGENCY: CITY OF LAGUNA NIGUEL			
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