

CITY OF COSTA MESA  
**125 EAST BAKER STREET  
APARTMENT PROJECT**  
**Environmental Impact Report**

SCH No. 2013081051

*Draft EIR*

*Prepared for*  
**City of Costa Mesa**  
Planning Division/Development Services Department  
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# CHAPTER 1 Introduction

This environmental impact report (EIR) examines the potential effects of the proposed 125 East Baker Street Apartment Project (proposed project) for Red Oak Investments, LLC. The City of Costa Mesa is the lead agency for this project. The background for the proposed project and the legal basis for preparing an EIR are described below.

## 1.1 OVERVIEW OF THE PROPOSED PROJECT

The proposed project site is currently occupied by a 66,000-square-foot (sf) two-story office building. The proposed project would replace the office building and surface parking areas with an apartment building and parking structure. Specifically, the project consists of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-level parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces. The project would involve a General Plan Amendment to change the land use designation from Industrial Park (MP) to High Density Residential and a Zone Change from Commercial Limited (CL) to Planned Development Residential – High Density (PDR-HD).

## 1.2 PURPOSE AND LEGAL AUTHORITY

The proposed project requires the discretionary approval of the Costa Mesa Planning Commission and City Council. Therefore, this EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Sections 21000 et seq.), the CEQA Guidelines (California Code of Regulations Title 14, Sections 15000 et seq.), and the City of Costa Mesa's CEQA procedures. The determination that the City of Costa Mesa is the lead agency for purposes of CEQA is made in accordance with CEQA Guidelines Section 15367, which defines the lead agency as the public agency with the principal responsibility for carrying out or approving a project and conducting the environmental review. The lead agency is also responsible for preparing the environmental documents for the project, pursuant to CEQA.

As required by CEQA, this EIR serves to (1) assess the expected direct, indirect, and cumulative impacts of the proposed project's physical development; (2) identify means of avoiding or minimizing potential adverse environmental impacts; and (3) evaluate a reasonable range of alternatives to the proposed project, including the No Project Alternative.

In accordance with California PRC Section 21002.1, the City has prepared this EIR for the following purposes:

- To inform the general public, the local community, responsible and interested public agencies, the decision making bodies, and other organizations, entities, and interested persons of the scope of the proposed project, its potential environmental effects, possible measures to reduce potentially significant environmental impacts, and alternatives that could reduce or avoid the significant effects of the proposed project

- To enable the City to consider environmental consequences when considering approval of the proposed project
- To satisfy the substantive and procedural requirements of CEQA

The EIR has been prepared as a Project EIR pursuant to CEQA Guidelines Section 15161. A Project EIR is appropriate for a specific development project. As stated in the CEQA Guidelines:

... this type of EIR should focus on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction and operation.

This EIR is intended to serve as an informational document for the public and City of Costa Mesa decision-makers. The City will consider approval of the project as part of the City's development review process and would certify the project's Final EIR concurrently with project approval.

### 1.3 SCOPE OF THE EIR

This EIR addresses the potential environmental effects of implementation of the proposed project within Costa Mesa. The scope of the EIR includes assessment and evaluation of potentially significant environmental issues identified in the IS, comments in response to the NOP, and scoping discussions among consulting staff and the City of Costa Mesa. The IS/NOP and comment letters received during the NOP review period are included in Appendix A. The IS/NOP identified potentially significant impacts on the following issue areas associated with the construction and/or operation of the proposed project, which are addressed in detail in this EIR:

- Aesthetics
- Air Quality
- Greenhouse Gas Emissions
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Population/Housing
- Public Services
- Transportation/Traffic
- Utilities/Service Systems

This EIR addresses the issues referenced above and identifies environmental impacts, including project-specific and cumulative effects of the proposed 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 CEQA Guidelines Section 15128 (Effects Not Found to Be Significant), Chapter 5 (Other CEQA Considerations) of this EIR provides reasons why some environmental impacts related to agriculture/forestry resources, biological resources, cultural resources, geology/soils, hazards/hazardous materials, hydrology/water quality, mineral resources, and recreation 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 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 CEQA Guidelines Section 15126.6, 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.

### **1.3.1 Environmental Setting/Definition of the Baseline**

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the proposed 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 NOP is published. The NOP for the proposed project was published August 16, 2013. 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 for existing conditions (2013) is used for most impact areas analyzed in this EIR to determine impacts. For analytical purposes, impacts associated with implementation of the proposed project are derived from the environmental setting in 2013. This EIR presents and analyzes the proposed allowable growth scenario within the City from baseline year of 2013 and through a planning horizon of 2025.

## **1.4 INTENDED USE OF THE EIR**

This EIR has been prepared to analyze potentially significant environmental impacts associated with future development resulting from implementation of the proposed project, and also addresses appropriate and feasible mitigation measures or project alternatives that would minimize or eliminate these impacts. Additionally, this EIR will provide the primary source of environmental information for the City of Costa Mesa, which is the lead agency, to use when considering the proposed project.

This EIR 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 EIR identifies significant or potentially significant environmental effects, as well as 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, this document functions as a technique for fact-finding, allowing 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 recommended in the CEQA Guidelines 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. It is designed to be “early warning system” with regard to potential environmental impacts and subsequent effects on the local community’s environmental resources.
- 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 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 author. Therefore, the reader will have to individually weigh the facts that it reports.

## **1.5 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES**

Per the CEQA Guidelines, this EIR defines lead, responsible, and trustee agencies. The City of Costa Mesa is the lead agency for the proposed project because it holds principal responsibility for approving the proposed project. A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the state. The proposed project contemplates a specific development plan, and responsible agency approvals for the proposed project will be required by the City and, depending on the final development proposal, other public agencies. In addition to the City of Costa Mesa (Lead Agency), there are federal, state, and regional 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 EIR when acting on such projects. Those federal, state, or local agencies that would rely upon the information contained in this EIR when considering approval include, but are not necessarily limited to, the following:

- California Department of Toxic Substance Control (DTSC) Public Review
- California Department of Transportation (Caltrans)
- 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)
- Airport Land Use Commission (Master Plan/Design Review)
- Federal Aviation Administration (FAA)

## **1.6 ENVIRONMENTAL REVIEW PROCESS**

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

As a first step in complying with the procedural requirements of CEQA, the City prepared an IS to determine which, if any, aspect of the project, either individually or cumulatively, may cause a significant effect on the environment. Based on that determination, the City could narrow the focus (or scope) of the subsequent environmental analysis. For this project, the IS process found that this EIR should focus on the environmental issues listed in Section 1.3, above.

After completing the IS, the City filed a NOP with the California Office of Planning and Research, providing official notice that an EIR would be prepared for this project. Subsequently, the NOP was distributed to involved public agencies and interested parties for a 30-day public review period beginning August 16, 2013, and ending September 16, 2013. 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 eleven comment letters on the NOP, which are 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.

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 CEQA Guidelines Section 15087. During the 45-day public review period, this EIR is available for general public review on the City's website (<http://www.costamesaca.gov/>) and at the following locations:

City of Costa Mesa  
Planning Division/Development Services Department  
77 Fair Drive  
Costa Mesa, CA 92628

The Costa Mesa/Donald Dungan Library  
1855 Park Avenue  
Costa Mesa, CA 92627

Mesa Verde Library  
2969 Mesa Verde Drive East  
Costa Mesa, CA 92626

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

Mel Lee, AICP, Senior Planner  
City of Costa Mesa, Planning Division/Development Services Department  
77 Fair Drive  
Costa Mesa, California 92628  
714.754.5245

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 Costa Mesa Planning Commission and City Council, as well as any other public decision-makers.

According to 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 Costa Mesa (as the lead agency), would need to certify the FEIR prior to approving the proposed project.

## 1.7 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

During the environmental review process, NOP comment letters were received from various parties who 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 summarized below.

- Traffic impacts to local and state facilities
- Impacts relating to land use compatibility
- Impacts to visual quality
- Impacts to air quality

## 1.8 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: 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 proposed project, 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 proposed project, including effects found not to be significant, growth-inducing impacts, significant irreversible change to the environment, and significant and unavoidable impacts.
- **Chapter 6: Alternatives to the Proposed Project**—This chapter analyzes feasible alternatives to the proposed project, including No Project/No Development Alternative, Alternative Location Project, and a Reduced Density Alternative.
- **Chapter 7: Report Preparers**—This chapter identifies all individuals responsible for the preparation of this EIR.

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## CHAPTER 2 Summary

### 2.1 PURPOSE OF THE SUMMARY

This section summarizes the characteristics of the proposed project, the environmental impacts, mitigation measures, and residual impacts of the proposed project.

### 2.2 INTRODUCTION

This EIR 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 EIR 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 project site is located at the southwest corner of Baker Street and Pullman Street in the City of Costa Mesa, Orange County, California. The approximately 4.17-acre project site (181,415 square feet [sf]) is roughly triangular-shaped and is currently occupied by a 66,000-square-foot (sf) two-story office building developed in 1974, a surface parking lot, signage, and landscaped areas within the parking area and around the perimeter of the site planted with various mature-sized trees and other landscape materials. The office building on the project site has been in use for office/administration type operations since its development in 1974. Office is a permitted use under the existing Industrial Park Land Use designation and CL zoning for the site. The property is currently zoned CL (Commercial Limited) and has a General Plan Land Use Designation of Industrial Park (MP). The site is bounded to the north (across Baker Street) by buildings containing a church and various industrial uses zoned MP (Industrial Park), with a General Plan Land Use designation of Industrial Park; to the south and east (across Pullman Street) by various industrial buildings zoned MP (Industrial Park) with a General Plan Land Use designation of Industrial Park; and to the west by the off-ramp for the Costa Mesa Freeway (SR-55) and a drainage channel surrounded by chain link fencing. The project site is located in a built-out area of the northeastern portion of the City, predominately built with industrial and office buildings. The site is also located approximately one-half mile to the west from John Wayne Airport (JWA).

The proposed project would require replacing the existing office building and surface parking areas with an apartment building and parking structure. The proposed project would result in the construction of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-level parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces. The total density for the proposed 240-unit project is 57.7 dwelling units per acre; the current maximum density allowed under the proposed Zoning designation (PDR-HD) and General Plan designation (High Density Residential) for the property is 20 units per acre, or 83 dwelling units maximum for the site. The apartments are planned to be mostly comprised of studios, one-bedrooms and 2 bedroom units. The proposed breakdown of units is as follows: 26 studio and studio+loft units

(10.8 percent); 117 one-bedroom and one-bedroom+loft units (48.8 percent); 85 two-bedroom and two-bedroom+loft units (35.4 percent); and, 12 three-bedroom and three-bedroom+loft units (5 percent). The required on-site parking for the proposed development per Code is 541 parking spaces; 469 on-site parking spaces are proposed. On-site parking will include a tenant parking structure and surface parking for future tenant/leasing office parking. The parking structure would be located along State Route 55 (SR-55). The main vehicular entrance to the parking structure is proposed from Pullman Street and the secondary exit is provided on Baker Street. On-site amenities would include common open space and recreation areas, a pool, and a clubhouse. A conceptual site plan is shown in Figure 2-1 (Architectural Site Plan)

## 2.4 PUBLIC ACTIONS AND APPROVALS REQUIRED

Consistent with CEQA Guidelines Section 15065(b), the City of Costa Mesa is the lead agency for the proposed project. As such, this EIR will be used by the City to evaluate the environmental impacts created by implementation of the proposed project and develop conditions of approval that would address those impacts for which mitigation measures are proposed in the EIR. The City of Costa Mesa would consider approval of the proposed project and would certify the proposed project's Final EIR concurrently with project approval, along with amending the General Plan. The following actions would be considered in approving the proposed project.

### ■ General Plan Amendment GP-13-02

Proposed General Plan Amendment GP-13-02 would change the land use designation of the 4.17-acre development site from Industrial Park to High Density Residential. In addition to the change in land use designation, the general plan amendment also involves text amendment(s) to the City's General Plan to reflect a site-specific density of 57 dwelling units per acres, and a site-specific height of six stories.

The proposed General Plan Amendment GP-13-02 would state the following:

- In 2013, General Plan Amendment GP-13-02 was approved, and it consisted of a site-specific residential density increase for a 4.17-acre site at 125 East Baker Street. The maximum density allowed is 57.7 units/acre. This equates to a maximum density of 240 dwelling units.

### **Building Height**

The development standards for the proposed PDR-HD zone as specified in the Zoning Code does not specify a maximum building height requirement; however, a maximum building height of four stories for buildings south of the San Diego (I-405) Freeway is established as an objective in the City's 2000 General Plan Land Use Element. Because the subject property for the proposed development is south of the I-405 Freeway, the five-story maximum height would apply to the proposed development.

The proposed General Plan Amendment (GP-13-02) would state the following:

- Objective LU-1C** Promote land use patterns and development, which contribute to community and neighborhood identity.

Source: Architects Orange, 2013.

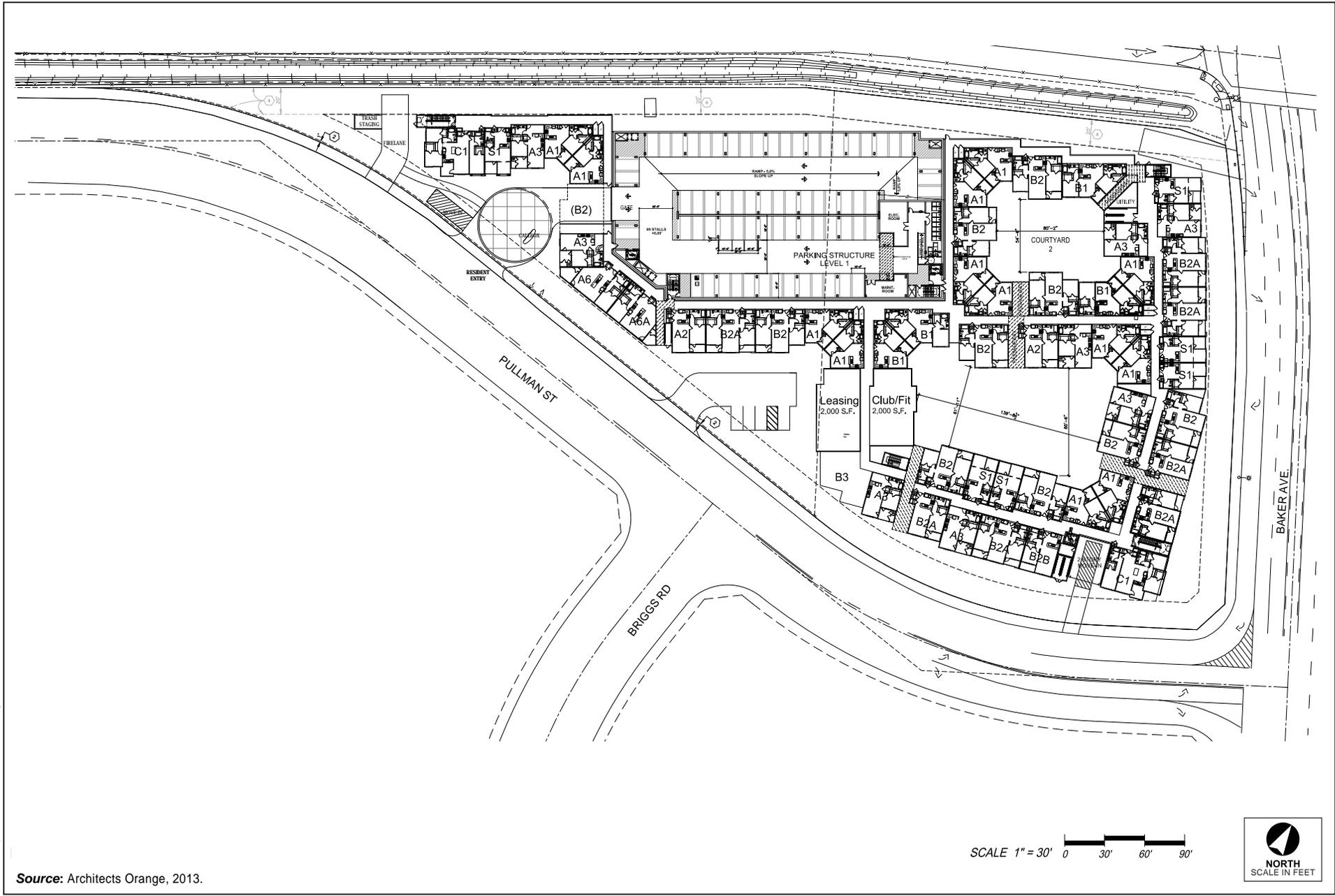


Figure 2-1  
Architectural Site Plan

**Policy LU-1C.2** Limit building height to four stories above grade south of the I-405 Freeway, except for special purpose housing, such as elderly, affordable, or student housing. An exception is for the Newport Plaza property at 1901 Newport Boulevard where a six-level parking structure is allowed, *and the 240-unit apartment project at 125 East Baker Street where a five-story apartment building and six-story parking structure are allowed under per GP-13-02.*

## ■ Zoning Code Amendment CO-13-02

A zoning ordinance to amend Costa Mesa Municipal Code Title 13 for a site-specific density of 57 dwelling units per acre and a site-specific height of six stories would be required. The site is proposed to be designated PDR-HD (Planned Development Residential-High Density) in the City’s Zoning Code. The designation allows up to 20 dwelling units per acre, or 83 dwelling units maximum for the site. The proposed 240-unit project would require an amendment to Table 13-58 (Planned Development Standards) to allow a site-specific density of 57.7 dwelling units per acre for this project. The revised Table 13-58 is presented below as Table 2-1 (Revised Table 13-58 [Planned Development Standards]).

Table 2-1 Revised Table 13-58 (Planned Development Standards)						
Development Standard	PDR-LD	PDR-MD	PDR-HD	PDR-NCM	PDC	PDI
Maximum Density per Section 13-59 MAXIMUM DENSITY CRITERIA. (dwelling units per acre)	8	12	20 Note: See North Costa Mesa Specific Plan for exceptions. Note: The maximum density for 125 East Baker Street is 57.7 dwelling units per acre.	35	20 Note: The maximum density for 1901 Newport Boulevard is 40 dwelling units per acre. See North Costa Mesa Specific Plan for exceptions.	

The proposed Zoning Code Amendment CO-13-02 would state the following:

- **Rezone R-13-02**—A rezone (or change) of the zoning classification of the 4.17-acre development site from Commercial Limited (CL) to Planned Development Residential – High Density (PDR-HD).
- **Master Plan PA-13-11**—A Master Plan application for the proposed development of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-story parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces with variances from the following zoning code development standards: (A) on-site parking spaces (541 parking spaces required; 469 parking spaces proposed)
- A review of the project for consistency with the Airport Environs Land Use Plan (AELUP) by the Airport Land Use Commission (ALUC) due to its close proximity to JWA.

## 2.5 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 EIR 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.

## 2.6 SIGNIFICANT AND UNAVOIDABLE IMPACTS

With the implementation with the identified mitigation measures, all potentially significant impacts have been reduced to less than significant levels. As such, there are no significant and unavoidable impacts with the implementation of the proposed project.

## 2.7 ALTERNATIVES

As required by CEQA Guidelines Section 15126.6(a) 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 EIR include the following:

- Reduced Density Alternative
- No Project/No Development Alternative

## 2.8 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Pursuant to CEQA Guidelines Section 15123(b)(1), Table 2-1 (Summary of Environmental Effects and Project Requirements/Mitigation Measures) contains 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.

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>AESTHETICS</b>			
<b>Impact 4.1-1</b> Implementation of the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required	LTS
<b>Impact 4.1-2</b> Implementation of the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>AIR QUALITY</b>			
<b>Impact 4.2-1</b> 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
<b>Impact 4.2-2</b> Construction of the proposed project could violate air quality standards or contribute substantially to an existing or projected air quality violation. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<p><b>MM4.2-1</b> The Applicant shall require by contract specifications that construction equipment engines be maintained in good condition and in proper tune per manufacturer’s specification for the duration of construction. Contract specifications shall be included in project construction documents, which shall be reviewed by the City of Costa Mesa prior to issuance of a grading permit.</p> <p><b>MM4.2-2</b> The Applicant shall require by contract specifications that construction operations rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines. Contract specifications shall be included in project construction documents, which shall be reviewed by the City of Costa Mesa prior to issuance of a grading permit.</p> <p><b>MM4.2-3</b> As required by South Coast Air Quality Management District Rule 403—Fugitive Dust, all construction activities that are capable of generating fugitive dust are required to implement dust control measures during each phase of project development to reduce the amount of particulate matter entrained in the ambient air. These measures include the following:</p> <ul style="list-style-type: none"> <li>■ Application of soil stabilizers to inactive construction areas</li> <li>■ Quick replacement of ground cover in disturbed areas. If disturbed graded areas remain inactive for greater than 4 days, nontoxic soil stabilizers shall be applied.</li> <li>■ Watering of exposed surfaces two times daily</li> </ul>	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
		<ul style="list-style-type: none"> <li>■ Watering of all unpaved haul roads two times daily</li> <li>■ Covering all stock piles with tarp</li> <li>■ Reduction of vehicle speed on unpaved roads</li> <li>■ Post signs on site limiting traffic to 15 miles per hour or less</li> <li>■ Sweep streets adjacent to the project site at the end of the day if visible soil material is carried over to adjacent roads</li> <li>■ Cover or have water applied to the exposed surface of all trucks hauling dirt, sand, soil, or other loose materials prior to leaving the site to prevent dust from impacting the surrounding areas</li> <li>■ Install wheel washers where vehicles enter and exit unpaved roads onto paved roads to wash off trucks and any equipment leaving the site each trip</li> </ul> <p><b>MM4.2-4</b> The Applicant shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. Diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds shall be turned off when not in use for more than 5 minutes. Contract specifications shall be included in the proposed project construction documents, which shall be approved by the City of Costa Mesa.</p> <p><b>MM4.2-5</b> The Applicant shall require by contract specifications that the architectural coating (paint and primer) products used have a VOC rating of 190 grams per liter or less, for all exterior and interior nonresidential land use architectural coating. As per SCAQMD regulations, architectural coating for residential land-uses shall not exceed 50 g/liter interior or 100 g/liter exterior. Contract specifications shall be included in the proposed project construction documents, which shall be approved by the City of Costa Mesa.</p>	
<b>Impact 4.2-3</b> Operation of the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.2-4</b> Implementation of the proposed project would not cause localized CO concentrations at nearby intersections to exceed national or state standards, and therefore would not expose sensitive receptors to substantial pollutant concentrations. This would be a less-than-significant impact.	LTS	No mitigation required	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>Impact 4.2-5</b> Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations of Toxic Air Contaminants. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<b>MM4.2-6</b> Install a sealed HVAC system in conjunction with MERVE 13 or higher rated filters for all residential development within the project site. The sealed air system will be designed so that all ambient air introduced into the interior living space would be filtered through MERVE 13 or higher rated filters to remove DPM and other particulate matter. The MERVE 13 or higher rated filter is designed to remove approximately 74 percent of particulates of 3 microns or larger in size from the ambient air that is introduced to the system (NAFA 1999). As a conservative estimate of reductions, it is assumed that the residents are indoors up to 78 percent of the time (USDOL 2010). Therefore, a reduction of 58.75 percent of particulate matter is anticipated with respect to this measure. <b>MM4.2-7</b> Install all HVAC system air intakes as far from SR 55 as possible. This will further reduce risk for all interior spaces to the risk where the HVAC air intake is placed.	LTS
<b>Impact 4.2-6</b> Construction of the proposed project would expose sensitive receptors to substantial pollutant concentrations. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<b>MM4.2-1 through MM4.2-4</b> would apply	LTS
<b>Impact 4.2-7</b> Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.2-8</b> Implementation of the proposed project would not create objectionable odors affecting a substantial number of people. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>GREENHOUSE GAS EMISSIONS</b>			
<b>Impact 4.3-1</b> Implementation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.3-2</b> Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This would be a less-than-significant impact.	LTS	No mitigation required	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>HYDROLOGY/WATER QUALITY</b>			
<b>Impact 4.4-1</b> Implementation of the proposed project would generate stormwater runoff that would contain urban pollutants that could affect receiving water quality. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<b>MM4.4-1</b> The project applicant shall finalize the drainage plan and prepare a project Water Quality Management Plan (WQMP) conforming to Orange County DAMP requirements. The plans shall be prepared by a Licensed Civil Engineer or Environmental Engineer and shall be submitted to the City of Costa Mesa Department of Public Works for review and approval. The City shall not issue a grading permit for the project until it has reviewed and approved the final drainage plan and WQMP. Prior to issuance of building permits, the City shall ensure the components of the drainage plan and WQMP BMPs have been installed.	LTS
<b>LAND USE/PLANNING</b>			
<b>Impact 4.5-1</b> 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 adopted for the purpose of avoiding or mitigating an environmental effect. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>NOISE</b>			
<b>Impact 4.6-1</b> Implementation of the proposed project would result in the exposure of persons to exterior noise levels in excess of standards established in the Costa Mesa General Plan. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<b>MM4.6-1</b> Prior to issuance of a certificate of occupancy, the applicant shall prepare an acoustical analysis ensuring that interior noise levels due to exterior noise sources will be at or below 45 dBA CNEL in all units. One or a combination of the following measures will be incorporated as necessary to ensure interior noise will be at or below 45 dBA CNEL: <ol style="list-style-type: none"> <li>a. Limit opening and penetrations on portions of buildings impacted by noise.</li> <li>b. Apply noise insulation to walls, roofs, doors, windows, and other penetrations.</li> <li>c. Install dual-paned windows. For some units, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 dBA CNEL. Consequently, a ventilation or air conditioning system would be required for these units to provide a habitable interior environment with the windows closed.</li> </ol>	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>Impact 4.6-2</b> Implementation of the proposed project would potentially result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels during construction. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<b>MM4.6-2</b> For construction activities within 200 feet of existing commercial or industrial businesses, the construction contractor shall implement the following measures during construction: a. The construction contractor shall provide written notification to all commercial and industrial tenants at least three weeks prior to the start of construction activities within 200 feet of the receptor informing them of the estimated start date and duration of daytime vibration-generating construction activities. b. Stationary sources, such as temporary generators, shall be located as far from off-site receptors as possible. c. Trucks shall be prohibited from idling along streets serving the construction site.	LTS
<b>Impact 4.6-3</b> 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.	LTS	No mitigation required	LTS
<b>Impact 4.6-4</b> Implementation 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.	LTS	No mitigation required	LTS
<b>Impact 4.6-5</b> Implementation of the proposed project would not result in the exposure of people residing or working in the project area to excessive noise levels. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>POPULATION/HOUSING</b>			
<b>Impact 4.7-1</b> Implementation of the proposed project would not induce substantial population growth in an area, either directly or indirectly. This would be a less-than-significant impact.	LTS	No mitigation required	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>PUBLIC SERVICES</b>			
<b>Impact 4.8-1</b> Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or in the need for new or physically altered fire 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 fire protection and emergency response. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.8-2</b> Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, or in the need for new or physically altered police 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. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.8-3</b> Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or in the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools. This would be a less-than-significant impact.	LTS	No mitigation required	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>Impact 4.8-4</b> Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, or in the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>TRANSPORTATION/TRAFFIC</b>			
<b>Impact 4.9-1</b> 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. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.	PS	<p><b>MM4.9-1</b> Pullman Street/Baker Street Intersection. Prior to issuance of a certificate of occupancy for the proposed project, the project applicant shall install a traffic signal and associated signing modifications and pavement legends at the Pullman Street/Baker Street intersection. Intersection design will incorporate the existing driveway that provides access to the 150 Baker Street property per the City of Costa Mesa Design Guidelines and California Manual on Uniform Traffic Control Devices. The applicant will install signal interconnect between Pullman Street/Baker Street traffic signal and existing traffic signals at the Baker Street/Red Hill Avenue and Baker Street/SR 55 NB Ramps intersections. In conjunction with signalization, the project applicant will restripe Baker Street to provide a dedicated eastbound and westbound left-turn lane, and a dedicated eastbound right-turn lane. Crosswalks and ADA compliant ramps will be installed as required by the City.</p> <p><b>MM4.9-2</b> Red Hill Avenue/Baker Street Intersection. Prior to issuance of a certificate of occupancy for the proposed project, the project applicant will implement the planned improvements at this intersection as identified in the current City of Costa Mesa General Plan, except the project applicant will provide a dedicated southbound right-turn lane, with overlap phasing, in lieu of the planned third southbound shared through/right-turn lane. The applicant will modify the existing traffic signal accordingly to current City of Costa Mesa Standards and Design Guidelines.</p> <p><b>MM4.9-3</b> Traffic Impact Fees. Prior to issuance of a certificate of occupancy for the proposed project, the project applicant will pay the City's required traffic impact fee, based on the project's net increase in trips. The precise fee required will be determined upon issuance of project building permits.</p>	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>Impact 4.9-2</b> Implementation of the proposed project would not 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. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.9-3</b> Implementation of the proposed project would substantially increase hazards due to a design feature. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a <i>less-than-significant</i> level.	PS	<p><b>MM4.9-4</b> To ensure adequate sight distance is provided at the project driveways, the project driveways and landscaping and/or hardscape on north side of these driveways will be designed such that a driver's clear line of sight is not obstructed and does not threaten vehicular or pedestrian safety, as determined by the City Traffic Engineer. The minimum stopping sight distance will be 300 feet. The following design recommendations will be implemented:</p> <ul style="list-style-type: none"> <li>■ Install stop signs and stop bars at the proposed project driveways on Pullman Street. Install all appropriate striping, signage and/or pavement legends per City of Costa Mesa standards/requirements.</li> <li>■ All plants and shrubs within the limited use area (see Figure 4.9-3 [Line of Sight Analysis]) will be of the type that will grow no higher than 30 inches above the curb or have a canopy no lower than 72 inches above curb.</li> <li>■ The maximum tree size and minimum tree spacing in the limited use area will be limited to 24-inch caliper tree trunks (maximum size at maturity) spaced at 40 feet on center.</li> <li>■ Subject to review and approval by the City Traffic Engineer, prohibit on-street parking on Pullman Street between project driveways and on the north side of the primary project driveway, and restripe Pullman Street to include a dedicated southbound right-turn lane at the primary project driveway with minimum storage of 100 feet be provided. Curbside parking will be restricted for a minimum of 200 feet north of the primary driveway. Parking will be restricted via installation of red curb and appropriate parking restriction signs.</li> </ul>	LTS
<b>Impact 4.9-4</b> Implementation of the proposed project would not result in inadequate emergency access. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required	LTS
<b>Impact 4.9-5</b> Implementation of the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<b>Impact 4.9-6</b> Operation of the proposed project would not result in inadequate parking capacity per City of Costa Mesa Municipal Code. Impacts would be <i>less than significant</i> .	LTS	No mitigation required	LTS
<b>UTILITIES/SERVICE SYSTEMS</b>			
<b>Impact 4.10-1</b> Implementation of the proposed project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.10-2</b> Implementation of the proposed project would not have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed. This would be a <i>less-than-significant</i> impact.	LTS	No mitigation required	LTS
<b>Impact 4.10-3</b> 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.	LTS	No mitigation required	LTS
<b>Impact 4.10-4</b> Implementation of the proposed project would not 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. This would be a less-than-significant impact.	LTS	No mitigation required	LTS
<b>Impact 4.10-5</b> Implementation of the proposed project would not 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. This would be a less-than-significant impact.	LTS	No mitigation required	LTS

<b>Table 2-1 Summary of Impacts and Mitigation Measures</b>			
NI = no impact; LTS = less than significant; PS = potentially significant; SU = significant and unavoidable			
<i>Impact</i>	<i>Significance Before Mitigation</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
<b>Impact 4.10-6</b> Implementation of the proposed project would not 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
<b>Impact 4.10-7</b> Implementation of the proposed project would not 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
<b>Impact 4.10-8</b> 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

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## CHAPTER 3 Project Description

The proposed 125 East Baker Street Project (proposed project) would result in the development of a 240-unit residential complex consisting of 119 one-bedroom units, 85 two-bedroom units, 12 three-bedroom units and 24 studio units with a multilevel parking structure. The site is currently occupied by a 62,000-square-foot (sf) two-story office building occupied by a variety of commercial uses. The proposed project would include the demolition of the existing building, and the construction of approximately 216,521 square feet of residential development.

### 3.1 EXISTING PROJECT SITE CHARACTERISTICS

#### 3.1.1 Project Location

The 4.17-acre 125 East Baker Street site (project site) is located at the southwest corner of Baker Street and Pullman Street in the City of Costa Mesa, Orange County, California. The property is currently zoned CL (Commercial Limited) and has a General Plan Land Use Designation of Industrial Park (MP). The site is roughly triangular-shaped and is currently occupied by a 66,000 sf two-story office building developed in 1974, a surface parking lot, signage, and landscaped areas within the parking area and around the perimeter of the site planted with various mature-sized trees and other landscape materials. The office building on the project site has been in use for office/administration type operations since its development in 1974. Office is a permitted use under the existing Industrial Park Land Use designation and CL zoning for the site. The site is bounded to the north (across Baker Street) by buildings containing a church and various industrial uses zoned MP (Industrial Park), with a General Plan Land Use designation of Industrial Park; to the south and east (across Pullman Street) by various industrial buildings zoned MP (Industrial Park) with a General Plan Land Use designation of Industrial Park; and to the west by the off-ramp for the Costa Mesa Freeway (SR-55) and a drainage channel surrounded by chain link fencing. The project site is located in a built-out area of the northeastern portion of the City, predominately built with industrial and office buildings. The site is also located approximately one-half mile to the west from John Wayne Airport (JWA). Figure 3-1 (Location Map) shows the regional and local context of the proposed project site.

#### 3.1.2 Surrounding Land Uses

The project site is bounded by SR-55 on the north and west, Baker Street on the north, and Pullman Street on the east and south. Uses to the north, east, and south of the site include office complexes and light industrial parks. To the west of SR-55 there are two high density residential complexes (Newport Village Apartments and Eaves South Coast Apartments). The surrounding land uses are shown in Figure 3-2 (Surrounding Land Uses).

### 3.2 PROJECT OBJECTIVES

CEQA Guidelines Section 15124 requires an EIR include a statement of objectives sought by the proposed project. This disclosure assists in developing the range of project alternatives to be investigated

in the EIR, as well as providing a rationale for the adoption of a Statement of Overriding Considerations, if one is in fact adopted. Identified below are goals and objectives related to the proposed project as set forth by the project applicant, Red Oak Investments, LLC.

### 3.2.1 City Objectives

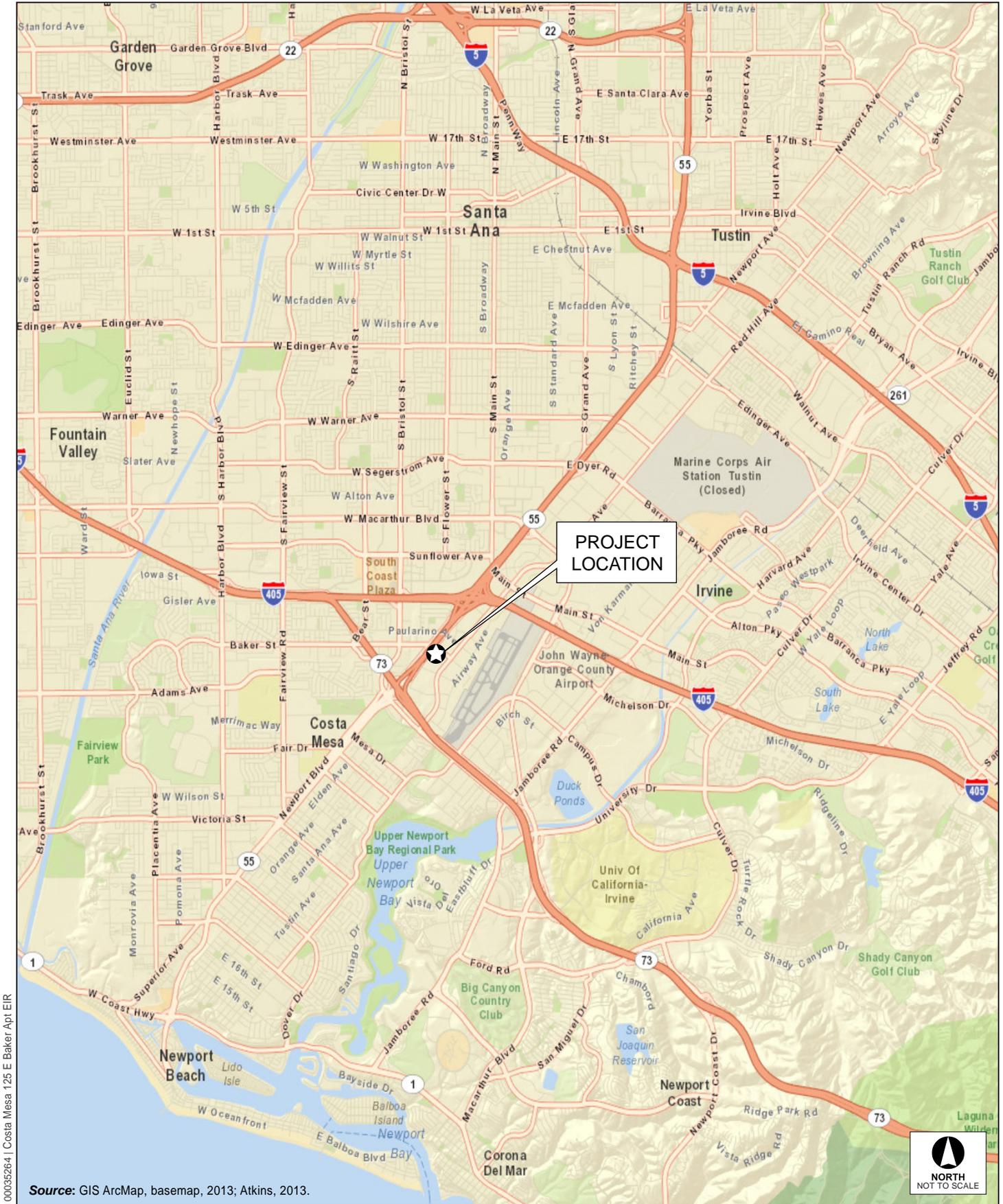
The objectives of the proposed project, as identified by the City, are as follows:

1. Create a development that is compatible with and sensitive to the existing land uses in the project area.
2. Promote residential buildings that convey a high quality visual image and character.
3. Enhance the community image of Costa Mesa through the design and construction of a high quality development.
4. Ensure adequate utility infrastructure and public services for new development.
5. Achieve the development of projects that enable residents to live in proximity to their jobs, commercial services, transportation and entertainment, and reduce the need for automobile use.
6. Mitigate environmental impacts to the greatest extent possible.

### 3.2.2 Project Applicant Objectives

Additionally, the objectives of the proposed project, as identified by the Applicant, are as follows:

- Community Objectives:
  1. Provide local residents and employers with a luxury living alternative, and attract high-income renters from other areas whose spending power and consumption habits will provide support for surrounding retail businesses.
  2. Accommodate demand for Class-A market rate rental housing otherwise unmet in the community.
- Development and Site Design Objectives:
  1. Provide for the development of an underutilized site and replace the visual blight of existing office with the visual excitement of new, top-rate development.
  2. Improve the open space environment through the addition of open spaces and increased landscaping including new landscaped courtyards and sidewalks, some of which will be accessible not only to the residents, but also to the public.
  3. Provide parking with direct access to the development.
  4. Create a development that maximizes opportunities for green building and environmentally sound design.
- Economic Objectives:
  1. Maximize the value of the currently underutilized site through the development of new housing, consistent with anticipated market demands.
  2. Accommodate sufficient residential density to make demolition of an operating office asset financially feasible.
  3. Achieve premium apartment rents by meeting the high market demand for housing that is close to retail, jobs and transportation.



100035264 | Costa Mesa 125 E Baker Apt EIR

Source: GIS ArcMap, basemap, 2013; Atkins, 2013.



Figure 3-1  
Location Map





100035264 | Costa Mesa 125 E Baker Apt EIR

Figure 3-2  
Surrounding Land Uses



4. Accommodate future economic expansion by providing high density housing and retail within a community that has the necessary infrastructure to support the development.
5. Strengthen the economic vitality of the region by attracting new workers, through construction, rehabilitation, and operation of the project.
6. Increase the Tax to the city by increasing property value by roughly 10 times current value.

### **3.3 PROJECT CHARACTERISTICS**

Red Oak Investments, LLC is proposing to replace the office building and surface parking areas with an apartment building and parking structure. Specifically, the project consists of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-level parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces. The total density for the proposed 240-unit project is 57.7 dwelling units per acre; the current maximum density allowed under the proposed Zoning designation (PDR-HD) and General Plan designation (High Density Residential) for the property is 20 units per acre, or 83 dwelling units maximum for the site. The apartments are planned to be mostly comprised of studios, one-bedrooms and 2 bedroom units. The proposed breakdown of units is as follows: 26 studio and studio+loft units (10.8 percent); 117 one-bedroom and one-bedroom+loft units (48.8 percent); 85 two-bedroom and two-bedroom+loft units (35.4 percent); and, 12 three-bedroom and three-bedroom+loft units (5 percent). On-site amenities would include common open space and recreation areas, a pool, and a clubhouse. A tract map for ownership units may be requested by the applicant, dependant on market conditions.

A conceptual site plan is shown in Figure 3-3 (Architectural Site Plan). Conceptual elevations are shown in Figure 3-4 (North and West Conceptual Elevation) and Figure 3-5 (South and East Conceptual Elevation), and conceptual landscaping is shown in Figure 3-6 (Conceptual Landscape Plan).

#### ***Parking and Circulation***

On-site parking will include a 465-space tenant parking structure and four surface parking spaces for future tenant/leasing office parking. The parking structure would be located along State Route 55 (SR-55). The main vehicular entrance to the parking structure is proposed from Pullman Street and the secondary exit is provided on Baker Street.

#### ***Site Improvements***

Existing on-site landscaping consists of trees and small shrubs along the boundaries of the project site and building. Proposed landscaping is proposed around the perimeter of the project site, entrance and surface parking area, courtyard, and pool area. The proposed project would provide a total of 83,748 of open space (approximately 46.2 percent of the total site), which would include 66,919 sf of common open space, comprised of the perimeter and courtyards, and an additional 16,829 sf of private open space comprised of the residential unit balconies. This would exceed the City's requirement of 76,194 sf of open space (approximately 42 percent of the total site).

Source: Architects Orange, 2013.

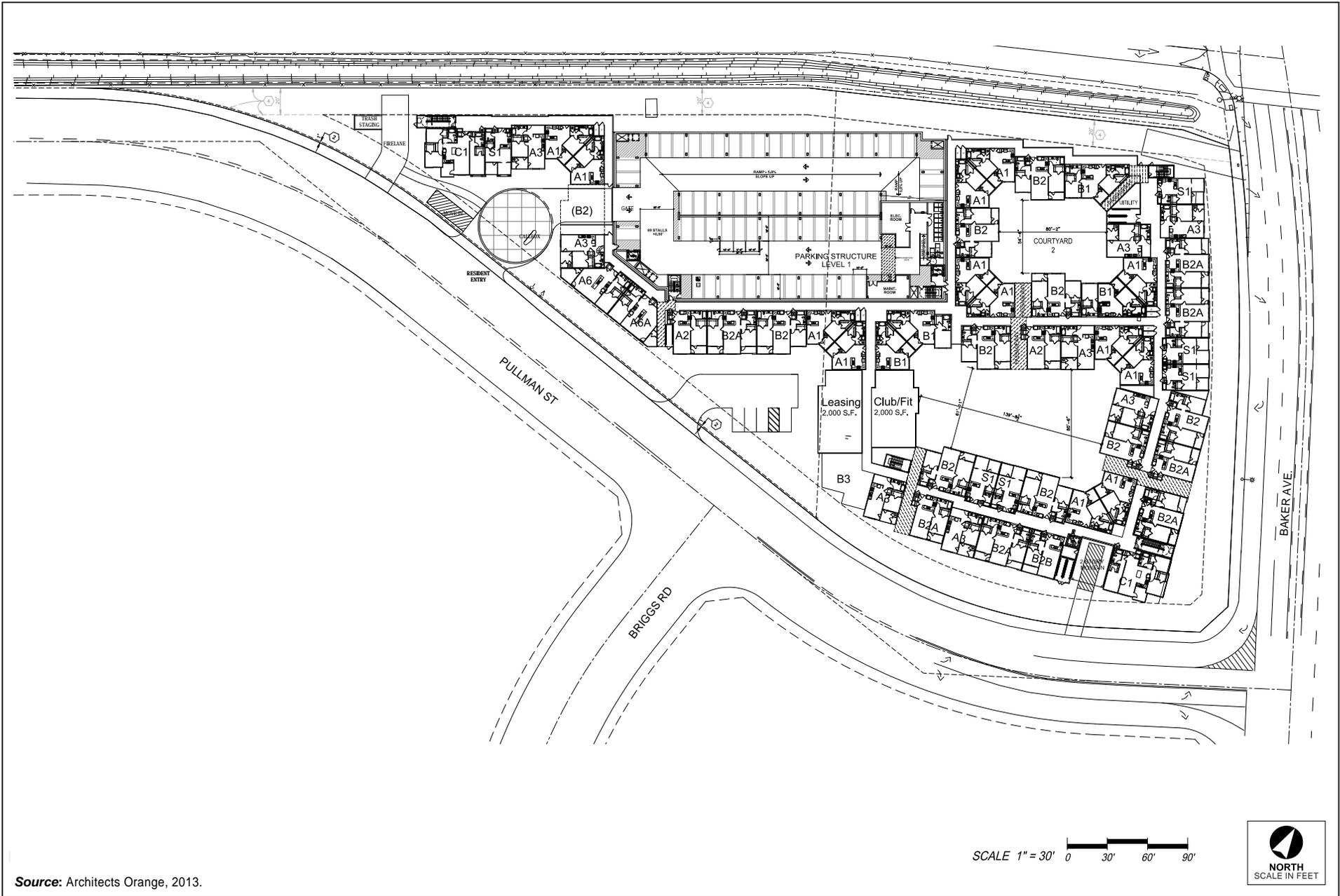
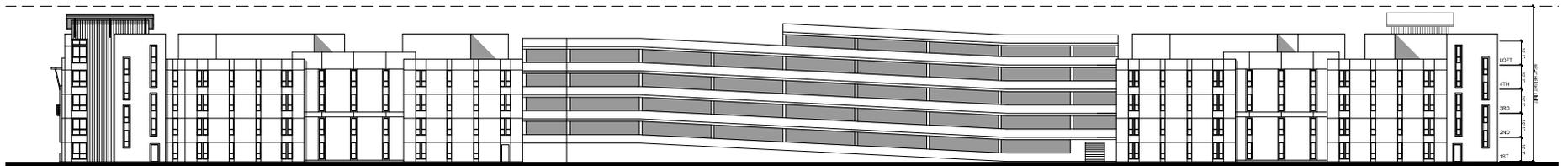


Figure 3-3  
Architectural Site Plan



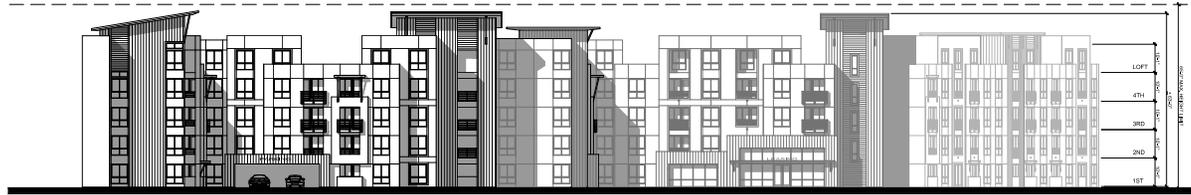
*NORTH ELEVATION - BAKER ST.*



*WEST ELEVATION - 55 FWY OFF RAMP*



Figure 3-4  
North and West Conceptual Elevation



*SOUTH ELEVATION*



*EAST ELEVATION - PULLMAN ST.*

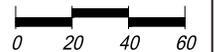
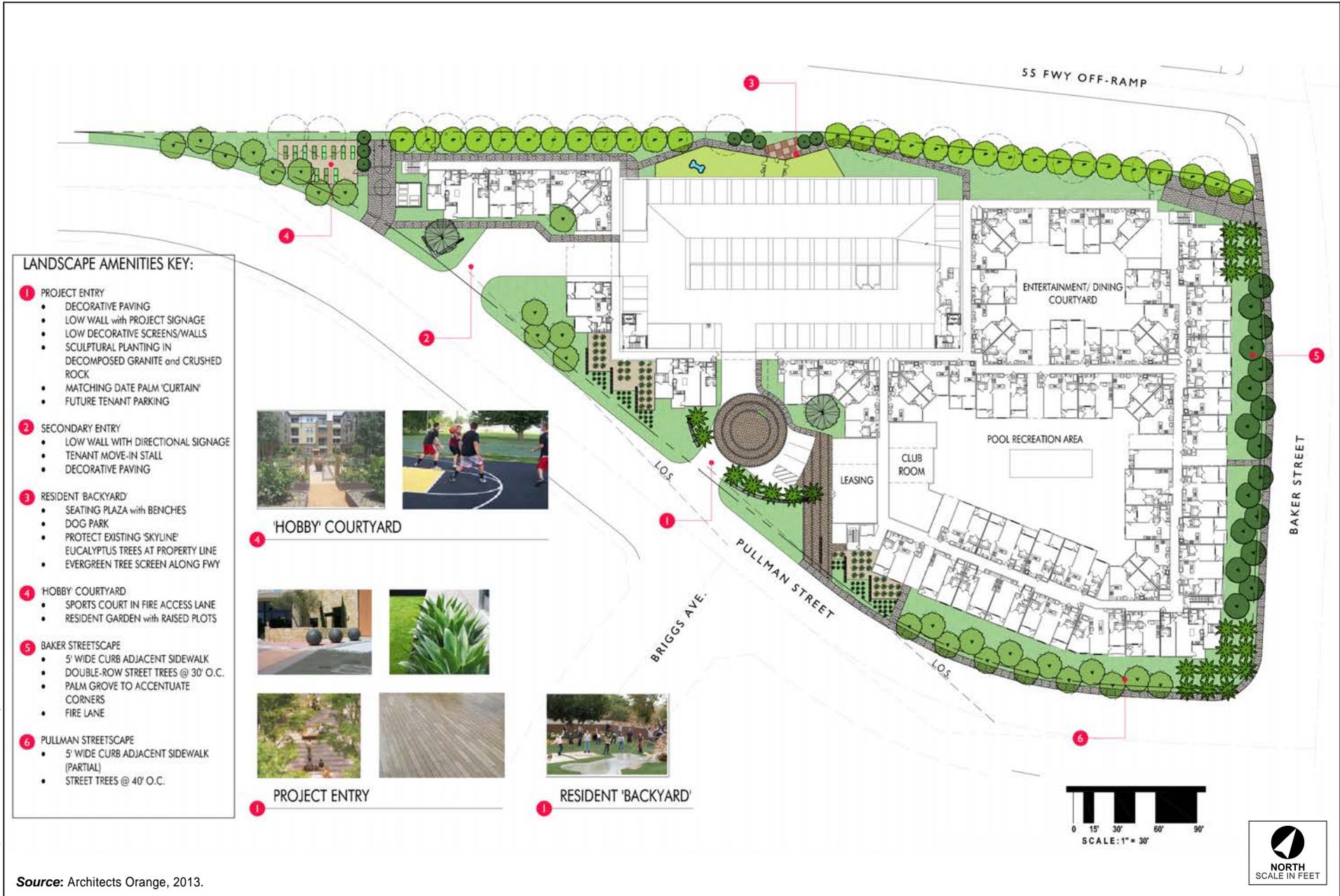


Figure 3-5  
South and East Conceptual Elevation



Source: Architects Orange, 2013.

Figure 3-6  
Conceptual Landscape Plan



## **Utilities**

The project site is currently served by water, sewer, and energy utilities. The existing public sewer mains for the project site are located in Baker Street and Pullman Street. The proposed sewer flow is 0.134 cubic sf, which will be divided between the existing 8-inch mains on Baker Street and Pullman Street. The increase in sewer flows resulting from the proposed project is minor and is not expected to have an adverse effect on the public sewer system according to the sewer capacity study that was completed in May 2013.

## **Construction**

Construction of the proposed project is anticipated to commence in spring 2014, and require a maximum of 21 months to complete. During construction activities, a total of 4.17 acres would be disturbed. Construction phases would involve demolition of the existing 62,000 sf commercial building, garage construction, and building construction. Demolition would be completed in 2 months, followed by one month for site grading. Garage construction and building construction would be completed in 5 months and 12 months, respectively, with construction of the building anticipated to start 60 days after construction of the garage commences. Architectural coating and landscaping would last approximately 4 months.

## **3.4 INTENDED USES OF THIS EIR**

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

This EIR is intended to provide decision-makers and the public with information that enables them to intelligently consider the environmental consequences of the proposed action. In a practical sense, EIRs function as a technique for fact-finding, allowing an applicant, concerned citizens, agency staff, and decision-makers an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure.

## **3.5 PROPOSED PROJECT ALTERNATIVES**

In accordance with CEQA Guidelines Section 15126.6, alternatives to the Proposed Plan are analyzed. Detailed information regarding the project alternatives is provided in Chapter 6 (Alternatives to the Proposed Plan) of this EIR. These alternatives include the following:

- Reduced Density Project Alternative
- No Project/No Development Alternative

## 3.6 PUBLIC ACTIONS AND APPROVALS REQUIRED

Consistent with CEQA Guidelines Section 15065(b), the City of Costa Mesa is the lead agency for the proposed project. As such, this EIR will be used by the City to evaluate the environmental impacts created by implementation of the proposed project and develop conditions of approval that would address those impacts for which mitigation measures are proposed in the EIR. The City of Costa Mesa would consider approval of the proposed project and would certify the proposed project's Final EIR concurrently with project approval, along with amending the General Plan. The following actions would be considered in approving the proposed project.

### ■ General Plan Amendment GP-13-02

Proposed General Plan Amendment GP-13-02 would change the land use designation of the 4.17-acre development site from Industrial Park to High Density Residential. In addition to the change in land use designation, the general plan amendment also involves text amendment(s) to the City's General Plan to reflect a site-specific density of 57 dwelling units per acres, and a site-specific height of six stories.

The proposed General Plan Amendment GP-13-02 would state the following:

- In 2013, General Plan Amendment GP-13-02 was approved, and it consisted of a site-specific residential density increase for a 4.17-acre site at 125 East Baker Street. The maximum density allowed is 57.7 units/acre. This equates to a maximum density of 240 dwelling units.

### **Building Height**

The development standards for the proposed PDR-HD zone as specified in the Zoning Code does not specify a maximum building height requirement; however, a maximum building height of four stories for buildings south of the San Diego (I-405) Freeway is established as an objective in the City's 2000 General Plan Land Use Element. Because the subject property for the proposed development is south of the I-405 Freeway, the five-story maximum height would apply to the proposed development.

The proposed General Plan Amendment (GP-13-02) would state the following:

**Objective LU-1C** Promote land use patterns and development, which contribute to community and neighborhood identity.

**Policy LU-1C.2** Limit building height to four stories above grade south of the I-405 Freeway, except for special purpose housing, such as elderly, affordable, or student housing. An exception is for the Newport Plaza property at 1901 Newport Boulevard where a six-level parking structure is allowed, *and the 240-unit apartment project at 125 East Baker Street where a five-story apartment building and six-story parking structure are allowed under per GP-13-02.*

### ■ Zoning Code Amendment CO-13-02

A zoning ordinance to amend Costa Mesa Municipal Code Title 13 for a site-specific density of 57 dwelling units per acre and a site-specific height of six stories would be required. The site is proposed to be designated PDR-HD (Planned Development Residential-High Density) in the City's Zoning Code.

The designation allows up to 20 dwelling units per acre, or 83 dwelling units maximum for the site. The proposed 240-unit project would require an amendment to Table 13-58 (Planned Development Standards) to allow a site-specific density of 57.7 dwelling units per acre for this project. The revised Table 13-58 is presented below as Table 3-1 (Revised Table 13-58 [Planned Development Standards]).

<i>Development Standard</i>	<i>PDR-LD</i>	<i>PDR-MD</i>	<i>PDR-HD</i>	<i>PDR-NCM</i>	<i>PDC</i>	<i>PDI</i>
Maximum Density per Section 13-59 MAXIMUM DENSITY CRITERIA. (dwelling units per acre)	8	12	20 Note: See North Costa Mesa Specific Plan for exceptions. Note: The maximum density for 125 East Baker Street is 57.7 dwelling units per acre.	35		20 Note: The maximum density for 1901 Newport Boulevard is 40 dwelling units per acre. See North Costa Mesa Specific Plan for exceptions.

The proposed Zoning Code Amendment CO-13-02 would state the following:

- **Rezone R-13-02**—A rezone (or change) of the zoning classification of the 4.17-acre development site from Commercial Limited (CL) to Planned Development Residential – High Density (PDR-HD).
- **Master Plan PA-13-11**—A Master Plan application for the proposed development of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-story parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces with variances from the following zoning code development standards: (A) on-site parking spaces (541 parking spaces required; 469 parking spaces proposed)
- A review of the project for consistency with the Airport Environs Land Use Plan (AELUP) by the Airport Land Use Commission (ALUC) due to its close proximity to JWA.

### 3.6.2 Preliminary Project (Screening) Review

City Council Policy 500-2 sets forth the criteria to evaluate General Plan amendment requests. Council takes action on whether or not a proposal should be accepted for processing by using these criteria as guidance. City Council Policy 500-2 establishes a procedure for processing privately initiated General Plan amendments. The policy also acknowledges these criteria are only guidelines and City Council may accept an application that does not meet the criteria if it finds there are overriding reasons to do so.

The City Council approved a General Plan Screening for the proposed project on February 19, 2013. It should be noted, however, that the number of units and overall density of the project that was screened by the City has slightly increased from the initial request.

In addition, the following specific actions must be completed concurrent with approval of the proposed project:

- Planning Commission Hearing (Recommendation to City Council)
- Certification of the Final EIR (City Council)
- Approval of a Statement of Overriding Considerations (City Council)

### 3.6.3 State and Local Agencies

In addition to the City of Costa Mesa (lead agency), there are federal, state, and regional agencies that have discretionary or appellate authority over the project and/or specific aspects of development pursuant to the proposed project. The responsible agencies will also rely on this EIR when acting on such subsequent specific projects. Those federal, state, or local agencies that would rely upon the information contained in this EIR when considering approval may include, but are not necessarily limited to, the following:

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

## 3.7 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 EIR, the potential cumulative effects of the proposed project are based upon a list of completed, approved, and pending projects identified by the City and neighboring jurisdictions, as well as build-out of the City of Costa Mesa General Plan, depending upon the specific impact being analyzed. For some resources, such as aesthetics, where impacts are site-specific, only those cumulative projects in the immediate vicinity of the project site are considered. The geographic context for the cumulative impact analyses is specified in each section. The list of related projects is provided in Table 3-2 (Cumulative Projects).

<i>Project</i>	<i>Address</i>	<i>Project Description</i>
West 17 <sup>th</sup> St and Superior Ave Live/Work Project	643–651 West 17 <sup>th</sup> St and 1677 Superior Ave	29-unit live/work mixed-use development
Anchor Live/Work Project	1527 Newport Blvd	40-unit live/work mixed-use development
33-Unit Residential Common Interest Development	2626 Harbor Blvd	33-unit single-family detached homes
Pacific Gateway Residences Project	1901 Newport Plaza	113-unit multifamily residential
Anton Residential Midrise Residential Project	580 Anton Blvd	250-unit seven-story residential

SOURCE: City of Costa Mesa (2013).

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## CHAPTER 4 Environmental Analysis

### 4.0 INTRODUCTION TO THE ANALYSIS

This chapter contains a discussion of the possible environmental effects of the proposed project for the specific issue areas that were identified through the Initial Study/Notice of Preparation (see Appendix A) as having potentially significant impacts. This chapter is the primary component of the EIR, as it provides information on existing environmental setting, the regulatory framework, 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 environmental setting component of the analysis defines the environmental conditions as they exist on and near the project site, while project impacts are defined as the project's physical effect on the existing environment. Mitigation measures are designed to reduce a project's potential impact. The purpose of this chapter 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 CEQA Guidelines Section 15382 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 environmental setting, as well as a discussion of the regulatory framework relevant to that issue area. Following the setting is a discussion of the proposed 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 analyzes each impact of the proposed project against the threshold of significance, identifies feasible mitigation measures proposed for significant impacts, and describes the level of significance after mitigation.

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.

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## 4.1 AESTHETICS

This section of the EIR analyzes the potential environmental effects on aesthetics from implementation of the proposed project. Two comment letters regarding potential visual impacts 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 Costa Mesa General Plan Community Design Element, Land Use Element and Municipal Code, as well as site visits and photographs from Atkins staff. Full reference-list entries for all cited materials are provided in Section 4.1.5 (References).

### 4.1.1 Environmental Setting

#### ■ Definitions of Visual Resources

Visual resources are an important component of the quality of life. “Aesthetic value” refers to the perception of the visual attractiveness of an area, as well as the elements that create or enhance its visual quality. While aesthetic value is subjective, it is typically included as a criterion for evaluating those elements that contribute to the quality that distinguishes an area. Most communities identify scenic resources as an important asset, although what is considered “scenic” may vary according to its environmental setting.

“Scenic resources” can include natural open spaces, topographic formations, and landscapes. These are resources that can be maintained and enhanced to promote a positive image of an area. Many people associate natural landforms and landscapes with scenic resources, such as oak woodlands, lakes, rivers, streams, and some historical areas. Scenic resources can also include urban open spaces and the built environment. Examples of these would include parks, trails, pathways, nature centers, cultural resources, and architectural features.

“Views” constitute the range of vision in which scenic resources may be observed. They are defined by physical features that frame the boundaries or context of one or more scenic resources. A region’s topography can lend visual value through the creation of public view corridors of ridgelines and mountains and through the visual backdrop created by mountains and hillsides. Views and scenic vistas may include views of a range of resources, whether natural or man-made, and are also considered important scenic resources for preservation.

#### ■ City of Costa Mesa Visual Characteristics

Elements that contribute to the City of Costa Mesa’s urban form and visual character include paths, districts, nodes, landmarks and edges. The following is a brief description of each element as included in the Community Design Element of the City of Costa Mesa General Plan:

##### ***Path***

A path can be defined as those corridors (streets, sidewalks, etc.) along which people move to get from one place to another. The City identifies two types of paths: “Primary corridors” are the principal

corridors carrying larger volumes of traffic and typically crossing through community boundaries, and “Secondary corridors” carrying less traffic and often originating or terminating within the City’s boundaries.

Primary Corridors include the following:

- Harbor Boulevard
- Newport Boulevard
- Fairview Street
- Bristol Street

Secondary Corridors include the following:

- Victoria Street
- Adams Avenue
- Placentia Avenue
- Sunflower Avenue
- Santa Ana/Red Hill Avenue
- Baker Street
- 19<sup>th</sup> Street
- 17<sup>th</sup> Street
- Class I Bikeways

As indicated above, Baker Street, on which the project site is located, is identified as a secondary corridor by the City.

### ***District***

Districts are those sections of the City that have a certain identifiable character due to building architecture, neighborhood design, streetscape, land use, etc. Distinguishing features may include building type, use, activity, inhabitants, and/or topography. The City’s principal districts include commercial, industrial, open space/recreation, and residential districts.

The City of Costa Mesa contains three distinct industrial districts: North Industrial/Business Park District, Airport Industrial/Business Park District and the Southwest Industrial/Business Park District. The North Industrial/Business Park District is characterized by large sized industrial and office buildings. The Southwest Industrial/Business Park District is characterized by industrial plant facilities, but also includes auto-related uses, manufacturing, and public storage.

The project site, located in the Airport/Business Park, is within the Industrial/Business Park District. This district is bordered by John Wayne Airport to the east, the Corona Del Mar Freeway to the south, the Costa Mesa Freeway (SR-55) to the west, and the San Diego Freeway (I-405) to the north. The Industrial/Business Park District contains a concentration of industrial, office, and commercial uses found in one- to two-story buildings, as such, the visual characteristics of proposed project site are consistent with the surrounding Industrial/Business Park District.

## Node

A “node” is defined as an important point where people gather or where paths converge, thus providing higher-than-typical levels of activity. There are two classifications of nodes: “entry nodes” function as focal points of identity between Costa Mesa and adjacent cities; and “Internal nodes” which function as focal points of high activity within the community.

There are no nodes in the immediate area surrounding the project site.

## Landmarks

A landmark can be either a structure, space, or a natural feature, which helps identify a particular area in the City. Important landmarks in Costa Mesa include:

- South Coast Plaza
- Orange County Performing Arts Center
- South Coast Repertory Theater
- Orange County Fairgrounds
- Orange Coast College
- Civic Center
- Mesa Verde Golf Course
- Costa Mesa Golf Course
- Fairview Park
- The Triangle
- Times Orange County
- Vanguard University
- Plaza Tower
- Center Tower
- Methodist Church
- Estancia Adobe
- California Scenario Garden

No City-designated landmarks are located on or in the immediate vicinity of the project site.

## Edge

Edges are linear elements that serve as a visual or physical boundary, barrier, or transition between districts defining the boundaries of a place. Elements such as freeways, flood channels, and natural features may be considered edges. Edges within Costa Mesa include the following.

- Santa Ana River
- San Diego Freeway (Interstate 405 [I-405])
- Corona Del Mar Freeway (State Route 73 [SR-73])
- Costa Mesa Freeway (SR-55)
- Upper Newport Bay Ecological Preserve
- John Wayne Airport

The project site is bounded by SR-55 to the west, and John Wayne Airport is located approximately 0.5 mile to the east.

## ■ Project Site Visual Characteristics

The 4.17-acre project site consists of a two-story office building, constructed in 1974, with associated surface parking areas. The project site and surrounding area are flat with no steep elevation changes. The site is located adjacent to existing commercial uses and SR-55. The site is roughly triangular-shaped and is currently occupied by a 66,000-square-foot (sf) two-story office building, a surface parking lot with 230 spaces, signage, and landscaped areas within the parking area and around the perimeter of the site planted with various mature-sized trees and other landscape materials. The office building on the project site has been in use for office/administration type operations since its development in 1974.

The visual character of the site and the surrounding area is largely defined by the industrial and commercial uses located in the area. The site is bounded to the north (across Baker Street) by buildings containing a church and various industrial uses; to the south and east (across Pullman Street) by various industrial buildings; and to the west by the off-ramp for SR-55 and a drainage channel surrounded by chain link fencing. The project site is located in a built-out area of the northeastern portion of the City, predominately built with industrial and office buildings.

Refer to Figure 4.1-1 (Viewpoint Location Map) for a vicinity map of the project site.

Existing development on the project site consists of one two-story building totaling approximately 66,000 sf and associated paved asphalt parking. Development on the project site is oriented towards either Pullman Street or Baker Street.

As shown in the viewpoints included in Figure 4.1-2 (Viewpoints 1 and 2) through Figure 4.1-5 (Viewpoints 7 and 8), the visual character of the project site and surrounding area consist of mostly one and two-story industrial and office uses with associated landscaped parking areas. Development on the project site is set back from adjacent roadways by sidewalks, grass strips, shrubbery, and mature trees.

### **Viewpoint 1**

Viewpoint 1 shows the view of the existing two-story office building looking east. The building includes very little glass and few windows on each of the two floors. The building features a flat roof and an entrance facing Baker Street. A paved parking area with 230 head in parking spaces is located on the project site. The existing nonnative shrubbery, grass strip landscaping along with the paved surface parking area located on the site are visible in this viewpoint.

### **Viewpoint 2**

Viewpoint 2 shows the project site as viewed from Baker Street facing southeast. The trees that line the project site along Baker Street, including the entrance to the project site are visible from this view. The trees along with the grassy strip areas along Baker Street create a buffer from adjacent uses and the roadway. The ornamental trees vary in height between 20 and 40 feet and consist of nonnative species.



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Source: GIS ArcMap, basemap, 2013; Atkins, 2013.

Figure 4.1-1  
Viewpoint Location Map





**Viewpoint 1:** View of project site including existing two-story building and associated landscaping facing east.



**Viewpoint 2:** View of project site, including mature trees from Baker Street facing southeast.

Source: Atkins, 2013.

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Figure 4.1-2  
Viewpoints 1 and 2





**Viewpoint 3:** View of project site from Pullman Street and Briggs Avenue, facing north-northeast.



**Viewpoint 4:** View looking north on the project site.

**Source:** Atkins, 2013.

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Figure 4.1-3  
**Viewpoints 3 and 4**





**Viewpoint 5:** View of Baker Street and adjacent properties to the north of project site, facing north.



**Viewpoint 6:** View of Pullman Street and adjacent properties to the southeast of project site, facing south.

Source: Atkins, 2013.

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Figure 4.1-4  
Viewpoints 5 and 6





**Viewpoint 7:** View of Costa Mesa Freeway to the west of project site, facing southwest.



**Viewpoint 8:** View looking east from project site at Pullman Street and Briggs Street.

Source: Atkins, 2013.

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Figure 4.1-5  
Viewpoints 7 and 8



### **Viewpoint 3**

As shown in Viewpoint 3, the development is set back from the intersection of Pullman Street and Briggs Avenue by a grassy strip area and ornamental trees. The site also contains minimal nonnative landscaping around the existing parking lot.

### **Viewpoint 4**

Viewpoint 4 shows the shrubbery and trees that serve as a buffer from adjacent uses and the roadway. As shown, looking north from the project site, street views in this area are blocked by the landscaped vegetation in this area.

The architectural design and construction of the structure located on the site is not considered of high aesthetic value. As shown in Viewpoints 1 through 4, existing ornamental trees and other vegetation on the project site are limited to nonnative ornamental plantings. The landscaping is typical to the industrial park uses that are located in the immediate area along Baker Street and Pullman Street. The site contains several ornamental non-native trees. As depicted, the site does not contain any valued scenic resources.

The dominant visual feature on the project site consists of the massing of the existing two-story structure. The grass strip and associated landscaping that surrounds the perimeter of the majority of the site serve to buffer the project site from adjacent uses and roadways.

## **■ Surrounding Area Visual Characteristics**

The project site is bounded by SR-55 on the north and west, Baker Street on the north, and Pullman Street on the east and south. Uses to the north, east, and south of the site include office complexes and light industrial parks. Development in the immediate area is generally similar in density and scale to the existing office building located on the project site. Building heights surrounding the project site range from one to three stories. To the west of SR-55 there are two high-density residential complexes (Newport Village Apartments and Eaves South Coast Apartments). These residential uses are located approximately 450 feet to the west of SR-55 from the project site. Viewpoints 5 through 8 depict views of adjacent properties and the overall visual character of the surrounding area.

### **Viewpoint 5**

Viewpoint 5 depicts the view of Baker Street and adjacent properties located north of the project site. Similar to the project site, buildings located in the immediate area contribute to the industrial park character of this area and are not considered to maintain high aesthetic value. As shown in Viewpoint 5, the adjacent office building consists of a one-story building with paved parking areas and landscaping that consists of nonnative species and grass strips. Similar to the project site, the building is set back from the roadway and the grass strip and ornamental trees serve to buffer the building from the roadway and adjacent uses.

### **Viewpoint 6**

Viewpoint 6 depicts the view of Pullman Street and adjacent properties that are located southeast of the project site depict the industrial park nature of the surrounding area. The one-story building located in

this area is similar in design and scale to the project site. The building also contains a paved parking lot and grassy strip areas that buffer the building from the roadway and adjacent uses.

### **Viewpoint 7**

As previously stated, the project site is bounded to the west by the off-ramp for SR-55 and a drainage channel surrounded by chain link fencing. Viewpoint 7 shows the fence and the view of SR-55 facing southwest from the project site. Large ornamental trees that serve as a buffer near the fencing are also located in this area. The paved parking area of the site extends to the western boundary of the site. As depicted in Viewpoint 7, the project site is located approximately 20 feet below the grade of the SR-55, which serves to limit views to the west of the project site to the freeway berm and the SR-55.

### **Viewpoint 8**

The view looking east from Pullman Street and Briggs Street shows the visual character of the surrounding area. Ornamental trees line the streets of the mostly industrial and office uses that are located in the areas. Nonnative vegetation is used for landscaping purposes throughout the area. Street parking and paved parking lots are located adjacent to the mostly one and two story buildings. The structures are similar in scale and density to the project site and do not carry high aesthetic value.

Similar to the project site, other than its industrial park nature, the surrounding area does not contain any dominant visual features. Due to the built out nature of the area, and the flat terrain, distant views are limited, as evidenced in Figure 4.1-2 through Figure 4.1-5. Views down roadways consist of trees and existing development. No scenic resources are located in the immediate project area.

## **■ Existing Views**

### ***Views of and through the Proposed Project Site***

Due to the flat terrain and built out nature of the project area and the landscaping, public views of the project site are limited to the immediately adjacent roadways; Pullman Street and Baker Street. Views outward from the project site are also limited to the immediately surrounding area, for the same reason. Figure 4.1-2 and Figure 4.1-3 identify the location of views of the project site and surrounding area and Figure 4.1-4 and Figure 4.1-5 illustrate views of the project site and surrounding area.

## **■ Light and Glare**

The proposed project site is located in a fully developed area that includes several sources of nighttime lighting. Sources of light and glare from existing and surrounding land uses include parking lot lighting, security lighting for structures, vehicular lights, interior building illumination, and street lighting. The proposed project site is currently developed with an office building and associated lighting sources.

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 surrounding office and industrial developments present only limited potential for glare, such as from light reflected off vehicle windows, and is typical of urban environments. 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. No light-sensitive use is located directly adjacent to the project site. Residential uses are located west of SR-55 and a church is located to the north across from Baker Street.

## **4.1.2 Regulatory Framework**

### **■ Federal**

No existing federal regulations pertain to the visual resources within the City of Costa Mesa.

### **■ State**

#### ***Caltrans Scenic Highway Program***

The California Department of Transportation (Caltrans) defines a scenic highway as any freeway, highway, road, or other public ROW, that traverses an area of exceptional scenic quality. Suitability for designation as a state scenic highway is based on vividness, intactness, and unity. No state scenic highways run through the City of Costa Mesa (Costa Mesa 2002b).

### **■ Regional**

#### ***County of Orange Scenic Highway Plan***

The Scenic Highway Plan included under the County of Orange General Plan identifies landscape corridors and viewscape corridors throughout the County. The project site and surrounding area does not contain any identified landscape corridor or viewscape corridor (County of Orange 2005).

### **■ Local**

#### ***City of Costa Mesa Municipal Code***

##### **Title 13—Planning, Zoning, and Development**

The City of Costa Mesa addresses visual considerations for development in many City documents, including the Municipal Code. The purpose of the Zoning Code is to promote the public health, safety, general welfare and preserve and enhance the aesthetic quality of the city by providing regulations to ensure that an appropriate mix of land uses occur in an orderly manner. It sets forth specific design guidelines, height limits, building density, building design and landscaping standards, and sign regulations.

##### **Chapter V Section 15-132—Parkway Trees**

As described in the City of Costa Mesa Municipal Code, parkway trees (located within the city right of way) are protected by City of Costa Mesa Municipal Code Section 15-132 and removal of any such trees requires a permit per Municipal Code Section 15-126.

## **Costa Mesa Community Design Element**

The Community Design Element of the 2000 General Plan was created to provide for the promotion of quality design and construction for buildings, structures, paths, districts, nodes, landmarks, natural features, and significant landscaping. It strives to establish a strong visual image that emphasizes quality design, compatibility in form and scale, and the incorporation of significant landscaping.

Policies include the following:

- Policy CD-1A.4** Require a consistent landscape character along City streets to reinforce the unique qualities of each corridor and district, including the development of landscaped medians
- Policy CD-2.1** Future development and redevelopment should improve the environment for the public; it should support the distinctiveness of each district as well as the special characteristics of the existing fabric of its local context. Adopt urban design guidelines for each identified district in Costa Mesa that recognizes, maintains, and enhances the character and identity of each district; integrate existing specific plans' policies and design guidelines as applicable.
- Policy CD-7A.1** Ensure that new and remodeled structures are designed in architectural styles which reflect the City's diversity, yet are compatible in scale and character with existing buildings and the natural surroundings within residential neighborhoods. Develop and adopt design guidelines for residential development.

### **4.1.3 Impacts and Mitigation Measures**

#### **■ Analytic Method**

A qualitative assessment of visual impacts was prepared by evaluating the existing visual character and setting and comparing it to visual conditions anticipated to occur with 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 project site and surrounding uses were observed, and photographs were taken to determine the short- and long-term visual effects of the proposed project. City of Costa Mesa policies were identified to determine if the project design is consistent with policies related to aesthetics.

#### **■ Thresholds of Significance**

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on aesthetics if it would do any of the following:

- Have a substantial adverse 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 substantial light or glare that would adversely affect day or nighttime views in the area

## ■ Effects Not Found to Be Significant

Threshold	Would the project have a substantial adverse effect on a scenic vista?
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The project site is not designated as a scenic resource under the General Plan Community Design Element of the City of Costa Mesa General Plan and would not disrupt any significant views. Additionally, views of streetscapes would not be obstructed due to the proposed setbacks, heights of the surrounding structures/buildings, and urban (light industrial) development in the area. The existing visual character of the Project site is defined by the existing building. The existing visual character of the surrounding area is defined by the light industrial uses along Pullman Street and Baker Street. The area does not exhibit a distinct architectural character and there is no uniformity of architectural styles. No unique or scenic visual resources exist on the Project site or in its surroundings. **No impact** would occur, and no further analysis is required.

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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No state scenic highways or County-identified viewscape corridors run through the project site or surrounding area. Aside from ornamental landscaping, there are no protected tree species on the property. No historic buildings or rock outcroppings are located at the Project site. Therefore, **no impacts** would occur, and no further analysis is required.

## ■ Project Impacts and Mitigation

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
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**Impact 4.1-1**      **Implementation of the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. This would be a *less-than-significant* impact.**

As previously described, the project site consists of a two-story office building, constructed in 1974, asphalt parking, and associated nonnative landscaping. The project site is located adjacent to existing commercial and industrial uses and SR-55.

### **Building Scale and Character**

Development of the project would replace the existing two-story office building with a five-story residential development with 240 residential units that wrap around a six-level parking structure located adjacent to SR-55. As stated in the Project Description, one of the project objectives includes replacing the visual blight of the existing office use with a high quality visual development. Adjacent land uses are primarily comprised of one- and two-story structures, generally surrounded by landscaping and a 230-space surface parking that serve the individual structures. Implementation of the proposed project would

introduce a high quality five-story residential development with open space areas into the area, thereby improving the aesthetic value of the site and contributing to the surrounding area.

Although the project would increase the height of the on-site structure, the new development would be surrounded by landscaping which would serve to enhance the existing visual character and reduce the apparent visual mass of the new residential development from surrounding areas. The architectural style of the project, both interior and exterior, would be a contemporary design. Maximum building elevations would be 65 feet.

The proposed residential units would be separated from existing uses to the west by SR-55, Baker Street to the north, and existing commercial uses to the south. In addition, the proposed project would incorporate landscape elements that would serve to soften the edges and would incorporate materials, colors and textures that would be compatible with existing uses in the surrounding community.

The existing open space environment would be improved through the addition of open spaces and increased landscaping including landscaped courtyards and sidewalks. Landscaping is proposed around the perimeter of the project site, entrance and surface parking area, courtyard, and pool area. A landscaping plan that would include landscape treatments and materials would be prepared and submitted for review and approval by the Development Services Director.

As discussed above, the residential development would be designed to be harmonious with the character of the area. The existing office building on the project site has little aesthetic value. The introduction of the proposed residential development would improve the visual character of the site and the surrounding area. As such, impacts to the visual character would be considered *less than significant*. No mitigation measures are required.

### Shade and Shadow

The proposed project would introduce a five-story residential development to an area that is currently developed with mostly one and two-story commercial and office buildings. The proposed building may cast shadows on the adjacent uses. The City of Costa Mesa considers shade/shadow impacts to be significant if the proposed project casts a shade or shadow onto sensitive uses in adjacent off-site areas for more than 2 hours between the hours of 10:00 AM and 3:00 PM. No sensitive use is located directly adjacent to the project site. Residential uses are located west of SR-55 and a church is located on the other side of Baker Street, but none of those uses would be impacted by shade or shadows cast by the new residential development. Shade and shadow impacts would be considered *less than significant*. No mitigation measures are required.

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 4.1-2**      **Implementation of the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. This would be a *less-than-significant* impact.**

The project site is located within a fully-developed urban area that includes several sources of nighttime lighting. Sources of light and glare from existing and surrounding land uses include interior building

illumination, parking lot lighting, security lighting for structures, street lighting, and vehicular lights. The project site is currently developed with an office building and associated lighting sources. Implementation of the proposed project would create new sources of light and glare. Lighting for the proposed development would include security lighting, lighting of the entries, internal streets, walkways, recreation facilities and common open space areas. The conversion of office uses to residential uses would not add a substantial number of light sources, but could increase in light in the surrounding area due to the increased height of development. Given the residential character of the proposed development, exterior sources of light are anticipated to be shielded with fixtures, and interior light sources would be intermittent due to the presence of window treatments.

The City's Municipal Code contains no specific, numeric standards for limiting light spillage except that light/glare be minimized to the fullest extent possible for sensitive viewers. As previously stated, sensitive uses located in the area include residential uses and a church. These residential uses are located approximately 450 feet to the west of SR-55 and a church is located to the north, across from Baker Street. The residential uses are located at such a distance that increased lighting would not be noticeable to these receptors. Light sensitive uses at the church located to the north along Baker Street would not generally occupy the church during evening hours.

Buildings with large facades constructed of reflective surfaces (e.g., brightly colored building façades, metal surfaces, and reflective glass) could increase existing levels of daytime glare. The proposed architecture is a modern design of stucco in grays, whites, and earthen tones, with corrugated metal siding and panel windows. The Project would involve primarily nonreflective façade treatments and the minimization of unrelieved glass surfaces. Additionally, the Project would be subject to compliance with CMMC Section 13-83.53, which specifies that a project must be consistent with the compatibility standards for residential development in that it provides adequate protection for residents from excessive light and glare.

Standard Conditions require applicants for residential development projects to submit an electrical engineer's photometric survey prior to issuance of building permits to demonstrate that lighting requirements meet minimum security lighting requirements as well as minimize light/glare to residents. Compliance with the City's standard conditions of approval listed below will reduce any significant light/glare impacts to below a level of significance.

### **Standard Condition**

Prior to the issuance of grading permits, the developer shall submit a Lighting Plan and Photometric Study for the approval of the City's Development Services Department. The Lighting Plan shall demonstrate compliance of the following:

- The mounting height of lights on light standards shall not exceed 18 feet in any location on the Project site unless approved by the Development Services Director.
- The intensity and location of lights on buildings shall be subject to the Development Services Director's approval.
- All site lighting fixtures shall be provided with a flat glass lens. Photometric calculations shall indicate the effect of the flat glass lens fixture efficiency.

- Lighting design and layout shall limit spill light to no more than 0.5 foot-candle at the property line of the surrounding neighbors, consistent with the level of lighting that is deemed necessary for safety and security purposes on site.
- Glare shields may be required for select light standards.
- A “Notice to Renters” shall disclose that the Project is located within an area designated as Light Industry in the City of Costa Mesa General Plan and is subject to existing and potential annoyances or inconveniences associated with industrial land uses. The notice shall disclose the existing surrounding industrial land uses, including but not limited to, operational characteristics such as hours of operation, delivery schedules, outdoor activities, and noise and odor generation. In addition, the Notice shall state that the existing land use characteristics are subject to change in the event that new businesses move or existing businesses change ownership. The notice shall be reviewed/approved by the City Attorney’s office and Development Services Director prior to recordation. The notice shall serve as written notice of the then existing noise environment and any odor generating uses within the mixed-use development and within a 500-foot radius of the mixed use development, as measured from the legal property lines of the development lot. The Buyer’s Notice shall be remitted to any prospective tenant at least 15 days prior to the execution of a real estate rental/lease agreement.

Compliance with the CMMC would ensure that the Project would not create a new source of substantial glare that would adversely affect daytime views in the area. This impact is considered *less than significant*, and no mitigation is required.

#### 4.1.4 Cumulative Impacts

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
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The geographic context for the analysis of visual character and quality impacts includes areas with views of the proposed project site. Implementation of the proposed project would introduce a high quality five-story residential development with open space areas into the area, thereby improving the aesthetic value of the site and contributing to the surrounding area. The residential development would be designed to be harmonious with the visual character of the area. Landscaping plans of future project would be prepared and submitted for review and approval by the Development Services Director to ensure consistency.

As such, the proposed project, in combination with other projects, would improve the visual character and quality of the area, and would therefore have a *less-than-significant cumulative* impact.

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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Costa Mesa is an urbanized City and contains numerous existing sources of nighttime lighting. Cumulative development would constitute intensification of an already urban and nearly built-out area and would generally occur through redevelopment or infill development. Although cumulative new development or redevelopment 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 with cumulative development would not significantly affect nighttime views of the sky because such views are already limited. Cumulative development, in combination with the proposed project, is not anticipated to result in the creation of new sources of light that could negatively affect nighttime views. Additionally, future development would be required to comply with the City's Standard Conditions of applicants for residential development projects. This requires applicants to submit an electrical engineer's photometric survey prior to issuance of building permits to demonstrate that lighting requirements meet minimum security lighting requirements as well as minimize light/glare to residents. Further, in accordance with the Municipal Code requirements, future development would be subject to design review and approval. Therefore, the proposed project in combination with other projects would not adversely affect daytime or nighttime views in the area, and a *less-than-significant cumulative* impact would occur.

#### 4.1.5 References

Costa Mesa, City of. 1974. *City of Costa Mesa Municipal Code*, January 1974.

———. 2002a. *City of Costa Mesa 2000 General Plan*, adopted January 2002.

———. 2002b. *City of Costa Mesa 2000 General Plan Environmental Impact Report*. Final EIR No. 1051, January.

Orange, County of. *County of Orange General Plan*. Scenic Highway Plan, 2005.

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## 4.2 AIR QUALITY

This section of the EIR analyzes the potential environmental effects on air quality from implementation of the proposed project. One comment letter from the South Coast Air Quality Management District (SCAQMD) addressing air quality was received in response to the notice of preparation (NOP) circulated for the proposed project.

Data for this section were taken from the Air Quality and Climate Change Technical Report for 125 Baker Street Apartments (Atkins 2013), available as Appendix B. Full reference-list entries for all cited materials are provided in Section 4.2.5 (References).

### 4.2.1 Environmental Setting

#### ■ Climate

The proposed project site is located in the north eastern portion of the City of Costa Mesa and is located within the South Coast Air Basin (Basin). The Basin includes all of Orange County and the nondesert portions of Los Angeles, San Bernardino, and Riverside Counties. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, the Basin is an area of high air pollution potential. 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. Air quality within the Basin is influenced by a wide range of emissions sources—such as dense population centers, heavy vehicular traffic, and industry.

The annual average temperature varies throughout the Basin, ranging from the low to mid 60s to over 100 degrees during the summer, measured in Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The City of Costa Mesa is located in the western coastal portion of the Basin. The annual average temperature in the City ranges from 50 to 72°F, although temperatures can occasionally exceed 90°F and even 100°F. Typically the hottest and coldest months in the City are September and December, respectively (Weather Channel 2013).

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 the 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.

Aside from a persistent temperature inversion, 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. Conversely, 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 eastward, predominantly into Riverside and San Bernardino Counties. Santa Ana winds, which are strong and dry north or

northeasterly winds that occur during the fall and winter months, disperse air contaminants differently through the Basin, generally resulting in worse air conditions in Costa Mesa. Santa Ana conditions tend to last for several days at a time.

Wind speeds in the City of Costa Mesa annual average about 9.58 miles per hour (mph) (USA.com 2013). The City and its surrounding area also typically experience a daytime onshore sea breeze. While nighttime land breezes can also occur, wind in the Costa Mesa area is almost exclusively from the west, with the exceptions of winter storms and the Santa Ana winds discussed above.

The majority of annual rainfall in the Basin occurs between December and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions. The annual average total of rainfall in the City is approximately 13.92 inches (USA.com 2013).

## ■ Criteria Air Pollutants

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

To protect the public health and welfare, the federal and state governments have identified five criteria air pollutants and a host of air toxics and established ambient air quality standards through the federal Clean Air Act and the California Clean Air Act. The federal and state air quality standards for these pollutants, ozone, CO, PM, SO<sub>2</sub>, and lead are shown in the left hand column of Table 1 (Ambient Air Quality Standards for Criteria Pollutants) below. These pollutants are described as follows:

- **Ozone**—A gas that is formed when volatile organic compounds (VOCs), which can also be referred to as reactive organic gases (ROG), and nitrogen oxides (NO<sub>x</sub>) undergo slow photochemical reactions in the presence of sunlight. Meteorological conditions that are needed to produce high concentrations of ozone are direct sunshine, early morning stagnation in source areas, high ground surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.
- **Carbon Monoxide (CO)**—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. Because CO is emitted directly

from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Respirable Particulate Matter (PM<sub>10</sub>) and Fine Particulate Matter (PM<sub>2.5</sub>)**—Extremely small suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. 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, abrasion of tires and brakes, and construction activities.
- **Sulfur dioxide (SO<sub>2</sub>)**—A colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at plants and refineries. Although sulfur dioxide concentrations have been reduced to levels well below state and national standards, further reductions are desirable because SO<sub>2</sub> is a precursor to sulfates. Sulfates, pollutants that can have adverse effects for both humans and the environment, are a particulate formed through the photochemical oxidation of SO<sub>2</sub>.
- **Lead**—Lead occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the Basin. The use of leaded gasoline is no longer permitted for on-road motor vehicles; therefore, most lead combustion emissions are associated with off-road vehicles such as racecars and some airplanes. Other sources of lead occur in the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

## ■ Existing Regional Air Quality

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The national and state ambient air quality standards have been set at levels where concentrations could be generally harmful to human health and welfare and to protect the most sensitive persons from illness or discomfort with a margin of safety. The air pollutants for which federal and state standards have been promulgated and which are most relevant to air quality planning and regulation in the air basins include ozone, carbon monoxide, suspended particulate matter, sulfur dioxide, and lead.

Measurements of ambient concentrations of criteria pollutants are used by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (ARB) to assess and classify the air quality of each air basin, county, or, in some cases, a specific developed area. The classification is determined by comparing monitoring data with national and California air quality 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 in marginal, moderate, serious, severe, or extreme “nonattainment,” depending on the magnitude of the air quality standard exceedance. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

At the federal level, the Basin is designated as an extreme nonattainment area for ozone, meaning that federal ambient air quality standards are not expected to be met for several years. The Basin is also designated as a serious nonattainment area for PM<sub>10</sub>. The area is also a federal-level nonattainment area

for PM<sub>2.5</sub>. The federal status of the Basin for CO is a “serious maintenance area” and the Basin is in attainment for NO<sub>2</sub> and SO<sub>2</sub>.

At the state level, the Basin is also designated as an extreme nonattainment area for ozone and a nonattainment area for PM<sub>2.5</sub> and PM<sub>10</sub>. It is in attainment for the state CO standard, SO<sub>2</sub>, and NO<sub>2</sub> within the majority of the Basin. Within Orange County though, the Basin is a nonattainment area for NO<sub>2</sub>, a subcategory of NO<sub>x</sub> (California ARB 2012a). In an effort to monitor the various concentrations of air pollutants throughout the basin, the SCAQMD has divided the region into thirty-eight source receptor areas (SRAs) in which thirty-two monitoring stations operate. The City of Costa Mesa is located within SRA 18, which covers the northwest costal portion of Orange County.

Ambient air pollutant concentrations within SRA 18 are monitored at the 2850 Mesa Verde Drive East in Costa Mesa. The air monitoring station for SRA 18 monitors ozone, CO, NO<sub>2</sub>, and SO<sub>2</sub>. Measurements for PM<sub>10</sub>, and PM<sub>2.5</sub> were taken in SRA 4 (South Costal LA County 2), as these pollutants are not measured in SRA 18. SRA 4 generally covers southern coastal Los Angeles area and is the closest coastal monitoring station to Costa Mesa that monitors for PM<sub>10</sub> and PM<sub>2.5</sub>. The SRA 4 monitoring station is located at 1305 E. Pacific Coast Highway, Long Beach, CA.

Table 4.2-1 (Ambient Air Quality Standards for Criteria Pollutants) identifies the national and state ambient air quality standards for relevant air pollutants and provides a summary of ambient air quality measured within SRA 18 and SRA 4 through the period of 2008 to 2012. As identified in the table, the national 8-hour ozone standard was exceeded on 6 days, and the state 8-hour standard was exceeded on 14 days during this period. The state 1-hour standard for ozone was exceeded for 1 day in 2010. The state 24-hour standard for PM<sub>10</sub> was exceeded twenty-two times and the PM<sub>2.5</sub> federal 24-hour standard was exceeded 18 times. The state and federal standards for CO and NO<sub>2</sub> were not exceeded from 2008 through 2012, while data was not available for one hour CO during 2011 or 2012.

## ■ Local Air Quality

Motor vehicles are the primary source of pollutants in the project site vicinity. Local emissions sources also include stationary activities, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and local industrial 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.” Section 9.14 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.

## ■ Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that can affect human health, but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, rather, it is due to the fact that, their effects tend to be local rather than regional. California ARB has designated nearly 200 compounds as TACs and has implemented control measures for a number of compounds that pose high risks and show potential

**Table 4.2-1 Ambient Air Quality Standards for Criteria Pollutants**

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
	2008	2009	2010	2011	2012
<b>Ozone</b>					
Max. 1-Hour Conc. (ppm)	0.094	0.087	0.097	0.093	0.090
State 1-Hour $\geq$ 0.09 ppm	0	0	1	0	0
Max. 8-Hour Conc. (ppm)	0.079	0.075	0.076	0.077	0.076
Federal 8-Hour $>$ 0.075 ppm	3	0	1	1	1
State 8-Hour $\geq$ 0.070 ppm	6	3	2	2	1
<b>Carbon Monoxide</b>					
Max 1-Hour Conc. (ppm)	3	3	2.0	*	*
Federal 1-Hour $\geq$ 35 ppm	0	0	0	*	*
State 1-Hour $>$ 20 ppm	0	0	0	*	*
Max. 8-Hour Conc. (ppm)	2.0	2.2	2.1	2.2	1.71
Federal 8-Hour $\geq$ 9.0 ppm	0	0	0	0	0
State 8-Hour $>$ 9.0 ppm	0	0	0	0	0
<b>Nitrogen Dioxide</b>					
Max. 1-Hour Conc. (ppm)	0.08	0.07	0.070	0.061	0.075
Federal 1-Hour $\geq$ 0.10 ppm	0	0	0	0	0
State 1-Hour $\geq$ 0.18 ppm	0	0	0	0	0
Max. Annual Conc. (ppm)	0.0132	0.0130	0.011	0.10	*
Federal Annual $\geq$ 0.053 ppm	0	0	0	0	*
State Annual $\geq$ 0.030 ppm	0	0	0	0	*
<b>Suspended Particulates (PM<sub>10</sub>)</b>					
Max. 24-Hour Conc. ( $\mu\text{g}/\text{m}^3$ )	81	83	76	50	54.0
Federal 24-Hour $>$ 150 $\mu\text{g}/\text{m}^3$	0	0	0	0	0
State 24-Hour $>$ 50 $\mu\text{g}/\text{m}^3$	9	5	2	0	6
Max. Annual Conc. ( $\mu\text{g}/\text{m}^3$ )	35.8	33.2	27.3	28.7	25.4
<b>Fine Particulates (PM<sub>2.5</sub>)</b>					
Max. 24-Hour Conc. ( $\mu\text{g}/\text{m}^3$ )	60.9	55.8	33.7	42.0	46.7
Federal 24-Hour $>$ 35 $\mu\text{g}/\text{m}^3$	7	4	0	3	4
Max. Annual. ( $\mu\text{g}/\text{m}^3$ )	13.7	12.5	10.4	10.7	*

SOURCE: For 2008 – 2011 data: South Coast Air Quality Management District, Historical Data by Year (2013), <http://www.aqmd.gov/smog/historicaldata.htm> (accessed July 25, 2013);  
For 2012 data: California Air Resources Board, Top 4 Measurements and Days Above the Standard, <http://www.arb.ca.gov/adam/topfour/topfourdisplay.php> (accessed July 25, 2013).

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

Ambient concentrations of ozone, carbon monoxide, and nitrogen dioxide were measured at SRA 2. Ambient concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> were measured at SRA 1.

\* Data not available from California ARB or SCAQMD during preparation of this EIR.

for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds, the most important being particulate matter from diesel-fueled engines.

The public's exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Federal Act Section 112, subsection (b) (42 USC Sec. 7412(b)), is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through the California ARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

The California ARB indicates that one of the highest public health priorities is the reduction of diesel particulate matter (DPM) generated by vehicles on California's highways. Other potential TAC generators within the SCAQMD are associated with specific types of facilities such as dry cleaners, gas stations, distribution centers, and ports, and are the focus of ARB's control efforts.

DPM is a mixture of 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). According to the SCAQMD and the California Air Resources Board, motor-vehicle emissions consist of a complex mixture of particulates and gaseous pollutants such as fine particulate matter (PM<sub>2.5</sub>), ultrafine particulates (particles with a diameter <0.1 micrometers), PM<sub>10</sub>, and other components. Further, the ultra fine particles make up approximately 90 percent of the total particulate number (SCAQMD 2012, Chapter 9; California ARB 2012b).

## 4.2.2 Regulatory Framework

Air quality in the proposed project area is regulated by the USEPA, California ARB, and the SCAQMD. These agencies develop rules and regulations to meet the goals or directives imposed on them through legislation. Although USEPA regulations may not be superseded, both state and local regulations may be more stringent than the federal standards. In general, air quality evaluations are based on air quality standards developed by the federal and state governments. Emissions limitations are then imposed upon individual sources of air pollutants by the various air agencies. Mobile sources are largely controlled through federal and state agencies, while most stationary sources are regulated by the local air pollution control or air quality management districts.

### ■ Federal

USEPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

As part of its enforcement responsibilities, USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that describes a strategy for the means to attain

the federal standards for ozone and particulate matter. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs.

## **Clean Air Act**

The federal Clean Air Act (FCAA), as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The FCAA requires that regional plans be prepared for nonattainment areas illustrating how the federal air quality standards could be met.

Regulation of TACs is achieved through federal and state controls on individual sources. The 1990 FCAA Amendments offered a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated Hazardous Air Pollutants, with a goal of achieving USEPA's one in 1 million cancer risk from TACs.

## ■ **State**

The California ARB, a part of the California Environmental Protection Agency (Cal/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, and provides oversight of local programs. The 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 Clean Air Act**

The California Clean Air Act (CCAA) of 1988 requires nonattainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date. Local air districts are responsible for developing plans for attaining the state ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide standards. The California ARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The state submitted its latest SIP to the USEPA in November 2007. The SIP identifies measures that will be implemented to reduce ozone and fine particulate matter (PM<sub>2.5</sub>) emissions to meet federal standards.

## **Air Toxics Hot Spots Information and Assessment Act of 1987**

Regulation of TACs is achieved through federal and state controls on individual sources. The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Sections 44300 et seq. provide for the regulation of over 200 air toxics and is the primary air contaminant legislation in the state. California ARB has published the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. This plan identifies diesel particulate matter

as the predominant TAC in California and identifies methods for reducing diesel emissions from mobile, stationary, and area-wide sources. California ARB has also prepared an informational document, Air Quality and Land Use Handbook: A Community Health Perspective (2005), with recommended guidelines for siting sensitive land uses near sources of mobile TAC emissions such as DPM.

## ■ Regional

### **Southern California Association of Governments (SCAG)**

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy, community development and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan and Guide (RCPG) provide growth forecasts that are used in the development of air quality related land use and transportation control strategies by SCAQMD.

### **Regional Comprehensive Plan**

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

### **South Coast Air Quality Management District**

SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. The SCAQMD is specifically responsible for monitoring air quality and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards within the district.

## **Air Quality Management Plan**

The SCAQMD and SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. Once adopted, the AQMP becomes a portion of California's SIP describing the plan to bring the Basin into attainment with the NAAQS and California Ambient Air Quality Standards. The most recent plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal Clean Air Act planning requirements and focuses on new federal ozone and PM<sub>2.5</sub> standards. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show vehicle miles travelled (VMT) emissions offsets following the recent changes in USEPA requirements.

The 2012 AQMP details the district's current understanding of issues associated with living near high volume roadways and the associated exposure to toxic air contaminants (TACs). The AQMP presents background information on air pollutants emitted from motor vehicles; results from ambient measurement studies conducted near traffic sources, on roadways, and inside vehicles; and health effects from these pollutants. Potential control, mitigation, policy strategies for limiting exposures, and future actions to address this emerging and important topic are also addressed. According to the AQMP, a positive association between living near busy roadways and asthma exacerbation, decreased lung function, increased heart disease, a faster progression of atherosclerosis, increased risk of low birth weight and premature delivery, lower immune function, and increased risk of Type 2 diabetes in post menopausal women (SCAQMD 2012).

In response to the increased importance of TACs with respect to proximity to mobile sources the SCAQMD began the MATES IV study in July of 2012. The study is designed to characterize the carcinogenic risk caused by exposure to air toxics in the basin, including the risk caused by close proximity to mobile sources such as airports, rail yards, freeways, and warehouse operations.

### **■ Local**

#### **City of Costa Mesa General Plan**

The City of Costa Mesa 2000 General Plan is the primary source of long-range planning and policy direction intended to guide growth and preserve the quality of life within the community. The 2000 General Plan recognizes the community's diverse evolution of residential neighborhoods, its regional commercial influence, and its wide array of cultural, educational, social, and recreational amenities. The following goals and policies from the 2000 General Plan will ensure that future development and improvements are consistent with state and federal GHG reduction requirements.

#### **Resource Conservation**

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the conservation of resources, including land, water, wildlife, and vegetation; the protection of areas of unique natural beauty; the integration of natural features into the man-made environment.

**Objective CON-1C** Work towards the conservation of energy resources in both existing and new buildings, utilities and infrastructure.

**Policy CON-1C.2** Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units.

**Policy CON-1C.3** Pursue adoption of an Energy Conservation Program that requires the use of materials, devices, and measures to reduce energy consumption above the energy conservation requirements of Title 24. These measures may include built-in energy efficient appliances, automated controls for air conditioners and lighting, special sunlight-filtering window coatings or double-paned windows, light-colored roofing materials, and other means to reduce energy consumption and a structure's heating and cooling needs.

**Objective CON-1E** Pursue the prevention of the significant deterioration of local and regional air and water quality.

**Policy CON-1E.1** Cooperate with and support regional, State, and Federal agencies to improve air quality throughout the South Coast Air Basin.

**Policy CON-1E.2** Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local and regional air and water quality.

**Policy CON-1E.3** Develop and implement a Reasonable Available Control Measure Plan (including employee ridesharing, traffic signal synchronization, bicycle/pedestrian facilities, energy conservation street lighting, modified work schedules, preferential carpool parking, or other equivalent control measures) in conformance with the Air Quality Management Plan for the South Coast Air Basin.

## Transportation

It is the goal of the City of Costa Mesa to provide for a balanced, uncongested, safe, and energy-efficient transportation system, incorporating all feasible modes of transportation.

**Objective CIR-1A** To provide specific programs and policies that address multi-modal transportation, multi-agency coordination, mitigation of traffic impacts and the balancing of land uses with transportation systems.

**Policy CIR-1A.5** Investigate all available operational measures, including the use of one-way streets, to improve traffic circulation and minimize delay and congestion on arterials.

**Policy CIR-1A.11** Attempt to maintain or improve mobility within the City to achieve a standard level of service not worse than Level of Service "D" at all intersections under the sole control of the City. Intersection level of service analyses for General Plan

conditions shall be updated periodically and presented to City Council.

**Policy CIR-1A.12** Cooperate with adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard level of service no worse than “D” at all intersections under State or joint control. Intersection level of service analyses for General Plan conditions for locations under State or joint control shall be updated periodically and presented to City Council.

**Policy CIR-1A.15** Prioritize intersection improvements which improve through traffic flow on major, primary, and secondary arterials, and reduce impacts on local neighborhood streets with emphasis on pedestrian safety.

### Transportation System Management

It is the goal of the City of Costa Mesa to provide for standard service levels at signalized intersections by constructing capacity improvements for all various modes of circulation, adopting land use intensities commensurate with planned circulation improvements and implementing traffic demand reduction programs, thereby creating a more energy efficient transportation system.

**Objective CIR-2A** To coordinate efforts with other regional agencies and pursue operational improvements towards enhancing the capacity of the system of freeways and arterial highways in the City.

**Policy CIR-2A.2** Coordinate with the Orange County Transportation Authority and with adjacent jurisdictions to improve signal timing and coordination along major arterials.

**Policy CIR-2A.3** Continue to work with Caltrans to synchronize and coordinate traffic signals on arterials at intersections controlled by Caltrans.

**Policy CIR-2A.4** Continue to evaluate and pursue design and operational improvements (medians, driveway closures, signal synchronization or phasing, parking or turn restrictions, etc.) to improve the efficiency of intersections.

**Objective CIR-2D** To ensure that the transportation related impacts of development projects are mitigated to the fullest extent possible, in conformance with transportation related policies.

**Policy CIR-2D.1** Circulation improvements required to provide or attain the minimum traffic level of service standard at an intersection to which a development project contributes measurable traffic shall be completed within three years of issuance of the first building permit for said project, unless additional right-of-way or coordination with other government agencies is required to complete the improvement. Improvements may be required sooner if, because of extraordinary traffic generation characteristics of the project or extraordinary impacts to the

surrounding circulation system, such improvements are necessary to prevent significant adverse impacts.

## Growth Management

It is the goal of the City of Costa Mesa to reduce traffic congestion and to ensure that adequate transportation facilities are provided for existing and future residents of the community through effective and comprehensive growth management practices consistent with the Land Use Element.

**Objective GM-1A** To provide and maintain a circulation system that operates within established traffic level of service standards.

**Policy GM-1A.2** Maintain balance between land use and circulation systems by phasing new development to levels that can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.

## 4.2.3 Impacts and Mitigation Measures

### ■ Analytic Method

The analysis 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 construction activities, operation of uses contemplated under the proposed project, and project-related vehicle trips. Air quality impacts are also estimated in relationship to the nearest schools, hospitals, convalescent homes, and other sensitive uses, including the new residential uses associated with the proposed project. The health of people at these properties may be adversely impacted if air emissions exceed a level deemed significant by federal and state agencies. 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

#### Criteria Air Pollutants

Construction emissions associated with the proposed project were estimated using the California Emission Estimator Model (CalEEMod).<sup>1</sup> Assumptions, calculations and CalEEMod worksheets are included in Appendix B. Construction emissions were calculated based on the types and number of pieces of equipment that would be used to demolish, grade, excavate, and balance fill at the project site, and construct the uses proposed under the project.

Construction activities associated with the proposed project would temporarily increase diesel emissions, and would generate particulate matter (dust). Construction equipment within the project site that would generate VOC and NO<sub>x</sub> pollutants could include graders, excavators, and bulldozers. Some of this equipment would be used during demolition and grading activities as well as during construction of the

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<sup>1</sup> CalEEMod is a model developed for SCAQMD to determine construction and operational emissions of a proposed project.

buildings on the project site. It is assumed that all construction equipment used would be diesel-powered. The analysis assumes that the building, grading, and demolition phases would not overlap with each other, however building and architectural coating phases could occur at the same time.

### **Localized Significance Thresholds**

In addition to the daily air emissions thresholds established by SCAQMD, potential localized impacts for certain criteria pollutants with regard to project-related construction emissions are calculated using SCAQMD's localized significance threshold (LST) methodology. LST methodology utilizes on-site mass emissions rate look up tables and project specific modeling, where appropriate, to determine project emissions of NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. The total project size is approximately 4.17 acres, and the SCAQMD recommends that construction LSTs be analyzed using the CalEEMod equipment list based on the maximum number of acres disturbed on the peak day. For the project site, construction activities were estimated to disturb a maximum of 1 acre per day based on SCAQMD and CalEEMod methodology. Therefore, the 1-acre LST tables are used for determining construction impacts associated with the nearest sensitive receptors (Pacific Technology School and Vineyard Christian School) located approximately 120 feet north of the project site at 102 Baker Street.

### **Operational Emissions**

#### **Criteria Air Pollutants**

Total project emissions are based on the operation of the 240 residential units, common space, and 207,350 square foot parking garage. Emission factors used are the default CalEEMod factors associated with buildings in the Orange County area. Area source emissions are based on the number of dwelling units, and mobile emissions are based on the project specific traffic study (LLG 2013). Existing emissions for the project site are based on the anticipated emissions from the 62,000 square foot office building that is currently operating at 74 percent capacity. The net project emissions are the difference between the proposed project emissions and the existing on-site emissions. Assumptions, calculations and CalEEMod worksheets are included in Appendix B.

#### **Localized CO Concentrations**

The SCAQMD recommends the evaluation of CO concentrations at any intersections that would perform at a level of service (LOS) D or worse to determine if these roadways would result in an increase in local CO concentrations above the ambient air quality standards. According to the project specific traffic study (LLG 2013), there is one intersection under existing conditions that operates at an LOS of F. However, with the implementation of project specific mitigation, all intersections will operate at an LOS of C or better even with the addition of project related traffic. Therefore, dispersion modeling of CO impacts was not conducted.

### **Localized Significance Thresholds**

In addition to the daily air emissions thresholds established by SCAQMD, potential localized impacts for certain criteria pollutants with regard to project-related emissions are calculated as described under construction above. The project site is just over 4 acres, therefore for operational emissions the 2-acre LST tables are used to determine significance. LSTs are based on on-site emissions only therefore all

vehicle emission once the vehicle leaves the site is not part of the analysis. The analysis determines impacts from project implementation associated with the nearest sensitive receptors (Pacific Technology School and Vineyard Christian School) located approximately 120 feet north of the project site at 102 Baker Street.

### **Toxic Air Contaminants**

The proposed project is not a new TAC emitter. However it is situated within 500 feet of an auto body repair service (Shawn Motor Facilities) and, it has the potential to expose on-site residents to emissions of DPM due to being situated within 500 feet of State Route 55 (SR-55). Therefore, the TAC emissions analysis is limited to identifying the potential cancer and noncancer risk for new on-site residents from being located adjacent to SR-55, in an area of increased diesel truck traffic, and within 500 feet of the auto body repair facility. A health risk assessment (HRA) was conducted for the project and is included as part of the Air Quality Technical Report included as Appendix B.

Consistent with SCAQMD recommendations, the Office of Environmental Health Hazard Assessment (OEHHA) methodology (OEHHA 2003) was used in determining the potential health risks associated with diesel emissions from local high volume roadways. Concentrations of DPM were estimated using the AERMOD Dispersion Model.

Shawn Motor Facilities is located at 250 Briggs Street, and is within 300 feet from the project site. The facility is permitted for the operation of a spray booth which results in VOC emissions that could impact the project site. Cancer risk for this facility was obtained through the SCAQMD. According to the SCAQMD, health risk assessments are not conducted for all facilities. However, based on the information provided in the permit application, the type and amount of chemicals used on site, the health risk can be estimated using previous experience with similar types of emission sources. According to the SCAQMD, health risk for this facility is less than 1 in a million (Dabiri 2013).

### **■ Thresholds of Significance**

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, 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 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

The SCAQMD is principally responsible for comprehensive air pollution control in the South Coast Air Basin and 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*, and updated on the SCAQMD website. These thresholds were developed by the SCAQMD to provide quantifiable significance levels for comparison with projects. This analysis utilizes the SCAQMD's thresholds to evaluate the proposed development project and assess the significance of quantifiable impacts. The following quantifiable thresholds are currently recommended by the SCAQMD and have been used to determine the significance of air quality and climate change 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 would be potentially significant.

- 550 pounds per day of carbon monoxide (CO)
- 75 pounds per day of reactive organic gases (VOC)
- 100 pounds per day of nitrogen oxides (NO<sub>x</sub>)
- 150 pounds per day of sulfur oxides (SO<sub>x</sub>)
- 150 pounds per day of Respirable Particulate Matter (PM<sub>10</sub>)
- 55 pounds per day of Fine Particulate Matter (PM<sub>2.5</sub>)

### **Operational Emissions Thresholds**

The SCAQMD currently recommends that projects with operational emissions that exceed any of the following emissions thresholds would be potentially significant.

- 550 pounds per day of CO
- 55 pounds per day of VOC
- 55 pounds per day of NO<sub>x</sub>
- 150 pounds per day of SO<sub>x</sub>
- 150 pounds per day of PM<sub>10</sub>
- 55 pounds per day of PM<sub>2.5</sub>

### **Localized Significance Thresholds**

For the purposes of the construction LST analysis, maximum emissions were estimated using the emissions LST Screening Tables for 1 acre (the LST Screening Table provide emissions for project sites of 1, 2, and 5 acres). Because the site is between 2 and 5 acres, the operational LST analysis is based on the 2-acre LST Screening Tables.

The proposed project is located in SRA 18. The nearest existing sensitive land uses are the on-site residential uses for operational emissions (25 meters or less), and the day care and school located directly across Baker Street (approximately 120 feet (36 meters)). The LSTs thresholds for 25 meters for construction and operational activities are shown below in Table 4.2-2 (Localized Significance Thresholds). If the proposed project would result in exceedance of the LSTs for any air pollutant as identified in Table 4.2-2, this would constitute a significant impact.

**Table 4.2-2 Localized Significance Thresholds**

<i>Air Pollutant</i>	<i>Thresholds of Significance at 25 meters for 1 Acre (Construction)</i>	<i>Thresholds of Significance at 25 Meters for 2 Acres (Operational)</i>
CO (lb/day)	647	962
NO <sub>2</sub> (lb/day)	92	131
PM <sub>10</sub> (lb/day)	4	2
PM <sub>2.5</sub> (lb/day)	3	2

SOURCES: Atkins, *125 Baker Street Apartments Air Quality and Climate Change Technical Report* (August 2013); South Coast Air Quality Management District, *Historical Data by Year* (2013), <http://www.aqmd.gov/smog/historicaldata.htm> (accessed July 25, 2013).

### 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 for 1 hour CO concentrations
- 9 ppm 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 of the proposed project:

- MICR—cancer risk of less than 10 in 1 million (< 10 x 10<sup>-6</sup>)
- HI—highest chronic health index of less than 1

### Cumulative Impacts

In order to assess cumulative impacts, the SCAQMD recommends that projects be evaluated to determine whether they would be consistent with 2012 AQMP performance standards and project-specific emissions thresholds. In the case of the proposed project, air pollutant emissions would be considered to be cumulatively considerable if the new sources of emissions exceeded SCAQMD project specific emissions thresholds.

The exception to this is the evaluation of CO emissions and TACs. For CO emissions, the ambient air quality standards remains the significant threshold however, the impacts are based on cumulative area traffic at buildout rather than project specific traffic. For TAC’s the risk from the individual sources are added together and compared to the following cumulative thresholds.

- MICR—cancer risk of less than 100 in 1 million (< 100 x 10<sup>-6</sup>)
- HI—highest chronic health index of less than 5

## ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to air quality.

## ■ Project Impacts and Mitigation

The construction and operational activities associated with the proposed project would expose occupants, and adjacent sensitive receptors to criteria pollutants and TACs. The following discussion provides an evaluation of the impacts anticipated from the implementation of the proposed project. The following analysis is formatted to be easily adapted to a CEQA environmental document.

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 2012 AQMP, discussed previously, was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, and to attain clean air within the region. 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. The 2012 AQMP utilized projections of population and transportation activity forecasted by SCAG in their 2012 Regional Transportation Plan (RTP).

In 2008, Senate Bill 375 (SB 375) was enacted to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. Under the law, SCAG was tasked with developing a Sustainable Communities Strategy (SCS), a newly required element of the Regional Transportation Plan RTP that provides a plan for meeting emissions reduction targets set forth by the California Air Resources Board (ARB). On September 23, 2010, ARB issued a regional 8 percent per capita reduction target for the planning year 2020, and a conditional target of 13 percent for 2035. As required by SB 375, SCAG adopted the updated 2012–2035 RTP/SCS on April 8, 2012 to achieve these targets. Transportation strategies—managing transportation demand and making certain transportation system improvements—are major components of the 2012–2035 RTP/SCS. However, the 2012–2035 RTP/SCS also focuses on the general land use growth pattern for the region, because geographical relationships between land uses—including density and intensity—help determine the need for travel. SCAG has placed a greater emphasis on sustainability and integrated planning in the 2012–2035 RTP/SCS, whose vision encompasses three principles: mobility, economy, and sustainability. In June 2012, California ARB determined that SCAG's 2012-2035 RTP/SCS was consistent with their greenhouse gas reduction targets.

The 2012–2035 RTP/SCS provides population, housing, and employment growth forecasts through 2035. In general, the proposed project would be consistent with the types, intensity, and patterns of land use anticipated in the 2012–2035 RTP/SCS. For purposes of using the most current available data, the 2012–2035 RTP/SCS data will be used in this analysis.

Implementation of the proposed project would introduce new residential housing that would directly induce population growth within the project area; however, this increase in population is consistent with the policies of the City’s General Plan. In 2012, the population of Costa Mesa was approximately 111,918 persons (USDOC 2013). The proposed project would replace existing commercial uses on the project site with a residential development. The proposed project includes the development of up to 240 residential units. Based on Costa Mesa’s average household size, the proposed project is projected to generate a maximum residential population of approximately 346. The project’s direct increase in population would represent only 0.31 percent of the existing city’s population. The project’s population growth would represent 0.28 percent of the forecasted 2020 population of 124,692 for the city (SCAG 2008).

As such, the anticipated population of the proposed project would be within SCAG’s 2020 population projections, and would not exceed SCAG’s population projections for the City. Therefore, the proposed project would be consistent with the 2012-2035 RTP/SCS population growth projections which were approved by ARB. Because the SCAQMD is expected to incorporate these same projections into its next update of the AQMP, it can be concluded that the proposed project would be consistent with the projections in the AQMP. Additionally, the population and household growth that would occur with the proposed project would not cause an exceedance of Costa Mesa General Plan growth projections.

Based on the consistency of the approved General Plan with current SCAG projections and AQMP forecasts, and as discussed above, the proposed project would not conflict with or obstruct implementation of the AQMP, and 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**      **Construction of the proposed project could violate air quality standards or contribute substantially to an existing or projected air quality violation. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a *less-than-significant* level.**

Construction of the proposed project would require demolition of the existing approximately 62,000 sf office building at the project site, removal of all parking areas, and removal of the limited on-site vegetation. Project construction is assumed to begin in early 2014, with construction expected to last up to 21 Months. Limited grading activities are anticipated with an on-site balance of all materials. Detailed assumptions and CalEEMod inputs and outputs are included in Appendix B.

Because of the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with each phase of the

proposed construction activities. Nonetheless, Table 4.2-3 (Estimated Peak Daily Construction Emissions in Pounds per Day, without Mitigation) identifies daily construction emissions without mitigation or fugitive dust controls required by SCAQMD’s Rule 403. These tables show that, without mitigation, construction of the proposed project would exceed SCAQMD thresholds for VOCs.

<b>Table 4.2-3 Estimated Peak Daily Construction Emissions in Pounds per Day, without Mitigation</b>						
<b>Emissions Source</b>	<b>Peak Day Emissions in Pounds per Day</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Demolition	8.80	69.61	43.98	0.08	11.69	3.38
Grading	6.07	45.75	31.05	0.05	8.94	5.8
Building	7.09	42.49	44.62	0.09	6.98	2.62
Architectural Coating	81.83	2.86	4.69	0.01	1.04	0.28
<b>Maximum Daily Emissions</b>	<b>81.83</b>	<b>69.61</b>	<b>44.62</b>	<b>0.09</b>	<b>11.69</b>	<b>5.8</b>
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Significant Impact?	<b>Yes</b>	No	No	No	No	No

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013) (calculation sheets are provided in Appendix B).

Mitigation measures are required to reduce VOC emissions to below the SCAQMD’s LST threshold. The following mitigation measures shall be implemented (and complied with prior to issuance of any grading permit) as part of the proposed project to improve air quality emissions generated by construction activities associated with the proposed project.

**MM4.2-1** *The Applicant shall require by contract specifications that construction equipment engines be maintained in good condition and in proper tune per manufacturer’s specification for the duration of construction. Contract specifications shall be included in project construction documents, which shall be reviewed by the City of Costa Mesa prior to issuance of a grading permit.*

**MM4.2-2** *The Applicant shall require by contract specifications that construction operations rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines. Contract specifications shall be included in project construction documents, which shall be reviewed by the City of Costa Mesa prior to issuance of a grading permit.*

**MM4.2-3** *As required by South Coast Air Quality Management District Rule 403—Fugitive Dust, all construction activities that are capable of generating fugitive dust are required to implement dust control measures during each phase of project development to reduce the amount of particulate matter entrained in the ambient air. These measures include the following:*

- *Application of soil stabilizers to inactive construction areas*
- *Quick replacement of ground cover in disturbed areas. If disturbed graded areas remain inactive for greater than 4 days, nontoxic soil stabilizers shall be applied.*
- *Watering of exposed surfaces two times daily*
- *Watering of all unpaved haul roads two times daily*
- *Covering all stock piles with tarp*

- Reduction of vehicle speed on unpaved roads
- Post signs on site limiting traffic to 15 miles per hour or less
- Sweep streets adjacent to the project site at the end of the day if visible soil material is carried over to adjacent roads
- Cover or have water applied to the exposed surface of all trucks hauling dirt, sand, soil, or other loose materials prior to leaving the site to prevent dust from impacting the surrounding areas
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads to wash off trucks and any equipment leaving the site each trip

**MM4.2-4** *The Applicant shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. Diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds shall be turned off when not in use for more than 5 minutes. Contract specifications shall be included in the proposed project construction documents, which shall be approved by the City of Costa Mesa.*

**MM4.2-5** *The Applicant shall require by contract specifications that the architectural coating (paint and primer) products used have a VOC rating of 190 grams per liter or less, for all exterior and interior nonresidential land use architectural coating. As per SCAQMD regulations, architectural coating for residential land-uses shall not exceed 50 g/liter interior or 100 g/liter exterior. Contract specifications shall be included in the proposed project construction documents, which shall be approved by the City of Costa Mesa.*

Table 4.2-4 (Estimated Peak Daily Construction Emissions in Pounds per Day, with Mitigation) identifies daily emissions that are estimated to occur on peak construction days for each activity with incorporation of the identified mitigation measures.

<b>Table 4.2-4 Estimated Peak Daily Construction Emissions in Pounds per Day, with Mitigation</b>						
<i>Emissions Source</i>	<i>Peak Day Emissions in Pounds per Day</i>					
	<i>VOC</i>	<i>NO<sub>x</sub></i>	<i>CO</i>	<i>SO<sub>x</sub></i>	<i>PM<sub>10</sub><sup>a</sup></i>	<i>PM<sub>2.5</sub><sup>a</sup></i>
Demolition	5.80	38.21	43.66	0.08	9.25	2.02
Grading	4.00	24.94	30.89	0.05	3.44	2.35
Building	5.90	30.96	46.36	0.09	6.30	1.94
Architectural Coating	67.27	1.77	4.62	0.01	0.93	1.91
<b>Maximum Daily Emissions</b>	<b>67.27</b>	<b>38.21</b>	<b>46.36</b>	<b>0.09</b>	<b>9.25</b>	<b>2.35</b>
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Significant Impact?	No	No	No	No	No	No

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013) (calculation sheets are provided in Appendix B).

Without mitigation, construction of the proposed project would exceed SCAQMD thresholds for VOCs. This is considered a potentially significant impact. However, implementation of mitigation measures MM4.2-1 through MM4.2-5 would reduce this impact to a *less-than-significant* level.

**Impact 4.2-3                    Operation of the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. This would be a *less-than-significant* impact.**

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities after build-out of the proposed project. Stationary area source emissions would be generated by space and water heating devices, and the operation of landscape maintenance equipment. Mobile emissions would be generated by the motor vehicles traveling to and from the project site.

The analysis of daily operational emissions from the proposed project was prepared utilizing the CalEEMod computer model recommended by the SCAQMD. The results of the CalEEMod calculations for the daily operational emissions of the proposed project are presented in Table 4.2-5 (Proposed Project Net Daily Operational Emissions) (refer to Appendix B for assumptions and modeling inputs and outputs). The emissions shown below in Table 4.2-5 reflect the net increase in emissions anticipated from implementation of the proposed project.

The proposed project’s daily operational emissions are below the SCAQMD thresholds for all criteria pollutants. This impact is considered *less than significant*, and no mitigation is required.

<b>Table 4.2-5                    Proposed Project Net Daily Operational Emissions</b>						
<b>Emissions Source</b>	<b>Emissions in Pounds per Day<sup>a</sup></b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Project</b>						
Area	10.8	0.24	20.32	0.00	0.11	0.11
Energy	0.13	1.14	0.49	0.01	0.09	0.09
Mobile	8.01	15.14	74.34	0.16	18.29	1.30
<b>Total</b>	<b>18.94</b>	<b>16.52</b>	<b>95.15</b>	<b>0.17</b>	<b>18.49</b>	<b>1.50</b>
<b>Existing</b>						
Area	1.62	0.00	0.00	0.00	00	0.00
Energy	0.02	0.16	0.13	0.00	0.01	0.01
Mobile	2.89	5.78	28.05	0.05	5.56	0.4
<b>Total</b>	<b>4.53</b>	<b>5.94</b>	<b>28.18</b>	<b>0.05</b>	<b>5.57</b>	<b>0.41</b>
<b>Net Emissions</b>						
Area Source	9.18	0.24	20.32	0.00	0.11	0.11
On-Site Energy Use	0.11	0.98	0.36	0.01	0.08	0.08
Motor Vehicles	5.12	9.36	46.29	0.11	12.73	0.9
<b>Maximum Daily Emissions</b>	<b>14.41</b>	<b>10.58</b>	<b>66.97</b>	<b>0.12</b>	<b>12.92</b>	<b>1.09</b>
<b>SCAQMD Thresholds (lb/day)</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Significant Impact?	No	No	No	No	No	No

SOURCE:    Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013) (calculation sheets are provided in Appendix C).

a. Assumes no wood or natural gas fireplaces.

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 not cause localized CO concentrations at nearby intersections to exceed national or state standards, and therefore would not expose sensitive receptors to substantial pollutant concentrations. This would be a *less-than-significant* impact.**

Project-generated traffic could contribute to decreased levels of service at nearby intersections, resulting in additional vehicle emissions and longer vehicle idling times at and near study area intersections. According to the SCAQMD’s methodology, intersections that operate at LOS D or worse should be evaluated to determine the local impacts to nearby receptors. According to the project specific traffic study (LLG 2013), with the implementation of the project one intersection would operate at an unacceptable LOS. The intersection at Pullman Street and Baker Street would operate at an LOS F at the buildout of the project. The traffic study indicates that as part of the project a signal would be installed at this intersection. Subsequent to the installation of the traffic signal, the intersection will operate at LOS A. This is an improvement over the existing LOS D/F for AM/PM peak hours of operation. Because none of the remaining intersections operate at an LOS worse than C, and with the implementation of mitigation, the Pullman Street and Baker Street intersection will operate at an improved LOS, the implementation of the proposed project would not result in localized CO concentrations exceeding state or federal standards. This impact is considered *less than significant*, and no mitigation is required.

**Impact 4.2-5**      **Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations of Toxic Air Contaminants. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a *less-than-significant* level.**

The project as a residential land use would not result in the emission of TACs that are likely to result in risk to neighboring sensitive land uses. Because of the nature of the project and its location, the project would have the potential only to result in impacts from TAC exposure to the on-site residents. Therefore, the TAC analysis focuses on the potential cancer and noncancer health risks to on-site residents from the proximity to the SR-55 and increased diesel vehicles on the surrounding roadways.

The cancer risk for DPM is determined, as detailed in Section 4.2.3 above and the technical report included as Appendix B, by the dose multiplied by the cancer potency factor and then converted to risk per million people. Based on the modeling output, the highest concentration of DPM observed within the project site was 0.074  $\mu\text{g}/\text{m}^3$ .

Table 4.2-6 (Unmitigated Cancer Risk) shows the potential cancer risk associated with the proposed project’s proximity to the area mobile sources for all 15 discrete on-site receptor locations evaluated. As shown, the potential cancer risks from DPM ranges from 12.22 to 23.73 for the discrete receptors, which exceeds the 10 in a million threshold. Therefore, unmitigated risk at the proposed project site represents a potentially significant impact.

<b>Table 4.2-6 Unmitigated Cancer Risk</b>					
Receptor #	Cancer Risk (per million)				
	Risk	Receptor #	Risk	Receptor #	Risk
R_1	20.16	R_6	15.56	R_11	20.42
R_2	16.07	R_7	14.37	R_12	16.17
R_3	14.00	R_8	12.22	R_13	20.89
R_4	18.11	R_9	22.28	R_M1	23.73
R_5	20.21	R_10	14.93	R_M2	23.30

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013).

\* R\_M1 and R\_M2 represent the highest and second highest on-site cancer risk locations within the areas likely to be occupied for extended periods of time.

Implementation of the following mitigation measure would reduce the impacts to the exposed sensitive receptors.

**MM4.2-6** *Install a sealed HVAC system in conjunction with MERVE 13<sup>2</sup> or higher rated filters for all residential development within the project site. The sealed air system will be designed so that all ambient air introduced into the interior living space would be filtered through MERVE 13 or higher rated filters to remove DPM and other particulate matter. The MERVE 13 or higher rated filter is designed to remove approximately 74 percent of particulates of 3 microns or larger in size from the ambient air that is introduced to the system (NAFA 1999). As a conservative estimate of reductions, it is assumed that the residents are indoors up to 78 percent of the time (USDOL 2010). Therefore, a reduction of 58.75 percent of particulate matter is anticipated with respect to this measure.*

**MM4.2-7** *Install all HVAC system air intakes as far from SR-55 as possible. This will further reduce risk for all interior spaces to the risk where the HVAC air intake is placed.*

Table 4.2-7 (Mitigated Cancer Risk) show the reduced cancer risk for the all discrete receptors with the incorporation of the sealed HVAC system equipped with a MERVE 13 rated filter.

<b>Table 4.2-7 Mitigated Cancer Risk</b>					
Receptor #	Cancer Risk (per million)				
	Risk	Receptor #	Risk	Receptor #	Risk
R_1	8.48	R_6	6.54	R_11	8.59
R_2	6.76	R_7	6.04	R_12	6.80
R_3	5.89	R_8	5.14	R_13	8.78
R_4	7.61	R_9	9.37	R_M1	9.98
R_5	8.49	R_10	6.27	R_M2	9.80

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013).

\* R\_M1 and R\_M2 represent the highest and second highest on-site cancer risk locations within the areas likely to be occupied for extended periods of time.

<sup>2</sup> Filters with less than a MERVE 13 rating are ineffective at removing ultrafine particles which make up 90 percent of particulate matter from diesel fuels.

The noncancer risk for DPM is determined, as detailed in Section 4.2.3 above and the technical report included as Appendix B, by dividing the concentration in  $\mu\text{g}/\text{m}^3$  by the reference exposure level for the air toxic of concern. Table 4.2-8 (Unmitigated Noncancer Risk) shows the potential noncancer risk associated the proposed project’s proximity to the area mobile sources for all 15 discrete on-site receptor locations evaluated. As shown, the potential noncancer risks from DPM ranges from 0.0077 to 0.0149. Even with the conservative exposure estimates presented, the maximum increase in noncancer risk of 0.0149 is below the SCAQMD’s threshold of 1.

<b>Table 4.2-8 Unmitigated Noncancer Risk</b>					
<b>Receptor #</b>	<b>Noncancer Risk</b>				
	<b>Risk</b>	<b>Receptor #</b>	<b>Risk</b>	<b>Receptor #</b>	<b>Risk</b>
R_1	0.012671	R_6	0.009769	R_11	0.012823
R_2	0.010090	R_7	0.009020	R_12	0.010150
R_3	0.008792	R_8	0.007674	R_13	0.013118
R_4	0.011373	R_9	0.013990	R_M1	0.014900
R_5	0.012689	R_10	0.009371	R_M2	0.014632

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013).

\* R\_M1 and R\_M2 represent the highest and second highest on-site cancer risk locations within the areas likely to be occupied for extended periods of time.

Exposure of project residents to DPM emissions from nearby roadways would result in increased cancer risk above 10 in a million. This is considered a potentially significant impact. However, implementation of mitigation measures MM4.2-6 and MM4.2-7 would reduce this impact to a *less-than-significant* level.

**Impact 4.2-6 Construction of the proposed project would expose sensitive receptors to substantial pollutant concentrations. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.**

As described above under Impact 4.2-2, the emissions from construction activities for the proposed project were estimated using the CalEEMod emissions model. The total project size is approximately 4 acres, and the SCAQMD recommends that LSTs be analyzed using the CalEEMod equipment list based on the maximum amount of maximum number of acres disturbed on the peak day. Accordingly, the construction equipment list estimates approximately 1 acre would be disturbed per day. Therefore, to present a conservative analysis and for the purposes of the LST analysis, maximum emissions were estimated using the emissions LST Screening Tables for 1 acres.

Table 4.2-9 (Total On-Site Construction Emissions and Localized Significance Thresholds, with Mitigation) shows that with implementation of mitigation measures MM4.2-1 through MM4.2-4, emissions of  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  would be reduced to levels below the SCAQMD thresholds for LSTs.

<i>Distance</i>	<i>CO (lb/day)</i>	<i>NO<sub>2</sub> (lb/day)</i>	<i>PM<sub>10</sub> (lb/day)</i>	<i>PM<sub>2.5</sub> (lb/day)</i>
Peak Daily On-Site Emissions	40.71	34.78	3.2	2.33
Allowable emissions at 25 meters	647	92	4	3
Exceed Allowable emissions?	No	No	No	No

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013).

Therefore, while construction of the proposed project would create short-term quantities of criteria pollutants above SCAQMD’s significance thresholds, implementation of the identified mitigation measures would reduce project impacts. This is considered a potentially significant impact. However, implementation of mitigation measures MM4.2-1 through MM4.2-4 would reduce this impact to a *less-than-significant* level.

**Impact 4.2-7 Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. This would be a *less-than-significant* impact.**

As described above under Impacts 4.2-3, the emissions from operational activities for the proposed project were estimated using the CalEEMod emissions model. To determine potential criteria pollutant concentrations during operational activities, the SCAQMD has developed LSTs to determine maximum allowable concentrations for projects 5 acres or less in total area for on-site emissions CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The total project size is approximately 4 acres, and the SCAQMD recommends that LSTs be analyzed based on the operational size of the project. As a conservative estimate, the operational emissions for LSTs would be compared to the 2-acre LST tables. As shown in Table 4.2-10 (Total On-Site Operational Emissions and Localized Significance), with the implementation of the project none of the significant thresholds would be exceeded. This impact is considered *less than significant*, and no mitigation is required.

<i>Distance</i>	<i>CO (lb/day)</i>	<i>NO<sub>2</sub> (lb/day)</i>	<i>PM<sub>10</sub> (lb/day)</i>	<i>PM<sub>2.5</sub> (lb/day)</i>
Area	0.24	20.32	0.11	0.11
Energy	1.14	0.49	0.09	0.09
Mobile	0.73	3.61	0.89	0.06
<b>Total Peak Daily Operational Emissions</b>	<b>2.11</b>	<b>24.42</b>	<b>1.09</b>	<b>0.26</b>
<b>Allowable Emissions</b>	<b>131</b>	<b>962</b>	<b>2</b>	<b>2</b>
Exceed Allowable emissions?	No	No	No	No

SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013).

Threshold	Would the project create objectionable odors affecting a substantial number of people?
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**Impact 4.2-8**      **Implementation of the proposed project would not create objectionable odors affecting a substantial number of people. This would be a *less-than-significant* impact.**

The proposed project does not propose uses that are significant sources of objectionable odors. Potential sources of odor associated with the proposed project may result from construction equipment exhaust and application of asphalt and architectural coatings during construction activities. SCAQMD Rule 402 (Nuisance) requirements would be imposed upon the Applicant to minimize odors from construction, which would include keeping the construction equipment maintained in good condition and proper tune to reduce noxious odors from DPM. Any construction-related odor emissions would be temporary, short-term, and intermittent in nature, and impacts associated with construction-generated odors are expected to be less than significant. In addition, during operation of the project, odors may result from the temporary storage of typical household solid waste (refuse) associated with residential (long-term operational) uses. However, it is expected that any project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City’s solid waste regulations. This impact is considered *less than significant*, and no mitigation is required.

#### 4.2.4 Cumulative Impacts

Threshold	Would the project conflict with or obstruct implementation of the applicable air quality plan?
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As discussed under Impact 4.2-1, growth considered to be inconsistent with the AQMP could interfere with attainment of federal or state ambient air quality standards because this growth is not included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the 2012–2035 RTP/SCS, implementation of the AQMP would not be obstructed by such growth. Should projections exceed the anticipated growth forecasts of the RTP/SCS, impacts with respect to AQMP consistency would occur. However, as noted above, growth under the proposed project would be consistent with the overall growth assumptions of the City of Costa Mesa, and is also consistent with the 2012–2035 RTP/SCS (refer to Impact 4.2-1). The proposed project, with respect to potential conflicts with the AQMP, would not represent a cumulatively considerable contribution and the cumulative impact would *not be cumulatively considerable*.

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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A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state nonattainment pollutant. Because the Basin is currently in nonattainment for ozone (for which VOC and NO<sub>x</sub> are precursors) and PM<sub>10</sub> under national and state standards, and is in nonattainment for CO under national standards, projects could cumulatively exceed an air quality

standard or contribute to an existing or projected air quality exceedance. With regard to determining the significance of the proposed project's contribution, the SCAQMD neither recommends quantified analyses of cumulative construction or operational emissions nor provides separate methodologies or thresholds of significance to be used to assess cumulative construction or operational impacts. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed using the same significance criteria as those for project-specific impacts; that is, individual development projects that generate construction-related or operational emissions that exceed the SCAQMD-recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment.

As discussed previously under Impact 4.2-2, construction of the proposed project would exceed SCAQMD's recommended thresholds of significance for VOC emissions prior to mitigation and would result in short-term air quality impacts; thus, the impact of constructing the proposed project on air quality is anticipated to be significant. As described above, implementation of mitigation measures MM4.2-1 through MM4.2-5 would reduce emissions from construction to below threshold levels. Therefore, construction emissions from the proposed project would not be cumulatively considerable. This impact is *not cumulatively considerable*.

As discussed previously under Impact 4.2-3, operation of the proposed project would not exceed SCAQMD's recommended thresholds of significance for criteria pollutant emissions. Thus, operation impacts of the proposed project on air quality, is anticipated to be less than significant. Therefore, the emissions generated by operation of the proposed project would not be considered to be cumulatively considerable and would not constitute a substantial contribution to an existing or projected air quality violation during operation. As described above under Impact 4.2-3, the proposed project's daily operational emissions are below the SCAQMD thresholds for all criteria pollutants; therefore, this impact is *not cumulatively considerable*.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?
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Project-generated and cumulative traffic could contribute to decreased levels of service at nearby intersections, resulting in additional vehicle emissions and longer vehicle idling times at and near study area intersections. These circumstances could lead to CO hot spots that may affect adjacent sensitive receptors. As with the Approval Year analysis, the intersection at Pullman Street and Baker Street would operate at an LOS of F at the buildout of the project. The traffic study indicates that as part of the project a signal would be installed at this intersection. Subsequent to the installation of the traffic signal, the intersection will operate at an LOS of A. This is an improvement over the existing LOS of D/F for AM/PM peak hours of operation.

In addition, the traffic analysis indicates that under the General Plan Buildout conditions, both the Pullman Street and Baker Street and Red Hill Avenue at Baker Street would result in unacceptable LOS levels. However, with the implementation of recommended mitigation, the signal at Pullman and Baker Street and a south bound turn lane at Red Hill Avenue and Baker Street, these intersections would operate at an LOS of A/A (AM/PM) and B/C (AM/PM) respectively. Because none of the remaining intersections operate at an LOS worse than C, and with the implementation of mitigation, these intersections will operate at an improved LOS, the implementation of the proposed project would not

result in localized CO concentrations exceeding state or federal standards. This impact would ***not be cumulatively considerable***.

From a cumulative standpoint the SCAQMD identifies significant health risk as a combined risk of greater than 100 in a million for all stationary and mobile sources within the California ARB buffer zones. As discussed in Impact 4.2-5, only mobile sources and the existing Shawn Motors Facility are potential risk for the proposed project. As shown in Table 4.2-6, the maximum risk from unmitigated off-site mobile source is 23.73 in a million and the maximum risk from Shawn Motors Facility is less than 1 in a million (rounded to 0.99 for computational purposes). Therefore the total combined risk for the mobile and off-site stationary source would be 24.72 in a million which is less than the 100 in a million threshold established by the SCAQMD. With the inclusion of mitigation measures MM4.2-6 and MM4.2-7, total risk would be reduced to 10.97. With respect to noncancer risk, total emissions would be 0.0149. Even with Shawn Motors resulting in a 0.99 risk, the impact to the proposed project from off-site risk would be 1.049 which is less than the threshold of 5. Because all cancer and noncancer health risk is below thresholds the project would be ***less than cumulatively considerable***.

Threshold	Would the project create objectionable odors affecting a substantial number of people?
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The relevant geographic area for cumulative odor impacts is the immediate project vicinity. Odors resulting from the construction of future projects are not likely to affect a substantial number of people, due to the fact that construction activities do not usually emit offensive odors. As discussed under Impact 4.2-8, although construction activities occurring in association with the proposed project could generate airborne odors associated with the operation of construction vehicles (e.g., diesel exhaust) and the application of interior and exterior architectural coatings, these emissions would only occur during daytime hours and would generally be restricted to the immediate vicinity of the construction site and activity. Furthermore, any related project that may have a potential to generate objectionable odors would be required by SCAQMD Rule 402 (Nuisance) to limit potential objectionable odor impacts to a less-than-significant level. Odors from construction activities would not affect a substantial number of people.

With regard to operation, the odor impacts resulting from the development of residential projects are not expected to affect a substantial amount of people, as activities typically associated with these uses do not emit offensive odors and solid waste from these projects would be stored in special areas and in containers. Because a less-than-significant cumulative impact would occur with respect to objectionable odors, and the proposed project would not result in objectionable odors that would affect a substantial number of people, the proposed project would be ***less than cumulatively considerable***.

## 4.2.5 References

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## 4.3 GREENHOUSE GAS EMISSIONS

This section of the EIR analyzes the potential environmental effects on greenhouse gas emissions from implementation of the proposed project. No comment letters addressing greenhouse gas emissions were received in response to the notice of preparation (NOP) circulated for the proposed project.

Data for this section were taken from Air Quality and Climate Change Technical Report for 125 Baker Street Apartments (Atkins 2013), available as Appendix B to this EIR. Full reference-list entries for all cited materials are provided in Section 4.3.5 (References).

### 4.3.1 Environmental Setting

#### ■ Climate

The proposed project site is located in the north eastern portion of the City of Costa Mesa and is located within the South Coast Air Basin (Basin). Climate change within the Basin is influenced by a wide range of emission sources, such as utility usage, heavy vehicular traffic, industry, and meteorology.

The annual average temperature varies throughout the Basin, ranging from the low to mid 60s to over 100 degrees during the summer, measured in Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The City of Costa Mesa is located in the western coastal portion of the Basin. The annual average temperature in the City ranges from 50 to 72°F, although temperatures can occasionally exceed 90°F and even 100°F. Typically the hottest and coldest months in the City are September and December, respectively (Weather Channel 2013).

#### ■ Greenhouse Gases

Parts of the Earth's atmosphere act as an insulating blanket of just the right thickness, trapping sufficient solar energy to 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 (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), 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 the 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), USEPA, and the California ARB focus on carbon dioxide, nitrous oxide, methane, and chlorofluorocarbons.

- **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 CO<sub>2</sub> 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 processes, such as mineral or metal production, and the use of petroleum-based products, leads to CO<sub>2</sub> emissions. CO<sub>2</sub> emissions account for 84 percent of all US GHG emissions resulting from human activities (USEPA n.d.a).

CO<sub>2</sub> is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO<sub>2</sub> occur within the carbon cycle where billions of tons of atmospheric CO<sub>2</sub> are removed by oceans and growing plants and are emitted back into the atmosphere through natural processes. When in balance, total CO<sub>2</sub> emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s, human activities (including the burning of oil, coal, and gas, as well as deforestation) have substantially increased CO<sub>2</sub> concentrations in the atmosphere (USEPA n.d.a).

- **Methane**—Methane is emitted from a variety of both human-related (anthropogenic) and natural sources. Anthropogenic sources include the production and transport of coal, natural gas, and oil, 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 CH<sub>4</sub> emissions are related to human activities (USEPA n.d.b). Natural sources of CH<sub>4</sub> include wetlands, gas hydrates (Geology.com n.d.)<sup>3</sup> permafrost, termites, oceans, freshwater bodies, nonwetland soils, and wildfires. CH<sub>4</sub> 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 CH<sub>4</sub> emissions from both human and natural sources. Also, the implementation of technologies to capture and utilize CH<sub>4</sub> from sources such as landfills, coal mines, and manure management systems affects the emission levels.
- **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 (NOAA 2012). 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 N<sub>2</sub>O.
- **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

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<sup>3</sup> Gas hydrates are crystalline solids that consist of a gas molecule, usually methane, surrounded by a “cage” of water molecules (Geology.com n.d.).

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 CF<sub>4</sub> (carbontetrafluoride) and SF<sub>6</sub> (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. The use of CFCs, CF<sub>4</sub>, SF<sub>6</sub>, and HFCs has been banned and are no longer commercially available. Therefore, these GHGs are not included in this analysis.

### **Potential Effects of Human Activity on Climate Change**

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 CO<sub>2</sub>. Thus, GHG emissions are typically measured in terms of tons of CO<sub>2</sub> equivalents (CO<sub>2</sub>e), and are often expressed in metric tons (MT CO<sub>2</sub>e) or millions of metric tons of CO<sub>2</sub> equivalents (MMT CO<sub>2</sub>e).

**Global Emissions.** Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO<sub>2</sub>e per year (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes) (UNFCCC 2007). In 2009, worldwide emissions of GHGs were at 25.18 billion tons of CO<sub>2</sub>e, of which the United States accounted for about 26 percent (USEPA 2012).

**U.S. Emissions.** In 2011, total U.S. greenhouse gas emissions were 6,702.3 MMT CO<sub>2</sub>e. Since 1990, U.S. emissions have increased at an average annual rate of 0.4 percent. During the period from 1990 to 2011, total emissions of CO<sub>2</sub>, and N<sub>2</sub>O increased by 504.0 teragrams (Tg) CO<sub>2</sub>e (9.9 percent) and 12.6 Tg CO<sub>2</sub>e (3.6 percent) respectively. Total emissions of CH<sub>4</sub> decreased by 52.7 Tg CO<sub>2</sub>e (8.2 percent) during the same period (USEPA 2013).

**State of California Emissions.** In 2010, total California greenhouse gas emissions were 452 MT CO<sub>2</sub>e, or about 7 percent of the U.S. emissions. The transportation sector accounted for approximately 38 percent of the total emissions, while the industrial sector accounted for approximately 21 percent. Emissions from electricity generation were about 23 percent with almost equal contributions from in-state (12 percent) and imported (11 percent) electricity. Emissions from agriculture (7 percent), residential (7 percent), and commercial (3 percent) sectors accounted for approximately 7 percent of the total (California ARB 2013b). Non specified sources account for the remaining 3 percent of California GHG emissions.

## **4.3.2 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, as well as 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 air quality and global climate change are discussed below.

## ■ Federal

### U.S. Environmental Protection Agency

The 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-CO<sub>2</sub> gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

#### **Federal Mandatory Greenhouse Gas Reporting Rule**

On September 22, 2009, USEPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), which required USEPA to develop “mandatory reporting of greenhouse gasses above appropriate thresholds in all sectors of the economy ...” The Reporting Rule would apply to most entities that emit 25,000 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e) or more per year. Starting in 2010, facility owners were required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for USEPA to verify annual GHG emissions reports.

#### **USEPA Endangerment and Cause and Contribute Findings**

On December 7, 2009, USEPA signed the Endangerment and Cause or Contribute Findings for GHGs under Clean Air Act (CAA) Section 202(a). Under the Endangerment Finding, USEPA finds that the current and projected concentrations of the six key well-mixed GHGs—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and hydrofluorocarbons (HFCs)—in the atmosphere threaten the public health and welfare of current and future generations. Under the Cause or Contribute Finding, USEPA found that the combined emissions of these well-mixed GHGs from new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. These findings did not by themselves impose any requirements on specific industries or other entities. However, this action was a prerequisite to finalizing USEPA’s CAA Title V permitting regulations known as the “Tailoring Rule” under the for new, large point source emitters and corporate average fuel economy (CAFE) standards for light-duty vehicles for future years.

#### **Clean Air Act Permitting (Tailoring Rule) for GHG Emissions**

On January 2, 2011, USEPA required states to implement new pollution control measures designed to reduce GHG emissions from new large emission sources such as power plants and refineries. The new GHG standards fall under CAA Title V; while the USEPA oversees compliance with the CAA, individual states are in control of issuing CAA Title V air permits. All states have adapted their air permit programs to comply with the GHG standards of the CAA except for Arizona and Texas. For these two states, the USEPA will take over the issuing of air permits until such a time that the state can resume compliance. The final rule, called the “Tailoring Rule,” established a phased schedule that focuses the GHG permitting programs on the largest sources with the most CAA permitting experience in the first step. Then, in step two, the rule expands to cover large sources of GHGs that may not have been previously covered by the CAA for other pollutants. The rule also describes USEPA’s commitment to

future rulemaking that will describe subsequent steps for GHG permitting. The “Tailoring Rule” requires all new sources or modifications of existing sources subject to the New Source Review Prevention of Significant Deterioration (PSD) for another regulated air pollutant under the CAA to also provide Best Available Control Technology (BACT) if the source has a potential to emit (PTE) at least 75,000 MT/year carbon dioxide equivalents (CO<sub>2</sub>e). In addition new sources that are not regulated under the CAA for other air pollutants, but have a PTE of at least 100,000 MT CO<sub>2</sub>e/year must provide BACT for GHG emissions.

## ■ State

### **Executive Order S-3-05**

Executive Order S-3-05 establishes 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 GHG in California. GHGs as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 required California ARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to 1990 statewide levels by 2020. California ARB published a staff report that determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO<sub>2</sub>e. California ARB published its final report for Proposed Early Actions to Mitigate Climate Change in California in October 2007. This report described recommendations for discrete early action measures to reduce GHG emissions. California ARB estimates that by 2020, the reductions from those three measures would be approximately 13-26 million metric tons (MMT) of carbon dioxide equivalents (CO<sub>2</sub>e).

In December 2008, California ARB adopted the Climate Change Scoping Plan, which outlined the State’s strategy to achieve the 2020 GHG limit. The 2008 California ARB Scoping Plan (California ARB 2008) projected 2020 emissions to be 596 MMT CO<sub>2</sub>e if no emission reductions occur, as compared to the 2020 target (1990 emissions level) of 427 MMT CO<sub>2</sub>e. In order to reach the 2020 target goal, emissions must be reduced by 169 MMT CO<sub>2</sub>e (approximately 29 percent reduction). The 2008 Scoping Plan called for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO<sub>2</sub>e)
- The Low-Carbon Fuel Standard (15.0 MMT CO<sub>2</sub>e)
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO<sub>2</sub>e)
- A renewable portfolio standard for electricity production (21.3 MMT CO<sub>2</sub>e)

California ARB revised the Scoping Plan in 2011. The 2011 Scoping Plan incorporates changes that have occurred since the original 2008 Plan was adopted. While the structure and framework remain the same, the 2011 Plan provides an updated business-as-usual benchmark, and revised reduction requirements that take into account the current economic status of California.

The scoping plan is currently undergoing additional review and updates that will change the priorities over the next five years. The revised plan will lay the groundwork for hitting post 2020 goals, as well as highlight California's progress toward meeting the 2020 goals (California ARB 2013a).

## ■ Regional

### **South Coast Air Quality Management District**

In order to provide GHG emission guidance to the local jurisdictions within the Basin, the SCAQMD has organized a Working Group to develop GHG emissions 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 the 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 SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. Once adopted, the AQMP becomes a portion of California's SIP describing the plan to bring the Basin into attainment with the NAAQS and California Ambient Air Quality Standards. The most recent plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal Clean Air Act planning requirements and focuses on new federal ozone and PM<sub>2.5</sub> standards. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show vehicle miles travelled (VMT) emissions offsets following the recent changes in USEPA requirements.

## ■ Local

### **City of Costa Mesa General Plan**

The City of Costa Mesa 2000 General Plan is the primary source of long-range planning and policy direction intended to guide growth and preserve the quality of life within the community. The 2000 General Plan recognizes the community's diverse evolution of residential neighborhoods, its regional commercial influence, and its wide array of cultural, educational, social, and recreational amenities. The following goals and policies from the 2000 General Plan will ensure that future development and improvements are consistent with state and federal GHG reduction requirements.

## Resource Conservation

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the conservation of resources, including land, water, wildlife, and vegetation; the protection of areas of unique natural beauty; the integration of natural features into the man-made environment.

**Objective CON-1C** Work towards the conservation of energy resources in both existing and new buildings, utilities and infrastructure.

**Policy CON-1C.1** Continue the program of replacing mercury vapor and other street lights with high-pressure sodium vapor.

**Policy CON-1C.2** Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units.

**Policy CON-1C.3** Pursue adoption of an Energy Conservation Program that requires the use of materials, devices, and measures to reduce energy consumption above the energy conservation requirements of Title 24. These measures may include built-in energy efficient appliances, automated controls for air conditioners and lighting, special sunlight-filtering window coatings or double-paned windows, light-colored roofing materials, and other means to reduce energy consumption and a structure's heating and cooling needs.

**Policy CON-1C.4** Continue to investigate the feasibility of municipal power programs.

**Objective CON-1E** Pursue the prevention of the significant deterioration of local and regional air and water quality.

**Policy CON-1E.3** Develop and implement a Reasonable Available Control Measure Plan (including employee ridesharing, traffic signal synchronization, bicycle/pedestrian facilities, energy conservation street lighting, modified work schedules, preferential carpool parking, or other equivalent control measures) in conformance with the Air Quality Management Plan for the South Coast Air Basin.

## Transportation

It is the goal of the City of Costa Mesa to provide for a balanced, uncongested, safe, and energy-efficient transportation system, incorporating all feasible modes of transportation.

**Objective CIR-1A** To provide specific programs and policies that address multi-modal transportation, multi-agency coordination, mitigation of traffic impacts and the balancing of land uses with transportation systems.

**Policy CIR-1A.1** Develop the Master Plan of Bikeways by pursuing all funding mechanisms and incorporating bikeways into roadway and bridge widening projects. Incorporate bicycle facilities

- (circulation and storage) into the design and development of all new commercial and industrial projects and public facilities.
- Policy CIR-1A.2** Require dedication of right-of-way in an equitable manner for completion of adopted bikeway system as condition of development of adjacent properties.
- Policy CIR-1A.3** Coordinate the design and improvement of pedestrian and bicycle ways in major residential, shopping, and employment centers, parks, schools, other public facilities, public transportation facilities, and bicycle networks with adjacent cities.
- Policy CIR-1A.4** Include bicycle lanes on all new bridges along Master Plan of Bikeway designated arterials within or adjacent to the City. In cases where bridges are not located within the City, the City should exert its influence on responsible agencies to include such bicycle lanes. If provision of bicycle lanes is not feasible, measures should be taken to prohibit bicycle riding on bridge walkways.
- Policy CIR-1A.5** Investigate all available operational measures, including the use of one-way streets, to improve traffic circulation and minimize delay and congestion on arterials.
- Policy CIR-1A.6** Require dedication of right-of-way, in an equitable manner, for development that increases the intensity of land use.
- Policy CIR-1A.7** Implement citywide and/or area wide transportation system improvement programs on new development and fee programs for new development.
- Policy CIR-1A.8** Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.
- Policy CIR-1A.9** Encourage permitted General Plan land uses which generate high traffic volumes to be located near major transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.
- Policy CIR-1A.10** Allow the application of transportation management rideshare programs, integration of complementary land uses, and other methods to reduce project related average daily and peak hour vehicle trips in order to achieve consistency with allocated trip budgets.
- Policy CIR-1A.11** Attempt to maintain or improve mobility within the City to achieve a standard level of service not worse than Level of Service “D” at all intersections under the sole control of the City. Intersection level of service analyses for General Plan conditions shall be updated periodically and presented to City Council.

**Policy CIR-1A.12** Cooperate with adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard level of service no worse than “D” at all intersections under State or joint control. Intersection level of service analyses for General Plan conditions for locations under State or joint control shall be updated periodically and presented to City Council.

**Policy CIR-1A.15** Prioritize intersection improvements which improve through traffic flow on major, primary, and secondary arterials, and reduce impacts on local neighborhood streets with emphasis on pedestrian safety.

## Transportation System Management

It is the goal of the City of Costa Mesa to provide for standard service levels at signalized intersections by constructing capacity improvements for all various modes of circulation, adopting land use intensities commensurate with planned circulation improvements and implementing traffic demand reduction programs, thereby creating a more energy efficient transportation system.

**Objective CIR-2A** To coordinate efforts with other regional agencies and pursue operational improvements towards enhancing the capacity of the system of freeways and arterial highways in the City.

**Policy CIR-2A.2** Coordinate with the Orange County Transportation Authority and with adjacent jurisdictions to improve signal timing and coordination along major arterials.

**Policy CIR-2A.3** Continue to work with Caltrans to synchronize and coordinate traffic signals on arterials at intersections controlled by Caltrans.

**Policy CIR-2A.4** Continue to evaluate and pursue design and operational improvements (medians, driveway closures, signal synchronization or phasing, parking or turn restrictions, etc.) to improve the efficiency of intersections.

**Objective CIR-2B** To promote the use of high occupancy vehicular modes of transportation in and through the City.

**Policy CIR-2B.1** Coordinate with OCTA to construct bus turnouts at appropriate locations with attractive shelters designed for safe and comfortable use.

**Objective CIR-2D** To ensure that the transportation related impacts of development projects are mitigated to the fullest extent possible, in conformance with transportation related policies.

**Policy CIR-2D.1** Circulation improvements required to provide or attain the minimum traffic level of service standard at an intersection to which a development project contributes measurable traffic shall be completed within three years of issuance of the first building permit for said project, unless additional right-of-way or coordination with other government agencies is required to

complete the improvement. Improvements may be required sooner if, because of extraordinary traffic generation characteristics of the project or extraordinary impacts to the surrounding circulation system, such improvements are necessary to prevent significant adverse impacts.

- Policy CIR-2D.4** Require discussion of transit service needs and site design amenities for transit ridership in EIRs for major projects.
- Policy CIR-2D.5** Require discussion of transportation system management (TSM) and transportation demand management (TDM) measures in all EIRs prepared for major projects.

## Growth Management

It is the goal of the City of Costa Mesa to reduce traffic congestion and to ensure that adequate transportation facilities are provided for existing and future residents of the community through effective and comprehensive growth management practices consistent with the Land Use Element.

**Objective GM-1A** To provide and maintain a circulation system that operates within established traffic level of service standards.

- Policy GM-1A.1** Recognizing the constraints of existing physical development conditions, the City shall strive to achieve a balance of land uses whereby residential, commercial, industrial and public land uses are proportionally balanced.
- Policy GM-1A.2** Maintain balance between land use and circulation systems by phasing new development to levels that can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.

## Vehicular and Pedestrian Corridors

Strengthen the image of the City as experienced from sidewalks and roadways.

**Objective CD-1A** Contribute to City beautification by enhancing the visual environment of Costa Mesa's vehicular and pedestrian corridors.

- Policy CD-1A.2** Encourage the consolidation of compatible street furniture elements (benches, bus shelters, newspaper racks, trash receptacles, kiosks, etc.) whenever possible. Develop design standards and guidelines for the placement of street furniture elements within and adjacent to public rights-of-way to complement the specific recommendations provided for streets in the City of Costa Mesa Streetscape and Median Development Standards.
- Policy CD-1A.4** Require a consistent landscape character along City streets to reinforce the unique qualities of each corridor and district. Support the implementation of the recommended street tree palette for each City street, as identified in the City of Costa Mesa Streetscape and Median Development Standards.

**Objective CD-1B** Encourage clear connections between districts within the City.

**Policy CD-1B.1** Promote linkages between separate districts through bike trails, pedestrian paths, common medians or parkway landscaping in connecting streets, and other physical improvements as necessary. Through conditions of project approval, public improvement projects, and other measures, support the development of new connections and the enhancement of existing connections between districts.

### **Mixed Use**

Provide opportunities to live, work, shop, and play in proximity to each other.

**Objective CD-9B** Provide for the development of projects that integrate housing with commercial uses and other compatible uses.

**Policy CD-9B.1** Encourage mixed use development along the east side of Newport Boulevard between Mesa Drive and Walnut Street. Establish incentives for the development of projects in planned development zones that integrate housing with retail and office uses.

**Policy CD-9B.2** Support efforts to mix compatible uses and activities. Encourage the siting of community-oriented services, businesses, and amenities in and near mixed use neighborhoods, including schools, branch libraries, open space and parks including "tot lots," and commercial uses.

## **4.3.3 Impacts and Mitigation Measures**

### **■ Analytic Method**

Various aspects of constructing, operating, and eventually discontinuing 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.

Because each GHG has a different potential impact on climate change, a common metric of CO<sub>2</sub>e 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 CO<sub>2</sub>. Thus, GHG emissions in this analysis are measured in terms of metric tons of carbon dioxide equivalents (MT CO<sub>2</sub>e).

## **Construction Emissions**

Construction activities can alter the carbon cycle in many different ways. Construction equipment typically utilizes fossil fuels, which generates 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 only on the operation of vehicles and equipment during construction.

Construction emissions were estimated using the CalEEMod Model in conjunction with the calculation of criteria pollutant emissions. Construction is a temporary source of emissions necessary to facilitate development of the proposed project. 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 (SCAQMD 2008). Assumptions, calculations, and CalEEMod output are included in Appendix B.

## **Operational Emissions**

Operational emissions of GHGs are comprised of mobile source emissions and area source emissions. Mobile source emissions result from the net increase in motor vehicle trips to and from the proposed project site. Area source emissions result from electrical, water and natural gas consumption, landscape maintenance equipment, and solid waste and waste water generation. The following activities are typically associated with the operation of residential land uses that will contribute to the generation of GHG emissions:

**Vehicular trips.** Vehicle trips generated by the proposed project 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 and default CalEEMod trip length. Methane and nitrous oxide emissions were estimated using the total VMT as determined by CalEEMod and USEPA emissions factors for on-road vehicles.

**On-site use of natural gas and other fuels.** Natural gas would be used by the proposed project for heating of residential space and water, 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 is estimated based on the CalEEMod default emission factors for Orange County.

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 under Title 24.

**Electricity use.** Electricity is generated by a combination of methods, which include combustion of fossil fuels. By using electricity, the proposed project 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 default CalEEMod electrical consumption rates. CalEEMod uses emission factors specific to Southern California Edison, the electricity provider for Costa Mesa.

**Water use and wastewater generation.** California's water conveyance system is energy-intensive, with electricity used to pump and treat water. The proposed project 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 the default water consumption rates in the CalEEMod model. The water consumption and wastewater generation equates to electricity used to pump and treat the water as well as fugitive emissions from the wastewater treatment process.

**Solid waste.** Disposal of organic waste in landfills can lead to the generation of methane, a potent greenhouse gas. By generating solid wastes, the proposed project would contribute to the emission of fugitive methane from landfills, as well as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from the operation of trash collection vehicles. Estimated emissions from the generation of solid waste is based on the number of dwelling units and waste generation rates as presented in the CalEEMod model.

CalEEMod does not take into account the water consumption reduction requirements under Title 24, or the California solid waste reduction requirements. The solid waste reduction requirement was applied as mitigation in the CalEEMod model but is not considered mitigation as it is a current standard. Therefore, in the CalEEMod output sheets the "mitigated" scenario actually represents the "unmitigated" project conditions. Water consumption reduction requirements cannot be calculated using CalEEMod due to an error in the program. Therefore emission reductions were calculated subsequent to the CalEEMod modeling. Assumptions and calculations are included in Appendix B.

## ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on greenhouse gas emissions if it would do any of the following:

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

The 2013 CEQA Guidelines do not establish a threshold of significance for GHG impacts; instead lead agencies have the discretion to establish significance thresholds for their respective jurisdictions. A lead agency may look to thresholds developed by other public agencies or other expert entities, such as CAPCOA, so long as the threshold chosen is supported by substantial evidence. SCAG, SCAQMD, and the City of Costa Mesa have not adopted a GHG significance threshold applicable to the development of nonstationary source projects.

AB 32, the California Global Warming Solutions Act of 2006, requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. Because AB 32 addresses global climate change in

California and is in concert with international efforts to address global climate change, AB 32 has specific requirements in it that fulfills the definition of a mitigation program found in CEQA Guidelines Section 15064(H)(3). The SCAQMD has proposed screening level thresholds for projects such that projects that fall below 3,000 MT CO<sub>2</sub>e annually are considered to comply with the GHG emission reduction strategy as mandated by AB 32. Therefore, this analysis uses compliance with the 3,000 MT CO<sub>2</sub>e annual screening level as a threshold in determining if the proposed project's contribution of GHGs is a considerable contribution to global warming impacts.

### ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to greenhouse gas emissions.

### ■ Project Impacts and Mitigation

The construction and operational activities associated with the proposed project would result in the generation of greenhouse gases. The following discussion provides an evaluation of the impacts anticipated from the implementation of the proposed project. The following analysis is formatted to be easily adapted to a CEQA environmental document.

Threshold	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
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**Impact 4.3-1      Implementation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This would be a *less-than-significant* impact.**

Development of the proposed project would generate greenhouse gases through the construction and operation of new residential and commercial uses. As climate change is a cumulative impact, the construction and operational emissions are combined and analyzed against the threshold.

#### **Construction**

Emissions from construction activities would occur from the operation of vehicles and equipment used in demolition of existing buildings and construction of the proposed project. Following the SCAQMD recommendations (see Analytic Method), construction emissions were amortized over an anticipated 30-year structure lifetime to provide an average annual emissions estimate. As indicated in Table 4.3-1 (Estimated Annual Emissions), the estimated unmitigated construction GHG emissions for the proposed project would be 44.09 MT CO<sub>2</sub>e per year. Detailed assumptions and emission calculations are included in Appendices A and F.

#### **Operation**

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.

<b>Table 4.3-1 Estimated Annual Emissions</b>				
	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>N<sub>2</sub>O</b>	<b>CO<sub>2</sub>e</b>
<b>Project</b>				
Area	5.79	0.01	0.00	5.91
Energy	488.21	0.02	0.01	491.23
Mobile	2,299.60	0.09	0.00	2,301.59
Waste	11.21	0.66	0.00	25.11
Water	73.01	0.39	0.01	84.42
<b>Total</b>	<b>2,877.82</b>	<b>1.17</b>	<b>0.02</b>	<b>2,908.26</b>
<b>Existing</b>				
Area	0.00	0.00	0.00	0.00
Energy	231.93	0.01	0.01	233.38
Mobile	758.55	0.03	0.00	759.21
Waste	8.66	0.51	0.00	19.41
Water	47.12	0.25	0.01	54.56
<b>Total</b>	<b>1,046.26</b>	<b>0.80</b>	<b>0.01</b>	<b>1,066.56</b>
<b>Net Emissions</b>				
Area	5.79	0.01	0.00	5.91
Energy	256.28	0.01	0.00	257.85
Mobile	1,541.05	0.06	0.00	1,542.38
Waste	2.55	0.15	0.00	5.70
Water	25.89	0.14	0.00	29.86
<b>Total Operational</b>	<b>1,831.56</b>	<b>0.37</b>	<b>0.01</b>	<b>1,841.70</b>
Amortized Construction				44.09
<b>Total Project Emissions</b>				<b>1,885.78</b>
<b>Significance Threshold</b>				<b>3,000.00</b>
Significant?				No
SOURCE: Atkins, 125 Baker Street Apartments Air Quality and Climate Change Technical Report (August 2013). Rows will not add across due to the conversion from CH <sub>4</sub> and N <sub>2</sub> O to CO <sub>2</sub> e. Net emissions equal project emissions minus existing onsite emissions.				

Table 4.3-1 shows the estimated GHG emissions for the construction and operation of the proposed project at build-out year conditions, respectively, with the incorporation of all state policies. Detailed assumptions and emission calculations are included in Appendices C and F.

As shown in Table 4.3-1, the proposed project would result in a net total of 1,885.78 MT CO<sub>2</sub>e per year. Therefore, implementation of the proposed project would not result in GHG emissions above the 3,000 MT CO<sub>2</sub>e per year screening level threshold. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
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**Impact 4.3-2**      **Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This would be a *less-than-significant* impact.**

The SCAQMD does not have established significance criteria for assessing impacts from GHG emissions other than compliance with AB 32. One way to determine compliance with AB 32 is to demonstrate project compliance with an adopted climate action plan or emissions reduction strategy for the region in which the project is located. While there are no adopted climate action plans that govern the proposed project, the project has demonstrated that emissions would be minimal and below the 3,000 MT CO<sub>2</sub> screening level identified for ensuring regional compliance with AB 32 goals. This impact is considered *less than significant*, and no mitigation is required.

### 4.3.4 Cumulative Impacts

Global climate change emissions are inherently cumulative therefore the project impacts would be identical to the cumulative impacts. No additional cumulative analysis is required.

### 4.3.5 References

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## 4.4 HYDROLOGY/WATER QUALITY

This section of the EIR analyzes the potential environmental effects on hydrology and water quality from implementation of the proposed project. One comment letter addressing hydrology and water quality was received in response to the notice of preparation (NOP) circulated for the proposed project. The comment from the Orange County Public Works Department requested analysis of the proposed project's long-term operational effects on the water quality in the Newport Bay watershed. This topic is addressed in this section.

Data for this section were taken from *Preliminary Hydrology Study, Airport Gateway Apartments* (Fusco 2013), available as Appendix E to Appendix A (Initial Study/Notice of Preparation and Comments on the IS/NOP) to this EIR, and Orange County Public Works Department documents and maps. Full reference-list entries for all cited materials are provided in Section 4.4.5 (References).

### 4.4.1 Environmental Setting

#### ■ Regional Setting

Costa Mesa is in the Newport Bay Watershed, a hydrologic region that drains approximately 152 square miles, and includes all waters draining to Newport Bay. It consists of four subwatersheds: Lower Bay, Upper Bay, Santa Ana Delhi Channel and its tributaries that empty into the northwestern end of Upper Newport Bay, and San Diego Creek/Peters Canyon Wash and its tributaries that drain into the northeastern end of Newport Bay.

The City is also within the jurisdictional boundaries of the Central Orange County Watershed Management Area (WMA), which encompasses the entire Newport Bay Watershed and the northern portion of the adjacent Newport Coast Watershed. The region includes three Critical Coastal Areas (CCAs), two Areas of Special Biological Significance (ASBS), nine miles of coastline, and a functioning estuary designated as a State Ecological Reserve. The WMA covers approximately 154 square miles and consists of four subwatersheds: Peters Canyon Wash, Upper San Diego Creek, Lower San Diego Creek, and Newport Bay. Costa Mesa is within the Lower San Diego Creek subwatershed, which is the largest drainage (122 square miles). San Diego Creek serves as the main contributing tributary to the Upper Newport Bay Ecological Reserve, an ASBS. Most of the creeks and drainages in the WMA have been modified for flood control purposes.

Fertilizers, pesticides, dirt/sediment, metals, pet waste, trash/debris and oil and vehicle fluids are the main pollutants of concern found in Orange County waterways (Orange County Public Works Stormwater Program n.d.).

#### ■ Project Site

The 4.17-acre project site is developed with an office building, a surface parking area, and landscaping. There are no natural surface water bodies on or near the project site. The surrounding area is developed with commercial and industrial land uses and roadways.

Approximately 90 percent of the site is covered with impervious surfaces (building, parking lot, landscaping) that generate stormwater runoff. The on-site drainage for the northeast portion of the project flows to the adjacent Baker Channel via a catch basin and reinforced concrete pipe (RCP) connection. The remainder of the site flows to Pullman Street via surface flow (Fuscoe 2013). The Baker Channel flows southwest to the Santa Ana Delhi Channel, which discharges to Upper Newport Bay (Orange County Public Works Flood Division n.d.).

The office building, surface parking area, and landscaping are a source of urban pollutants in stormwater runoff generated the project site. Pollutants typically found in urban runoff include metals, oil and grease, pesticides, herbicides, bacteria, sediment, and nutrients. Stormwater runoff from the project site is managed in accordance with a countywide permit (see Regulatory Framework “Regional” subheading, below).

Shallow groundwater is approximately 28 feet deep, and there is no documented evidence of groundwater quality impairment at the site (Geocon 2012).

## 4.4.2 Regulatory Framework

### ■ Federal

As part of Clean Water Act (CWA) Section 402, the U.S. Environmental Protection Agency (USEPA) has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. Under the NPDES program, the Municipal Storm Water Permitting Program regulates stormwater discharges from municipal separate storm sewer (drain) systems (MS4s). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. The MS4 permits require the discharger to develop and implement a Storm Water Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in CWA Section 402(p). The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations.

### ■ State

The Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 et seq.) established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). In California, the SWRCB administers the NPDES stormwater permitting program and is responsible for developing NPDES permitting requirements. Each regional board is responsible for formulating and adopting water quality control plans.

The City is within the jurisdiction of the Santa Ana RWQCB (SARWQCB), which has adopted a Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin. The Basin Plan identifies numerical and narrative water quality standards and objectives and identifies beneficial uses of waters within its jurisdiction.

## **Impaired Water Bodies/Total Maximum Daily Loads (TMDLs)**

The Newport Bay, San Diego Creek, and the Santa Ana Delhi Channel have been identified as impaired water bodies. As required by federal CWA Section 303(d), total maximum daily loads (TMDLs) are required by the SARWQCB for those features. The TMDL is the total amount of a constituent that can be discharged while meeting water quality objectives and protecting beneficial uses. It is the sum of the individual load allocations for point source (e.g., an industrial plant) inputs, load allocations for nonpoint source (e.g., runoff from urban areas) inputs, and natural background, with a margin of safety.

The USEPA has established the following TMDLs for Newport Bay/San Diego Creek: sediment, nutrients, metals (cadmium, copper, lead, selenium, zinc), pesticides (chlorpyrifos, diazinon, chlordane, dieldrin, DDT), PCBs, toxaphene, and fecal coliform. A TMDL for the Santa Ana Delhi Channel for indicator bacteria (fecal coliform) is required by 2021.

## **■ Regional**

### **MS4 Permit**

The Orange County Flood Control District, the County of Orange, and the City of Costa Mesa, along with 51 other incorporated cities therein (Permittees) discharge pollutants from their MS4s. Stormwater and nonstormwater enter and are conveyed through the MS4 and discharged to surface water bodies of the Orange Region. These discharges are regulated under countywide waste discharge requirements (WDR) contained in Order No. R8-2009-0030 (as amended by Order No. R8-2010-0062), Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County, which was approved on May 19, 2011.

The WDR requires the development and implementation of a program addressing stormwater pollution issues in development planning for private projects. The primary objectives of the municipal stormwater program requirements are to (1) effectively prohibit nonstormwater discharges and (2) reduce the discharge of pollutants from stormwater conveyance systems to the MEP (MEP statutory standard).

A Model Water Quality Management Plan (WQMP) was developed as part of the MS4 program to address stormwater pollution from new development and redevelopment by the private sector. This WQMP contains a list of the minimum required BMPs that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the Permittees and applied generally or on a case by case basis. The MS4 Permittees are required to adopt the program's requirements in their own water quality regulations. The Model WQMP describes the process for preparing conceptual or preliminary WQMPs and final project WQMPs for certain new development and significant redevelopment projects called "Priority Projects."

### **Orange County Drainage Area Management Plan (DAMP)**

The primary policy, planning, and implementation document for MS4 compliance in Orange County is the 2003 Drainage Area Management Plan (DAMP). It identifies requirements for ensuring all new

development and significant redevelopment incorporates appropriate site design, source control, and treatment control BMPs to address specific water quality issues (Section 7.0).

The project site is located in the South Orange County (SOC) permit area. A project is considered a Priority Project in the SOC permit area if it results in new development that creates 10,000 square feet or more of impervious surface. The proposed project would create more than 10,000 square feet of impervious surface, thus, would meet the criteria of a Priority Project. As such, in order to mitigate stormwater pollution from the proposed development, the proposed project must prepare a WQMP that specifies the proposed BMPs that will be included in project design.

### **Orange County Model Water Quality Management Plan (WQMP)**

Orange County has prepared a 2011 Model WQMP to guide development of a project WQMP. A project WQMP may include site design measures, low impact development (LID) BMPs, participation in subregional/regional BMPs, hydromodification BMPs, use of alternative programs or treatment control BMPs, and applicable source control BMPs. The proposed project is required to prepare a WQMP that must describe the following:

- Discretionary permits and water quality conditions
- Project description
- Potential stormwater pollutants
- Hydrologic conditions of concern
- Post-development drainage characteristics
- Property ownership/management
- Site description
- Watershed description
- BMPs (including performance criteria)
- Site design and drainage plan
- LID BMP selection and project conformance analysis
- Inspection/maintenance responsibility for BMPs

### **Local**

#### ***City of Costa Mesa General Plan***

The City of Costa Mesa General Plan Safety Element includes the following policy that is relevant to the analysis:

- SAF-1A.7**      Require all proposed development projects to be designed to minimize both the volume and velocity of surface runoff and permit no adverse downstream impacts due to increased runoff through the proper design of subsurface drains, appropriate grading, on-site retention basins, landscape programs, or other appropriate measures.

#### ***Costa Mesa Municipal Code***

Costa Mesa Municipal Code (CMMC) Section 8-32 (Water Quality) requires that all new development and significant redevelopment within the City must be undertaken in accordance with the Orange

County DAMP, including but not limited to the Development Project Guidance, preparation of a WQMP, and any conditions and requirements established by the Development Services Department and the Public Services Department that are reasonably related to the reduction or elimination of pollutants in stormwater runoff from the project site. Prior to the City's issuance of a grading or building permit for the proposed project, the Development Services Department and Public Services Department would review the plans and impose terms, conditions, and requirements, as needed, in accordance with CMMC Section 8-32. Additionally, the City enforces its Master Plan of Drainage, and CMMC Title 15 Chapter III addresses drainage protocols within the City during construction of new projects.

### **4.4.3 Impacts and Mitigation Measures**

#### **■ Analytic Method**

A Preliminary Hydrology Study (drainage report) was prepared for the proposed project (Fusco 2013) and is the basis for determining whether the project would generate new or additional stormwater flows or affect drainage patterns in a manner that could cause or exacerbate flooding. The results of the drainage report were used in conjunction with a review of the MS4 permit and Orange County DAMP requirements to determine the potential for water quality impacts from stormwater flows.

#### **■ Thresholds of Significance**

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on hydrology or water quality if it would do any of the following:

- Violate any water quality standards or waste discharge requirements
- Substantially alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation off site
- 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 storm drainage systems
- Provide additional sources or polluted runoff or otherwise substantially degrade water quality
- Place housing within a 100-year flood hazard zone or place structures in a 100-year flood hazard zone that would impede or redirect flood flows
- Expose people or structures to significant risks associated with flooding from levee or dam failure, seiche, tsunami, mudflow, or sea level rise
- Substantially deplete groundwater supplies or interfere with groundwater recharge

#### **■ Effects Not Found to Be Significant**

The analysis presented in the Initial Study (Appendix A) concluded the following potential hydrology and water quality impacts of implementing the proposed project would not be significant: permanent change

in drainage patterns; increased rate and volume of stormwater that would cause the stormwater drainage system capacity to be exceeded and/or cause flooding from stormwater runoff; placement of housing or structures in a 100-year flood zone; flood inundation by dam or levee failure, or seiche, tsunami, or mudflow; and depletion of groundwater supplies or recharge. No comments were received on the NOP regarding those topics indicating those potential impacts should be further evaluated.

Construction of the proposed project would temporarily alter drainage patterns at the site and expose soil to erosion, which could be a potential source of water quality degradation from stormwater runoff. This impact would be less than significant, and does not require further evaluation. As explained in the Initial Study (Section IX(a), p. 39), all construction activities would be subject to existing regulatory requirements. As required by the Construction General Permit, the project developer would file a notice of intent (NOI) with the State of California to comply with the requirements of the General Construction Permit. This would include the preparation of SWPPP incorporating BMPs for construction-related control of erosion and sedimentation contained in stormwater runoff.

## ■ Project Impacts and Mitigation

Threshold	Would the project violate any water quality standards or waste discharge requirements, provide additional sources of polluted runoff, or otherwise substantially degrade water quality?
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**Impact 4.4-1**      **Implementation of the proposed project would generate stormwater runoff that would contain urban pollutants that could affect receiving water quality. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a *less-than-significant* level.**

The existing office building and surface parking and landscaped areas at the project site would be removed and replaced with an apartment building, parking structure, and landscaping. Similar to existing conditions, these new features would generate stormwater runoff. Table 4.4-1 (Existing and Proposed Project Stormwater Peak Flow Rates and Volumes) shows the flow rates for the 2-year, 25-year, and 100-year storm on the project site.

As shown in Table 4.4-1, the proposed project would result in a net decrease in peak flow rates and runoff volumes compared to existing conditions. This is because there would be a decrease in the amount of impervious surfaces at the project site from 90 percent to 80 percent. The northeast portion of the project site would continue to drain to the adjacent channel using the existing connection, and the remainder would drain to Pullman Street via parkway culvert outlets in the existing curb, identical to existing conditions. The proposed project storm drain system would be designed to be consistent with the Orange County Hydrology and Orange County Local Drainage Manuals, which includes the following requirements:

- On-site design storm is based on a 25-year frequency.
- Flow velocity should not exceed 20 feet per second (fps) in a standard wall RCP.

- On local streets, flow should not exceed top of curb, for a 10-year storm event, and in sump conditions, a 25-year storm event shall be used.
- Once water is picked up in a storm drain, it should remain in the system.

<b>Table 4.4-1 Existing and Proposed Project Stormwater Peak Flow Rates and Volumes</b>		
<i>Event</i>	<i>Flow (cfs)</i>	<i>Volume (ac-ft)</i>
<b>Existing (90 percent impervious surface)</b>		
2-year	6.47	0.55
25-year	13.96	1.30
100-year	17.86	1.63
<b>Proposed Project (80 percent impervious surface)</b>		
2-year	6.35	0.49
25-year	13.76	1.21
100-year	17.64	1.54
<b>Net Change</b>		
2-year	-0.12	-0.06
25-year	-0.20	-0.09
100-year	-0.22	-0.09

SOURCE: Fuscoe Engineering, *Preliminary Hydrology Study, Airport Gateway Apartments* (July 2013).  
cfs = cubic feet per second; ac-ft = acre-feet

The change in use from an office building and surface parking to residential apartments and a parking structure would not represent a substantial change in the types or concentrations of pollutants in runoff from the site. Pollutants carried in stormwater runoff from the project would be expected to include typical urban contaminants such as oil and grease, metals, herbicides and pesticides, sediment, and bacteria, similar to existing conditions. As such, the proposed project generally is not expected to violate water quality standards (including Newport Bay/San Diego Creek TMDLs) or contribute additional pollutants that would otherwise degrade water quality because the types and amounts of contaminants would not be substantially different than current discharges, and because stormwater flows would be reduced compared to existing conditions.

However, because the proposed project would generate stormwater flows containing urban pollutants, even though the flows are reduced compared to existing conditions and little change in the types of constituents is likely, it has the potential to impact receiving water quality if it does not include the appropriate BMPs. This is considered a potentially significant impact.

The proposed project is considered a Priority Project and, as such, would be required to prepare a project WQMP. Further, CMMC Section 8-32 (Water Quality) requires that all new development and significant redevelopment within the City must be undertaken in accordance with the Orange County DAMP, including but not limited to the Development Project Guidance, preparation of a WQMP, and any conditions and requirements established by the Development Services Department and the Public Services Department that are reasonably related to the reduction or elimination of pollutants in

stormwater runoff from the project site. Prior to the City's issuance of a grading or building permit for the proposed project, the Development Services Department and Public Services Department would review the plans and impose terms, conditions, and requirements, as needed, in accordance with CMMC Section 8-32.

Implementation of mitigation measure MM4.4-1 would reduce this impact to a *less-than-significant* level. Preparation of the WQMP would ensure the proposed project includes the appropriate stormwater quality BMPs to ensure that project flows comply with adopted permits, including implementing programs such as the DAMP, and that it would not contribute additional substantial sources of pollutants or otherwise degrade water quality.

**MM4.4-1** *The project applicant shall finalize the drainage plan and prepare a project Water Quality Management Plan (WQMP) conforming to Orange County DAMP requirements. The plans shall be prepared by a Licensed Civil Engineer or Environmental Engineer and shall be submitted to the City of Costa Mesa Department of Public Works for review and approval. The City shall not issue a grading permit for the project until it has reviewed and approved the final drainage plan and WQMP. Prior to issuance of building permits, the City shall ensure the components of the drainage plan and WQMP BMPs have been installed.*

#### 4.4.4 Cumulative Impacts

Threshold	Would the project violate any water quality standards or waste discharge requirements, provide additional sources of polluted runoff, or otherwise substantially degrade water quality?
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The context for the analysis of cumulative stormwater quality impacts is the Lower San Diego Creek watershed, which discharges to Upper Newport Bay. Cumulative development, including the proposed project, would result in the generation of new or changed stormwater flows containing urban pollutants as a result of new development or redevelopment. Water quality impairment has been identified in the San Diego Creek/Newport Bay watershed, resulting in the need for TMDLs for toxic pollutants, sediment, and bacteria.

Cumulative projects that must comply with countywide MS4 and Orange County DAMP and project-level WQMP requirements would be required to include stormwater quality BMPs to minimize receiving water quality degradation, which substantially reduces the cumulative impacts of multiple projects on water quality. The proposed project would result in a net decrease in stormwater flows compared to existing conditions because there would be less impervious surface generating stormwater runoff. The change in land use at the project site from commercial to residential would not represent a substantial change in the types or amounts of pollutants that could be carried in stormwater runoff to the drainage system. With implementation of mitigation measure MM4.4-1, the proposed project would include the necessary water quality BMPs. Therefore, the proposed project's contribution to stormwater runoff water quality impacts would not be cumulatively considerable, and the *cumulative impact would be less than significant*.

## 4.4.5 References

Fuscoe Engineering. 2013. *Preliminary Hydrology Study, Airport Gateway Apartments*. Prepared by Fuscoe Engineering, July.

Geocon West, Inc. 2012. *Phase I Environmental Site Assessment 125 Baker Street East, Costa Mesa, California*, November.

Orange County Public Works, Flood Division. n.d. Basemap of Drainage Facilities (Map 47) and Flood Drawing Index.

Orange County Public Works, Stormwater Program. n.d. Central OC Watershed Management Area. <http://ocwatersheds.com/programs/ourws/wmaareas/wmacentraloc>.

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## 4.5 LAND USE/PLANNING

This section of the EIR analyzes the potential environmental effects on land use/planning from implementation of the proposed project. No comment letters addressing land use/planning were received in response to the notice of preparation (NOP) circulated for the proposed project.

Data for this section were taken from City of Costa Mesa General Plan Land Use Element and Municipal Code. Full reference-list entries for all cited materials are provided in Section 4.5.5 (References).

### 4.5.1 Environmental Setting

The City of Costa Mesa is located in central Orange County and encompasses 16.8 square miles. The City is approximately 37 miles southeast of Los Angeles and 88 miles north of San Diego, and is bordered by the cities of Santa Ana, Newport Beach, Huntington Beach, Fountain Valley, and Irvine. Almost all of the land in the City of Costa Mesa is developed with established residential neighborhoods, commercial corridors, light industrial and office uses, a civic center, parks, schools and other community-serving facilities, public services, and utilities. The project site is located in a built-out area of the northeastern portion of the City, predominately built with industrial and office buildings. The site is also located approximately one-half mile to the west from John Wayne Airport (JWA).

#### ■ Project Site Characteristics and Land Uses

The 4.17-acre 125 East Baker Street site (project site) is located at the southwest corner of Baker Street and Pullman Street in the City of Costa Mesa, Orange County, California. The site is roughly triangular-shaped and is currently occupied by a 66,000-square-foot (sf) two-story office building developed in 1974, a surface parking lot, signage, and landscaped areas within the parking area and around the perimeter of the site planted with various mature-sized trees and other landscape materials. The office building on the project site has been in use for office/administration type operations since its development in 1974. Office is a permitted use under the existing Industrial Park Land Use designation and CL zoning for the site. The site is bounded to the north (across Baker Street) by buildings containing a church and various industrial uses zoned MP (Industrial Park), with a General Plan Land Use designation of Industrial Park; to the south and east (across Pullman Street) by various industrial buildings zoned MP (Industrial Park) with a General Plan Land Use designation of Industrial Park; and to the west by the off-ramp for the Costa Mesa Freeway (SR-55) and a drainage channel surrounded by chain link fencing.

The project site is bounded by SR-55 on the north and west, Baker Street on the north, and Pullman Street on the east and south. Uses to the north, east, and south of the site include office complexes and light industrial parks. To the west of SR-55 there are two high-density residential complexes (Newport Village Apartments and Eaves South Coast Apartments). The surrounding land uses are shown in Figure 3-2 (Surrounding Land Uses).

## ■ Existing General Plan/Zoning Designations

The property currently has a General Plan Land Use Designation of Industrial Park (MP). The MP designation establishes a floor area ratio (FAR) of 0.30 for the site, with development of one- and two-story structures to be designed. The designation allows for a mix of industrial uses, as well as ancillary commercial uses that are determined to be compatible with the industrial use. Combinations of residential, institutional, and commercial uses may be allowed through the Planned Development zone process. Floor area ratios and population densities for commercial projects would be similar to the Neighborhood Commercial land use designation. Residential densities in planned development projects shall not exceed 20 dwelling units per acre. The corresponding population density range is up to 50 persons per acre.

The project site is zoned CL (Commercial Limited) which is intended for unique areas of land which, due to the proximity of residential development or the potential for traffic circulation hazards, require special precautions to be taken to assure appropriate development. The district is also intended for industrial areas where commercial uses must be considered according to their compatibility with existing or permitted industrial uses.

## 4.5.2 Regulatory Framework

### ■ Federal

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

### ■ State

There are no 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 April 4, 2012, SCAG adopted the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future with the primary goal of increasing mobility for the region's residents and visitors. The 2012–2035 RTP/SCS includes a significant consideration of the economic impacts and opportunities provided by the transportation infrastructure plan set forth in the 2012–2035 RTP/SCS, considering not only the economic and job creation impacts of the direct investment in transportation infrastructure, but also the efficiency gains in terms of worker and business economic productivity and goods movement.

Within the RTP, the SCS demonstrates the region's ability to attain and exceed the GHG emission-reduction targets set forth by the ARB. The SCS outlines our plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures. The proposed project has been reviewed by SCAG for consistency with the RTP/SCS, and has been determined that the project would not be considered regionally significant; therefore, no further analysis would be required.

### ***Airport Environs Land Use Plan for John Wayne Airport***

The airport land use compatibility plan adopted in April, 2008 by the Orange County Airport Land Use Commission (ALUC) is called the "Airport Environs Land Use Plan for John Wayne Airport" (AELUP). The AELUP serves as a comprehensive land use plan for the orderly growth of each public airport in Orange County and the area surrounding the airport.

The proposed project is not located within the Noise Impact Zone, Clear Zone, or Height Restriction Zone for JWA. However, as identified by the ALUC, a height restriction zone of 200 feet (above the ground level at a project site) overlays the entirety of Orange County. Thus, even for projects that lie outside of the Clear or Accident Potential Zones and 60 dB CNEL Contours, or other areas of special concern as delineated by the FAA and adopted by the ALUC, local agencies are required to submit only those matters which contemplate structures that would penetrate the imaginary surfaces as defined in Federal Aviation Regulations (FAR) Part 77.13 (Construction or alteration requiring notice), Part 77.25 (Civil airport imaginary surfaces), or Part 77.28 (Military airport imaginary surfaces), which have been designated for each individual airport for height restriction.<sup>4</sup> As such, any construction or alteration of more than 200 feet in height above the ground level at its site requires filing with the FAA.<sup>5</sup>

## **Local**

### ***City of Costa Mesa General Plan***

The City of Costa Mesa General Plan is a comprehensive, long-range policy document which provides the framework for management and utilization of the city's physical, economic and human resources. The Costa Mesa General Plan is comprised of 12 Elements, including the seven mandatory elements (circulation, conservation, housing, land use, noise, open space, safety and seismic safety.) Each section of this EIR includes a discussion of the General Plan policies, goals and objectives, which pertain to that Section. 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 Elements related to land use that are potentially relevant to the proposed project are analyzed under Impact 4.5-1.

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<sup>4</sup> AELUP, page 14.

<sup>5</sup> FAR Section 77.13 (a)(1).

### 4.5.3 Impacts and Mitigation Measures

#### ■ Analytic Method

The analysis in this section addresses the compatibility of land uses identified for the proposed project with existing and planned land uses adjacent to the project site. Consistency with applicable policies pertaining to land use is addressed. Analysis of the proposed project’s consistency with other elements of the General Plan is provided in the applicable resource sections of this EIR.

#### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, 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 Not Found to Be Significant

Threshold	Would the project physically divide an established community?
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The purpose of the project is to promote urban housing that would be target-marketed to people seeking alternative housing choices in an industrial area. The Project has been designed to be a desirable living environment for the future residents in terms of site features and amenities. Additionally, a condition of approval has been incorporated requiring notification to future residents that the Project is located within an area designated as industrial and subject to existing and potential annoyances/inconveniences (such as odors) associated with industrial land uses. **No impact** would occur, and no further analysis is required.

Threshold	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?
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The project site is not within an area designated under a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, Project implementation would not conflict with the provisions of an approved local, regional, or state habitat conservation plan. **No impact** would occur, and no further analysis is required.

## ■ Project Impacts and Mitigation

Threshold	Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
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**Impact 4.5-1**      **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 adopted for the purpose of avoiding or mitigating an environmental effect. This would be a *less-than-significant* impact.**

The Land Use Element of the General Plan directs long-range development in the City by indicating the location and extent of development to be allowed. The General Plan sets forth land use goals, policies, and objectives that guide new development. According to the City of Costa Mesa General Plan Land Use Map (July 2004), the site's current land use designation is Industrial Park. The Industrial Park designation is intended to apply to large districts that contain a variety of industrial and compatible office and support commercial uses. Redevelopment of the subject property involves an amendment to the General Plan Land Use Designation.

### **General Plan Amendment GP-13-02**

Proposed General Plan Amendment GP-13-02 would change the land use designation of the 4.17-acre development site from Industrial Park to High Density Residential. In addition to the change in land use designation, the general plan amendment also involves text amendment(s) to the City's General Plan to reflect a site-specific density of 57 dwelling units per acres, and a site-specific height of six stories.

The proposed General Plan Amendment GP-13-02 would state the following:

- In 2013, General Plan Amendment GP-13-02 was approved, and it consisted of a site-specific residential density increase for a 4.17-acre site at 125 East Baker Street. The maximum density allowed is 57.7 units/acre. This equates to a maximum density of 240 dwelling units.

### **Building Height**

The development standards for the proposed PDR-HD zone as specified in the Zoning Code does not specify a maximum building height requirement; however, a maximum building height of four stories for buildings south of the San Diego (I-405) Freeway is established as an objective in the City's 2000 General Plan Land Use Element. Because the subject property for the proposed development is south of the I-405 Freeway, the five-story maximum height would apply to the proposed development.

The proposed General Plan Amendment (GP-13-02) would state the following:

**Objective LU-1C** Promote land use patterns and development, which contribute to community and neighborhood identity.

**Policy LU-1C.2** Limit building height to four stories above grade south of the I-405 Freeway, except for special purpose housing, such as

elderly, affordable, or student housing. An exception is for the Newport Plaza property at 1901 Newport Boulevard where a six-level parking structure is allowed, *and the 240-unit apartment project at 125 East Baker Street where a five-story apartment building and six-story parking structure are allowed under per GP-13-02.*

The following analysis evaluates the Project for consistency with specific goals and objectives of the General Plan Land Use Element. Because of the expansive nature of the General Plan, it cannot be expected that every goal and objective would apply to each project. The following analysis focuses on those issues which are salient for reasons of relevance. A discussion of project compatibility with relevant land use goals and policies associated with the City General Plan is provided below in Table 4.5-1 (General Plan Consistency Analysis).

<b>Table 4.5-1 General Plan Consistency Analysis</b>	
<b>Goals and Policies</b>	<b>Project Consistency</b>
<p><b>Goal LU-1, Land Use:</b> It is the goal of the City of Costa Mesa to provide its citizens with a balanced community of residential, commercial, industrial, recreational, and institutional uses to satisfy the needs of the social and economic segments of the population and to retain the residential character of the City; to meet the competing demands for alternative developments within each land use classification within reasonable land use intensity limits; and, to ensure the long term viability and productivity of the community's natural and man-made environments for industrial and commercial uses.</p>	<p>The project would create a diverse land use in the project area and provide additional housing opportunities. The infill nature of the project protects the viability of the natural environment and decreases the need for infrastructure improvements. The project is consistent with this General Plan goal.</p>
<p><b>Objective LU-1A:</b> Establish and maintain a balance of land uses throughout the community to preserve the residential character of the City at a level no greater than can be supported by the infrastructure.</p>	<p>The project is an infill redevelopment project with residential use. Adequate infrastructure would be available to serve the project. Therefore, the project is consistent with this General Plan objective.</p>
<p><b>Goal LU-2, Development:</b> It is the goal of the City of Costa Mesa to establish development policies that will create and maintain an aesthetically pleasing and functional environment and minimize impacts on existing physical and social resources.</p>	<p>The project would allow for the redevelopment of a commercially-zoned property. The on-site vegetation is limited. The project would enhance the site's visual appearance through implementation of a Landscape Plan. Additionally, the project would provide a high-quality architectural design to the project area. Therefore, the project is consistent with this General Plan goal.</p>
<p><b>Objective LU-2A:</b> Encourage new development and redevelopment to improve and maintain the quality of the environment.</p>	<p>The project would not result in significant adverse environmental impacts, with mitigation incorporated. Because the project is an infill development, it would not result in the loss of any habitat or require extensive infrastructure improvements to provide service to the site. The project is consistent with this objective.</p>

## ■ Zoning Code Amendment CO-13-02

A zoning ordinance to amend Costa Mesa Municipal Code Title 13 for a site-specific density of 57 dwelling units per acre and a site-specific height of six stories would be required. The site is proposed to be designated PDR-HD (Planned Development Residential-High Density) in the City's Zoning Code. The designation allows up to 20 dwelling units per acre, or 83 dwelling units maximum for the site. The proposed 240-unit project would require an amendment to Table 13-58 (Planned Development

Standards) to allow a site-specific density of 57.7 dwelling units per acre for this project. The revised Table 13-58 is presented below as Table 4.5-2 (Revised Table 13-58 [Planned Development Standards]).

<b>Table 4.5-2 Revised Table 13-58 (Planned Development Standards)</b>						
<i>Development Standard</i>	<i>PDR-LD</i>	<i>PDR-MD</i>	<i>PDR-HD</i>	<i>PDR-NCM</i>	<i>PDC</i>	<i>PDI</i>
Maximum Density per Section 13-59 MAXIMUM DENSITY CRITERIA. (dwelling units per acre)	8	12	20 Note: See North Costa Mesa Specific Plan for exceptions. Note: The maximum density for 125 East Baker Street is 57.7 dwelling units per acre.	35	20	Note: The maximum density for 1901 Newport Boulevard is 40 dwelling units per acre. See North Costa Mesa Specific Plan for exceptions.

The proposed Zoning Code Amendment CO-13-02 would state the following:

- **Rezone R-13-02**—A rezone (or change) of the zoning classification of the 4.17-acre development site from Commercial Limited (CL) to Planned Development Residential – High Density (PDR-HD).

**Master Plan PA-13-11**—A Master Plan application for the proposed development of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-story parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces with variances from the following zoning code development standards: (A) on-site parking spaces (541 parking spaces required; 469 parking spaces proposed).

- A review of the project for consistency with the Airport Environs Land Use Plan (AELUP) by the Airport Land Use Commission (ALUC) due to its close proximity to JWA.

The project site is located in a highly industrialized area consisting of industrial operations and commercial uses. The project would introduce a residential development to this industrial portion Costa Mesa, adding new height and scale to the surrounding community. Land use compatibility issues between sensitive land uses and existing industrial businesses that could result in potential impacts involving aesthetics, air quality/odors, hazardous materials, and noise. A less than significant impact would occur to the proposed residential uses following compliance with the established regulatory framework, conditions of approval, and specified mitigation measures. A condition of approval has been incorporated requiring notification to future residents that the project is located within an area designated as Light Industry and subject to existing and potential annoyances/inconveniences associated with industrial land uses. Therefore, the project would not be incompatible with the surrounding land uses.

The Airport Land Use Commission (ALUC) for Orange County has adopted an Airport Environs Land Use Plan (AELUP) that seeks to protect the public from the adverse effects of aircraft noise to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents and that no structures or activities adversely affect navigable airspace. Due to the small number of off-airport accidents in the history of John Wayne Airport, the ALUC has not found it necessary to designate an accident potential zone. The City’s General Plan, Land Use Element, Policy LU-1C.3 prohibits construction of buildings that would present a hazard to air navigation. The proposed project complies with the City’s General Plan policies and is not in conflict with the AELUP. John Wayne Airport is

located at 1512 Main Street in the City of Irvine, approximately 0.5 mile southwest of the proposed project site.

California Public Utilities Code Section 21659 prohibits structural hazards near airports. CFR Title 14 Part 77.13 requires that any applicant who intends to perform any construction or alterations to structures that exceed 200 feet in height above ground level must obtain project approval from the FAA. Height restrictions set forth by the FAA Federal Aviation Regulation (FAR) Part 77 requires all development exceeding 200 feet in height to submit Form 7460-1 (Notice of Proposed Construction or Alteration) to the FAA. In addition, all buildings that exceed the FAR Part 77, Objects Affecting Navigable Airspace, 100:1 slope (100 feet in distance to one foot in height) is also required to submit a Notice of Proposed Construction or Alteration to the FAA. The proposed project would not exceed 200 feet in height; however the proposed project is located approximately 4,300 feet from runways at John Wayne Airport and would therefore be required to submit Form 7460-1 if implementation of the proposed project results in the construction of buildings that exceed 43 feet in height.

Overall, the City's land use policies generally encourage projects that provide a mix of uses, are compatible and harmonious with surrounding development, and offer pedestrian amenities that enhance the image and quality of life and the environment. Policies are designed to address the image of the community and promote compatibility between land uses. The proposed project would represent a new land use on the site and in the immediate area but would not in itself result in environmental impacts related to land use and planning. The proposed project would not conflict with existing City policies or regulations that were adopted for the purpose of mitigating an environmental effect. Instead, the proposed project would provide the City with an infill development in an area that could support high-density uses without contributing to adverse effects to the City's existing population base. The project would provide a new mix of residential opportunities to complement the high proportion of single-family uses in the City. Consequently, this is considered a *less-than-significant* impact.

#### 4.5.4 Cumulative Impacts

Threshold	Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
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Development of cumulative projects is anticipated to generally conform to the requirements of city regulations (including the cities of Santa Ana, Newport Beach, Huntington Beach, Fountain Valley, and Irvine. projects) and would be subject to review by the cities. Upon approval of the proposed GPA and zone change, the proposed project would result in less-than-significant land use impacts with regard to conformance with the City's General Plan. The proposed project includes a mix of residential and retail commercial uses in an area where both uses exist and would provide services and pedestrian continuity between the site and adjacent uses.

Cumulative land use impacts have the potential to occur where a number of projects have the potential to change the overall land use of an area or negatively affect adjacent existing land uses. Environmental reviews required under CEQA for the pending development projects and general plan amendments

would allow decision makers to identify and evaluate the impacts associated with these proposed cumulative changes in the City's currently projected Land Use categories and policies. Should such analysis identify 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. Cumulative projects primarily result in development or redevelopment of sites in order to enhance existing land use patterns within areas of the City, and are therefore generally anticipated to be compatible with adjacent uses and not cumulatively considerable and would be *less than significant*.

## 4.5.5 References

Costa Mesa, City of. 1974. *City of Costa Mesa Municipal Code*, January 1974.

———. 2002a. *City of Costa Mesa 2000 General Plan*, adopted January 2002.

———. 2002b. *City of Costa Mesa 2000 General Plan Environmental Impact Report*. Final EIR No. 1051, January.

Orange County Airport Land Use Commission. 2008. *Airport Environs Land Use Plan for John Wayne Airport*, April.

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## 4.6 NOISE

This section of the EIR analyzes the potential environmental effects on noise 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 125 E. Baker Street Apartments Noise Technical Report prepared by Atkins (2013). This report is provided as Appendix D to this EIR. Full reference-list entries for all cited materials are provided in Section 4.6.5 (References).

### 4.6.1 Environmental Setting

#### ■ Noise and Vibration Basics

##### *Quantification of Noise*

Noise is commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a convenience in describing this range as a logarithm of the sound pressure. The sound pressure level is the logarithm of the ratio of the unknown sound pressure to a reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 4.6-1 (Typical A-Weighted Noise Levels).

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long-term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the equivalent energy level ( $L_{eq}$ ), and the community noise equivalent level (CNEL).

- $L_{eq}$ , the equivalent energy level, is the average acoustical or sound energy content of noise, measured during a prescribed period, such as 1 minute, 15 minutes, 1 hour, or 8 hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.

**Table 4.6-1 Typical A-Weighted Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 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 daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

SOURCE: Caltrans, *Technical Noise Supplement—A Technical Supplement to the Traffic Noise Analysis Protocol* (October 1998).

- **CNEL**, community noise equivalent level, is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 PM and 10:00 PM and a +10 dBA weighting applied to all sound occurring between 10:00 PM and 7:00 AM. Similar to the CNEL,  $L_{dn}$ , the day-night average noise level is a 24-hour average  $L_{eq}$  with a +10 dBA weighting applied to noise during the hours of 10:00 PM to 7:00 AM.  $L_{dn}$  and CNEL are typically within 1 dBA of each other and, for most intents and purposes, are interchangeable.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates

from a linear, or “line” source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils may either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers. Barriers between a noise source and a receiver can substantially reduce noise levels at the receiver. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dBA of noise reduction. Taller barriers provide increased noise reduction (Caltrans 2008).

### **Noise Effects**

Noise has a significant effect on the quality of life. An individual’s reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 5 dBA change in community noise levels is clearly noticeable, and a 3 dBA change is the smallest increment that is perceivable by most receivers. Generally, 1 to 2 dBA changes are not detectable. Although the reaction to noise may vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual’s health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction or communication, extra-auditory health effects, and general annoyance.

### **Environmental Vibration Basics**

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of input excitation. Vibration consists of waves transmitted through solid material. There are several types of wave motion in solids, unlike in air, including compressional, shear, torsional, and bending. The solid medium can be excited by forces, moments, or pressure fields. This leads to the terminology of “structure-borne/ground-borne” vibration.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Soil properties also affect the propagation of vibration. When groundborne vibration interacts with a building there is usually a ground-to-foundation coupling loss, but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows or items on shelves or the motion of building surfaces. The vibration of building surfaces can also be radiated as sound and heard as a low-frequency rumbling noise, known as groundborne noise.

Ambient and source vibration information for this study are expressed in terms of the peak particle velocity (PPV) in inches per second (in/sec) that correlates best with human perception. The particle velocity is the velocity of the soil particles resulting from a disturbance. Agencies such as California Department of Transportation (Caltrans) use the PPV descriptor because it correlates well with damage

or complaints. Caltrans estimates that the threshold of perception is approximately 0.006 in/sec PPV and the level at which continuous vibration begins to annoy people is approximately 0.010 in/sec PPV.

## ■ Existing Noise Environment

Existing noise sources that affect the project site are described below.

### **Operational Noise Sources**

The approximately 4.17-acre project site is currently occupied by a 66,000-square-foot (sf) two-story office building. Uses to the north, east, and south of the site include office complexes and light industrial parks. The businesses surrounding the site include general office use, medical offices, small distribution facilities, a church, and small manufacturing facilities. General office use is not a source of substantial operational noise. Medical offices, churches, and distribution facilities generally do not require machinery that would generate noise levels beyond those typical of general office use. The church includes a preschool with an outdoor playground that intermittently results in noise from children playing. The small distribution facilities would generate heavy duty truck trips on a regular basis, but do not have the loading docks or other access necessary to accommodate the truck traffic typical of a distribution center. The small manufacturing uses would have the potential to generate operational noise from the use of heavy machinery. The manufacturing use located closest to the project site is AZ Manufacturing, located approximately 100 feet south of the site on Pullman Street. Occasional nuisance noise may also result from surrounding surface parking lots, such as loud music or car alarms.

### **Existing Noise Levels**

A daytime ambient sound level survey was conducted on June 19, 2013, to quantify the noise environment on the project site and in the surrounding area. An evening ambient sound level survey was also conducted on July 15, 2013. A Larson Davis 814 ANSI (American National Standards Institute) Type I Integrating Sound Level Meter calibrated with a Larson Davis CAL200 calibrator was used to record ambient sound levels. Daytime weather conditions during the measurements were calm with a warm temperature and partly cloudy to clear skies. A total of four daytime and four nighttime measurements were taken. The monitoring locations are shown on Figure 4.6-1 (Surrounding Land Uses and Noise Measurement Locations). The daytime measurements were taken between 11:30 AM to 1:30 PM and were 15 minutes in duration. The nighttime measurements were also 15 minutes in duration and were taken between 11:00 PM and 12:30 AM. Table 4.6-2 (Ambient Sound Level Measurements, dBA) summarizes the measured  $L_{eq}$  and noise sources for the monitoring locations.

The results of the ambient noise survey reflect daytime noise levels between 65 and 71 dBA and nighttime noise levels between 56 and 62 dBA on the project site and in the surrounding area (see Noise Technical Report Appendix A for measurement results). The primary noise source at all locations was traffic, particularly SR-55. Based on the Costa Mesa noise compatibility guidelines, noise levels on the main site are conditionally compatible with the proposed residential land use.



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Source: GIS ArcMap, basemap, 2013; Atkins, 2013.

Figure 4.6-1  
Surrounding Land Uses and Noise Measurement Locations



**Table 4.6-2 Ambient Sound Level Measurements, dBA**

Site	Location	Daytime Measurement			Nighttime Measurement		
		Daytime Noise Sources	Start Time	Leq	Nighttime Noise Sources	Start Time	Leq
1	Southeast intersection of Pullman St and Briggs Ave	Traffic on Briggs Ave, Pullman St, and SR-55	11:55 AM	65.8	Traffic on Briggs Ave and Pullman St	11:01 PM	56.0
2	102 Baker St in front of River Church of OC	Traffic on Baker St and SR-55	12:17 PM	70.5	Traffic on SR-55	11:21 PM	59.2
3	Existing parking lot on the west side of the project site	Traffic on SR-55	12:38 PM	68.1	Traffic on SR-55	11:41 PM	62.2
4	3100 Pullman St of the northeast corner of Fischer/Pullman St	Traffic on Pullman St and SR-55	1:00 PM	70.5	Traffic on SR-55	12:02 AM	61.5

SOURCE: Atkins (June 19, 2013 [daytime] and July 15, 2013 [nighttime]).  
Ambient measurements were 15 minutes in duration.

## Transportation Noise Sources

### Aviation

The nearest airport to the project site is John Wayne Airport, located approximately 0.5 mile southwest of the project site. The airport served approximately 171,873 annual operations in 2012 (JWALUC 2013). As shown in Figure 4.6-2 (John Wayne Airport Noise Contours), the project site is not located within the 60 dBA CNEL noise contour of the John Wayne Airport (JWALUC 2010). There are no private use airstrips in the vicinity of the project. Four private heliports are located in Coast Mesa north of SR-55. These heliports do not generate substantial noise in the city (Costa Mesa 2002b).

### Roadways

The main portion of the project site is bounded by SR-55 on the north and west, Baker Street on the north, and Pullman Street on the east and south. Existing noise levels were modeled using the FHWA Traffic Noise Model (TNM), Version 2.5. This model takes into account traffic volumes, vehicle mix, and existing site topography and structures. The freeway is located at grade with project site and the southern end of the project site, and increases in elevation to the north to a bridge crossing over Baker Street. As shown in Figure 4.6-3 (Receptor Locations), existing noise levels were modeled at five receptor locations on the proposed project site and three locations off site that represent existing commercial industrial development. Table 4.6-3 (Existing Roadway Noise Levels) shows the existing noise levels generated by the roadways on the project site and properties surrounding the project site. The City of Costa Mesa considers roadway noise levels up to 60 dBA CNEL to be normally compatible with churches, noise levels up to 65 dBA CNEL to be normally compatible with residences, and noise levels up to 67.5 dBA CNEL to be normally compatible with commercial, office, and industrial development. As shown in Table 4.6-3, noise levels in the project area currently exceed the normally compatible noise standards for residences and churches. Noise levels on the eastern side of the project site are less than 65 dBA CNEL due to attenuation from the existing structure. Noise levels in the surrounding commercial and industrial areas are below the normally acceptable standard for these uses.

**Table 4.6-3 Existing Roadway Noise Levels**

Receptor No.	Receptor Location	Existing Peak Noise Hour Level (Leq)	Existing Ambient Noise Level (dBA CNEL) <sup>a</sup>	Exceeds Noise Compatibility Standard? <sup>b</sup>
1	Proposed southwest edge of residential structure	73	74	Yes
2	Proposed northwest edge of residential structure	71	72	Yes
3	Proposed northeast edge of residential structure	68	69	Yes
4	Proposed residential units along Pullman St, northeast of leasing office	63	64	No
5	Midpoint of project boundary along Baker St	69	70	Yes
6	River Church of OC	71	72	Yes
7	Light industrial use at northeast corner of Pullman St/Briggs Ave intersection	62	63	No
8	Light industrial use at southeast corner of Pullman St/Briggs Ave intersection	65	66	No

SOURCE: Linscott, Law & Greenspan Engineers, *Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (May 14, 2013) [traffic data]; Caltrans, *2011 Traffic Volumes on the California State Highway System* (August 2012) [traffic data]; Caltrans, *2011 Annual Average Daily Truck Traffic on the California State Highway System* (2012) [traffic data]; Caltrans, *Peak Hour Volume Data* (June 29, 2012) [traffic data]; Federal Highway Administration, *Traffic Noise Model, Version 2.5* (February 2004) [noise level estimates].

See appendix for noise model assumptions and output.

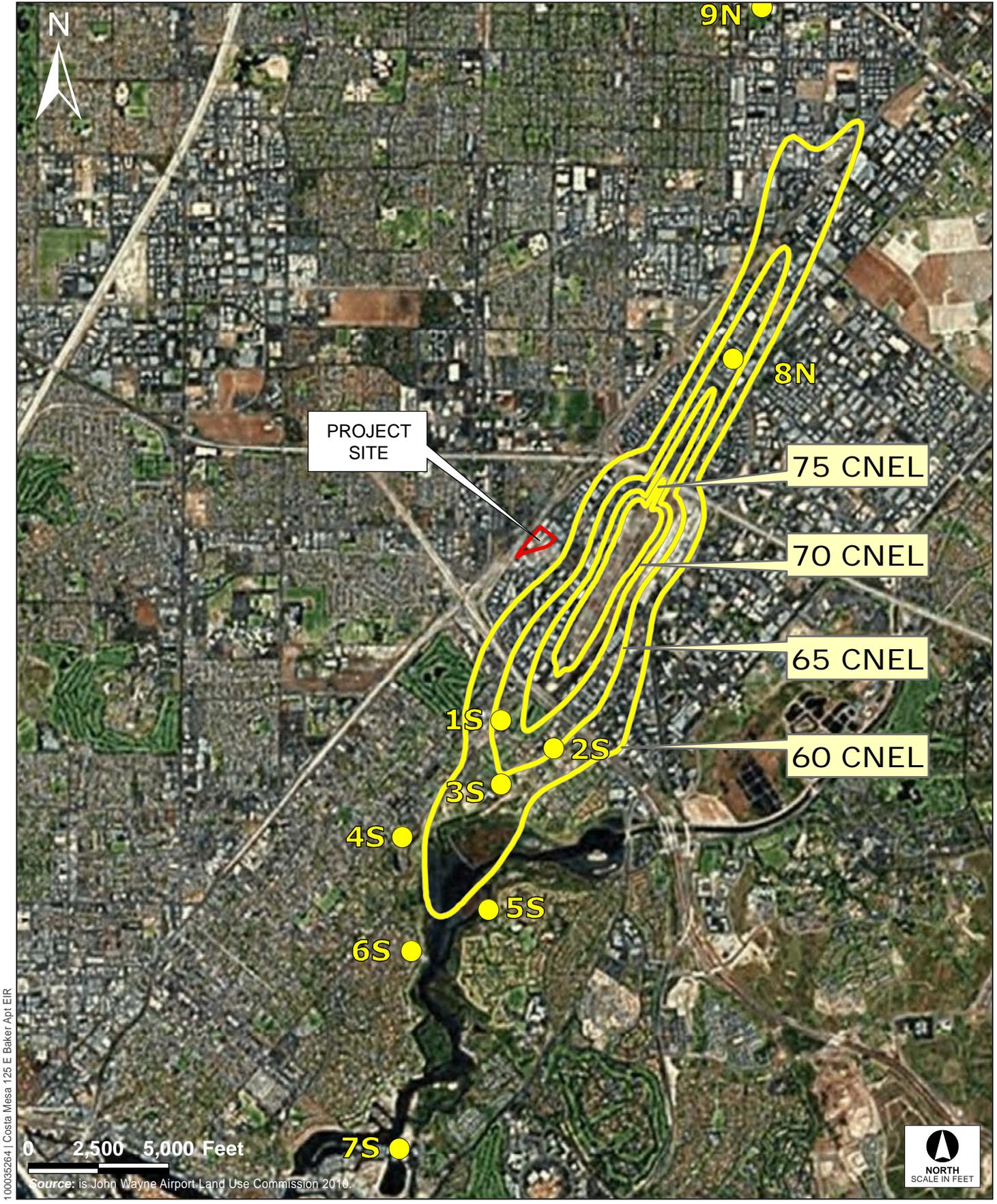
- a. Calculated peak hour noise level was used to determine CNEL using the equation recommended by Caltrans (Technical Noise Supplement page 2-60).
- b. Normally acceptable noise standard is 60 dBA CNEL for churches, 65 dBA CNEL for residences and 67.5 dBA CNEL for commercial and industrial uses.

## Railroads

Costa Mesa and the project site are not serviced by a railroad line. The closest rail line is the Metrolink rail line, which runs generally north/south through Orange County along Interstate 5. The closest portion of the rail line is approximately 5 miles west of the project site. Due to distance, the rail line does not generate noise that is audible at the project site. Rail noise is not an existing noise issue in Costa Mesa (Costa Mesa 2002).

## Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLU) are land uses that may be subject to stress and/or interference from excessive noise. The Costa Mesa General Plan identifies the following as NSLU: schools, residences, churches, hospitals, and similar facilities. Industrial and commercial land uses are generally not considered sensitive to noise. The term “noise receptor” is often used to represent a specific location where individuals would be exposed to noise, such as a specific residence. The nearest NSLU to the project site are the two high density residential complexes (Newport Village Apartments and Eaves South Coast Apartments) located west of SR-55, approximately 450 feet from the project site. The nearest sensitive noise receptor is the River Church of OC, located approximately 80 feet north of the project site, across Baker Street. The locations of these NSLU are identified on Figure 4.6-1.



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0 2,500 5,000 Feet

Source: is John Wayne Airport Land Use Commission 2010.



Figure 4.6-2  
John Wayne Airport Noise Contours





Figure 4.6-3  
Receptor Locations



## ***Vibration Sensitive Land Uses***

Land uses in which groundborne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations are considered “vibration-sensitive” (FTA 2006). The degree of sensitivity depends on the specific equipment that would be affected by the groundborne vibration. The commercial and industrial development surrounding the project site to the east and south includes manufacturing facilities that may be vibration sensitive. Excessive levels of groundborne vibration of either a regular or an intermittent nature can result in annoyance to residential uses.

### **4.6.2 Regulatory Framework**

#### **■ Federal**

##### ***Federal Aviation Administration Standards***

Enforced by the Federal Aviation Administration (FAA), Code of Federal Regulations (CFR) Title 14, Part 150, prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that interior sound levels up to 45 dBA  $L_{dn}$  (or CNEL) are acceptable within residential buildings. The FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA  $L_{dn}$  (or CNEL).

##### ***Federal Highway Administration Standards***

CFR Title 23, Part 772, sets procedures for the abatement of highway traffic noise and construction noise. Title 23 is implemented by the Department of Transportation Federal Highway Administration (FHWA). The purpose of this regulation is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. All highway projects which are developed in conformance with this regulation shall be deemed to be in conformance with the Department of Transportation FHWA Noise Standards. Title 23 establishes 67 dBA as the worst-case hourly average noise level standard for impacts of federal highway projects to land uses including residences, recreational uses, hotels, hospitals, and libraries (23 CFR Chapter 1, Part 772, Section 772.19).

##### ***Federal Transit Administration Standards and Federal Railroad Administration Standards***

Although the Federal Transit Administration (FTA) standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed by local jurisdictions. The FTA and Federal Railroad Administration have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other

jurisdictions to other types of projects. The FTA measure of the threshold of architectural damage for conventional sensitive structures from groundborne vibration is 0.2 in/sec PPV.

## ■ State

### ***California Noise Control Act of 1973***

California Health and Safety Code Sections 46000 through 46080, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

### ***California Noise Insulation Standards (California Code of Regulations, Title 24)***

Title 24 establishes an interior noise standard of 45 dBA for multi-family residential structures.

## ■ Local

### ***City of Costa Mesa General Plan***

The General Plan Noise Element establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. The Noise Compatibility Guidelines listed in Table 4.6-4 (City of Costa Mesa Noise Compatibility Guidelines) are used to determine the compatibility of land uses when evaluating proposed development projects. A land use located in an area identified as “normally acceptable” indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can conduct outdoor activities with minimal noise interference. Land uses that fall into the “conditionally acceptable” noise environment should prepare an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source has the potential to interfere with sleep, speech, or other activities characteristic of the land use. For land uses where the exterior noise level falls within the “conditionally unacceptable” range, new construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made with noise insulation features included in the design. For land uses where the exterior noise levels fall within the “clearly unacceptable” range, new construction generally should not be undertaken. Noise Element Policy N-1A.2 establishes 65 dBA CNEL as the maximum acceptable exterior noise level for residential areas. Although not specified in the General Plan, the City recognizes the unique urban environment in which multi-family residential projects are typically located and exempts private outdoor balconies and patios, internal courtyards, and recreational areas of multi-family residential development from this exterior noise standard, similar to the exemption from the City’s Noise Ordinance (described below).

**Table 4.6-4 City of Costa Mesa Noise Compatibility Guidelines**

Land Use Category	Community Noise Exposure			
	L <sub>dn</sub> or CNEL, dBA			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential—Single family, Duplex, Mobile Home	50–60	60–70	70–75	75–85
Residential—Multi-family, Residential Mixed Use	50–65	65–70	70–75	75–85
Transient Lodging, Motels, Hotels	50–65	65–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–60	60–65	65–80	80–85
Auditoriums, Concert Halls, Amphitheaters	NA	50–70	NA	70–85
Sports Arena, Outdoor Spectator Sports	NA	50–75	NA	75–85
Playgrounds, Neighborhood Parks	50–67.5	NA	67.5–75	75–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–70	NA	70–80	80–85
Office Buildings, Business Commercial, Professional	50–67.5	67.5–77.5	77.5–85	NA
Industrial, Manufacturing, Utilities, Agriculture	50–70	70–80	80–85	NA

SOURCE: City of Costa Mesa, *City of Costa Mesa 2002 General Plan Environmental Impact Report* (January 22, 2002).  
 NORMALLY ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation requirements.  
 CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.  
 NORMALLY UNACCEPTABLE—New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with noise insulation features included in the design.  
 CLEARLY UNACCEPTABLE—New construction or development clearly should not be undertaken.

General Plan Noise Policy N-1A.7 addresses airport noise. This policy discourages locating sensitive land uses in the 65 dBA CNEL noise contour of the John Wayne Airport. Should it be deemed by the City as appropriate and/or necessary for a sensitive land use to locate in the 65 dBA CNEL noise contour, ensure that appropriate interior noise levels are met and that minimal outdoor activities are allowed.

**City of Costa Mesa Municipal Code Title 13, Chapter XIII, Noise Control (Noise Ordinance)**

The purpose of the Noise Ordinance is to prohibit unnecessary, excessive and annoying noises from all sources subject to its police power. The ordinance is designed to control unnecessary, excessive and annoying sounds generated on one piece of property from impacting an adjacent property, and to protect residential areas from noise sources other than roadways. The City Noise Ordinance establishes outdoor and indoor noise standards for residential land use, which are provided in Table 4.6-5 (City of Costa Mesa Residential Exterior and Interior Sound Limit Levels).

**Table 4.6-5 City of Costa Mesa Residential Exterior and Interior Sound Limit Levels**

<i>Time Period</i>	<i>Exterior Noise Level Limit<sup>a</sup></i>	<i>Interior Noise Level Limit<sup>b</sup></i>
7:00 AM to 11:00 PM	55	55
11:00 PM to 7:00 AM	50	45

SOURCE: *City of Costa Mesa Municipal Code* Section 13-280 (Exterior Noise Standards) and Section 13-281 (Interior Noise Standards).

- a. It is unlawful to causes the noise level to exceed (1) the noise standard for a cumulative period of more than 30 minutes in any hour; (2) the noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; (3) the noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour; (4) the noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or (5) the noise standard plus 20 dBA for any period of time. The sound level limit does not apply to private balconies or patios and internal courtyards or recreation areas of multi-family residential development.
- b. It is unlawful to causes the noise level to exceed (1) the interior noise standard for a cumulative period of more than 5 minutes in any hour; (2) the interior noise standard plus 5 dBA for a cumulative period of more than 1 minute in any hour; or (3) the interior noise standard plus 10 dBA for any period of time.

**Section 13-279 (Exceptions for Construction)**

The noise level limits in the Noise Ordinance do not apply to construction equipment, vehicles, or work between the following approved hours, provided that all required permits for such construction, repair, or remodeling have been obtained from the appropriate city departments. The approved hours for construction are provided in Table 4.6-6 (Hours for Construction Activities).

**Table 4.6-6 Hours for Construction Activities**

<i>Allowable Hours</i>	<i>Applicable Days</i>
7:00 AM–7:00 PM	Mondays through Fridays
9:00 AM–6:00 PM	Saturdays
Prohibited all hours	Sundays and the following specified federal holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day

SOURCE: *City of Costa Mesa Municipal Code* Section 13-279 (Exceptions for Construction).

**Section 13-282 (Noise Near Schools, Hospitals, Churches)**

This section states that the exterior sound level limits for residences listed in Table 4.6-5 also apply to schools, hospitals, and churches. Noise levels that unreasonably interfere with the working of such installations are also prohibited.

**Section 13-283 (Loud, Unnecessary Noise)**

It shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area, regardless of whether the noise level exceeds the standards specified in Section 13-280 (Exterior Noise Standards) and Section 13-281 (Interior Noise Standards) (see Table 4.6-5).

### 4.6.3 Impacts and Mitigation Measures

#### ■ Analytic Method

##### **Excessive Noise Levels**

Impacts related to potential exposure of NSLU to excessive noise levels as a result of the operation of the project are assessed based on a comparison of existing surrounding land uses to the noise levels potentially generated by the proposed project. Estimated noise levels are based on a variety of sources, including noise technical reports for similar facilities. Noise levels at a particular receptor from a stationary noise source are based on an attenuation rate of 6 dBA for every doubling of distance.

Impacts related to exposure to traffic noise were modeled using the TNM noise model. The TNM model, developed by the FHWA, models peak hour noise levels and takes into account area topography and intervening structures. Traffic volumes on SR-55 for existing traffic volumes are based on data from Caltrans. Total daily traffic for SR-55 south of the Interstate 405 interchange was obtained from the 2011 Traffic Volume on the California State Highway System publication (Caltrans 2012a). The 2011 Annual Average Daily Truck Traffic on the California State Highway System publication was utilized to determine the percentage of trips attributable to medium-duty and heavy-duty trucks (Caltrans 2012b). Caltrans's Peak Hour Volume Data was utilized to determine the percentage of total trips that would occur during the peak hour (Caltrans 2012c). Based on the Peak Hour Volume Data, a maximum of approximately 7.7 percent of daily trips occur during the peak hour on SR-55. The increase in trips that would occur by the future (Year 2025) scenario was estimated using the increase in trips projected to occur in Orange County between the most recent data year (2011) and 2025 by the California Air Resources Board EMFAC2011-SG model (Version 1.1).

The peak hour traffic volumes for the local streets surrounding the project site were provided for use in the traffic impact analysis prepared for the project (LLG 2013). The project would generate more trips during the PM peak hour than the AM peak hour; therefore, the PM peak hour is conservatively assumed for this analysis.

##### **Groundborne Vibration**

Groundborne vibration impacts are assessed based on screening distances determined by Caltrans. According to Caltrans, major construction activity within 200 feet may be potentially disruptive to sensitive operations (Caltrans 2002). The FTA damage thresholds indicate that, for buildings not extremely sensitive to vibration, a damage threshold for PPV between 0.2 in/sec to 0.5 in/sec would apply depending on the type of building.

##### **Permanent Increase in Ambient Noise**

The potential for implementation of the project to permanently increase ambient noise levels as a result of increased traffic noise is assessed as using the TNM noise model, as described above, for the Existing + Project and Future (Year 2025) scenarios. Year 2025 is the year estimated for General Plan Buildout, and associated increase in regional traffic, assumed for the long-term future analysis in the traffic impact analysis. Other potential sources of operational noise from the project are addressed under Impact 4.6-1.

## **Temporary Increase in Ambient Noise**

Impacts related to temporary increases in ambient noise levels from construction of the proposed project are assessed using estimates of sound levels from typical construction equipment provided by the FHWA in the Roadway Construction Noise Model (FHWA 2008), assuming an attenuation rate of 6 dBA per doubling of distance from the source.

## **Aircraft Noise**

Impacts related to aircraft noise are assessed based on the noise contours published for John Wayne Airport (JWALUC 2010).

## ■ **Thresholds of Significance**

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on noise if it would do any of the following:

- Result in the exposure of persons to or generation of noise levels in excess of standards established in the Costa Mesa General Plan or Noise Ordinance
- Result in the exposure of persons to or generation of excessive groundborne vibration, which is defined as groundborne vibration equal to or in excess of 0.2 in/sec PPV. Construction activities within 200 feet of a vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2002).
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. A substantial permanent increase in traffic noise would occur if the project would result in an increase in noise level of 3 dBA CNEL or more.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Construction noise would be considered significant if it would take place outside of the allowed hours, listed in Table 4.6-6.
- 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 the exposure of people residing or working in the project area to excessive noise levels
- If located within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels

## ■ **Effects Not Found to Be Significant**

There are no private airstrips in the vicinity of the proposed project (Costa Mesa 2002). Therefore, implementation of the proposed project would have *no impact* related to noise exposure from private airstrips, and no further analysis of this issue is required in this EIR.

## ■ Project Impacts and Mitigation

Threshold	Would the project result in the exposure of persons to or generation of noise levels in excess of standards established in the Costa Mesa General Plan or Noise Ordinance?
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**Impact 4.6-1**      **Implementation of the proposed project would result in the exposure of persons to exterior noise levels in excess of standards established in the Costa Mesa General Plan. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a *less-than-significant* level.**

This section addresses the potential for sensitive receptors to be exposed to excessive noise levels from the proposed project, followed by a discussion of the potential for the proposed residences to be exposed to excessive noise levels from the surrounding area. The potential for a permanent increase in noise levels that would occur as a result of increased traffic on roadways is addressed under Impact 4.6-3.

### **Impacts to Off-Site Uses**

#### **Operational Noise**

A total of 240 multi-family residences would be developed on the project site. Noise generated from residential uses is generally described as nuisance noise. Nuisance noise is defined as intermittent or temporary neighborhood noise from sources such as amplified music, car alarms and barking dogs that may be disturbing to other residents. Costa Mesa Municipal Code Section 13-283 prohibits nuisance noise, referred to as loud, unnecessary noise, at any time which causes discomfort or annoyance to reasonable persons of normal sensitivity, regardless of the noise level limits specified in Table 4.6-5. Compliance with the Noise Ordinance would limit exposure to excessive nuisance noise. The Costa Mesa Police Department enforces the nuisance noise provisions of the Noise Ordinance. Additionally, nuisance noises would be different from each other in kind, duration, and location, so that the overall effects would be separate and in most cases would not affect the receptors at the same time. Instances of nuisance noise would be addressed on an individual case basis by the Costa Mesa Police Department. Therefore, nuisance noise from the proposed residence would not result in significant impact.

Noise sources from the proposed parking structure would include car alarms, door slams, radios, and tire squeals. These sources typically range from about 30 to 66 dBA at a distance of 100 feet (GBA 1996), and are generally short-term and intermittent. Parking lots also have the potential to generate noise levels that exceed City's noise level limits depending on the location of the source; however, noise sources from the parking lot would be different from each other in kind, duration, and location, so that the overall effects would be separate and in most cases would not affect noise-sensitive receptors at the same time. The parking structure would be shielded from surrounding development by the residential structure, and would be separated from the nearest residential development by SR-55. Additionally, ambient noise levels surrounding the project site are generally between 65 dBA and 71 dBA during the day and between 56 dBA and 62 dBA during evening hours. Therefore, due to shielding and ambient noise, intermittent noise generated from parking lots would generally not be audible at surrounding land uses and impacts would be less than significant.

Regular landscape maintenance would be required on the project site. Maintenance activities would include the use of gasoline-powered mowers, trimmers, and blowers, which would result in intermittent short-term temporary noise increases. However, the site is currently landscaped and maintenance regularly occurs on site. Maintenance noise generated by the project would be similar to existing noise. Additionally, maintenance equipment would not be operating at any one location for more than a few minutes and it is unlikely that several pieces of equipment would be operating simultaneously in one location. Therefore, implementation of the proposed project would not result in a significant increase in noise from landscape maintenance activities.

Noise from the open space areas would generally be limited to normal conversation. Additionally, the active use areas, including the pool, would be located in internal courtyards and would be shielded from all surrounding land uses by the residential structure. Similar to parking lot noise, due to shielding and ambient traffic noise, intermittent use of the on-site recreational areas would not result in a significant impact.

As described above, the proposed project would not result in new sources of operational noise that would expose surrounding land uses to excessive noise levels. Impacts would be less than significant.

### **Traffic Noise**

The proposed project would generate new vehicle trips that would have the potential to expose NSLU to excessive noise levels. Future traffic noise levels with and without the project at nearby NSLU were modeled at the River Church of OC, located approximately 80 feet from the project site across Baker Street. As shown in Table 4.6-3, the existing noise level at the River Church of OC is 72 dBA CNEL, which is considered normally unacceptable for churches. Therefore, the church is currently exposed to excessive traffic noise without project implementation. The project would result in a significant impact at the River Church of OC if it would result in an increase in roadway noise level of 3 dBA CNEL or more at the church. Future (Year 2025) traffic noise levels at River Church OC with and without the project were calculated using the TNM model. As discussed in greater detail under Impact 4.6-3, future noise levels with and without the project at the church would be 73 dBA. Therefore, the proposed project would not increase exposure of the church to excessive traffic noise levels. A significant impact would not occur.

### **Impacts to On-Site Uses**

#### **Surrounding Land Uses**

In addition to roadways, the project site is surrounded by commercial and light industrial development, and a church. Religious services are not sources of substantial operational noise and would not expose the proposed residences to excessive noise levels. Similar to the proposed residences, the church may result in nuisance noise. Enforcement of the Noise Ordinance would reduce nuisance noise impacts to a less than significant noise level. The church does include a preschool that is operational on weekdays from 6:30 AM to 6:00 PM and offers childcare during some church services. The preschool includes a playground located on the side of the building directly across Baker Street from the proposed project. Intermittent use of playground would generate noise from children playing. The playground is limited in size and would be in use by small children of prekindergarten age. Therefore, the playground would not

support active uses typical of recess at a school play yard that would potentially result in excessive noise from children yelling or cheering. Additionally, the playground is separated from the site by Baker Street, a significant source of traffic noise, as shown in Table 4.6-3. Noise from activity at the preschool may occasionally be audible on site, but would not be significantly noticeable above traffic noise.

The surrounding commercial and industrial uses include manufacturing uses that include operation of machinery and other equipment. However, based on the existing ambient noise measurements, traffic noise in the project area dominates ambient noise levels. Machinery noise was not audible during the daytime or nighttime noise measurements, even at Location 1, which was located in front of a light manufacturing facility. Therefore, the existing manufacturing uses would not expose new residences to excessive noise levels. The proposed project would rezone the site for residential use, and new commercial and industrial facilities in the project area would be required to demonstrate compliance with the City's noise level limits for residences. Therefore, the future occupants of the proposed project would not be exposed to excessive noise levels from surrounding land uses.

### **Traffic Noise**

Traffic noise is the main source of noise on the project site. Future (Year 2025) traffic noise levels at ground floor and upper level receptors on the project site are shown in Table 4.6-7 (Future [Year 2025] Traffic Noise Levels). Upper level receptors are located at approximately 4th floor level (35 feet above ground level). The project's contribution to the future increase in noise level is addressed under Impact 4.6-3. The TNM modeled noise levels take into account the attenuating affects of the proposed structure, including the proposed parking garage. As shown in Table 4.6-7, projected noise levels on the project site range from normally acceptable (63 dBA CNEL) where attenuated by the proposed structure to clearly unacceptable (78 dBA) at upper story receivers along SR-55.

The proposed residential and parking structure provides adequate attenuation to reduce exterior noise levels at internal courtyards and residences along Pullman Street to a normally acceptable noise level at ground floor and upper story residences. The proposed structure would provide some noise attenuation of SR-55 at residences along Baker Street; however, Baker Street would generate conditionally acceptable to normally unacceptable noise levels at receptors along Baker Street and near the intersections of Baker Street and Pullman Avenue. Noise levels at receptors adjacent to SR-55 would not be attenuated by the proposed project structure and would potentially be exposed to normally unacceptable noise levels at the ground floor, and clearly unacceptable noise levels at upper stories.

Common outdoor areas and private patios and balconies are exempt from exterior noise level limits; therefore, exterior noise levels in excess of the City's noise compatibility standards are not considered significant, provided that residents would not be exposed to excessive noise levels within their homes. The proposed structure is designed to provide noise attenuation on the side of the structure adjacent to SR-55 by providing a common walkway corridor between residences and SR-55. The corridor would be enclosed to provide noise attenuation and would provide an additional approximately 10 feet of setback from the freeway. However, because the exterior noise level at residences along Baker Street and SR-55 would exceed the exterior noise level limit, mitigation is required to ensure noise attenuation measures would reduce interior noise to a less than significant level.

**Table 4.6-7 Future (Year 2025) Traffic Noise Levels**

Receptor No.	Receptor Location	Noise Level at Ground Floor Receptor (dBA CNEL)	Noise Level at Upper Level Receptor (dBA CNEL)
1	Proposed southwest edge of residential structure	75	78
2	Proposed northwest edge of residential structure	74	78
3	Proposed northeast edge of residential structure	67	67
4	Proposed residential units along Pullman St, northeast of leasing office	63	63
5	Midpoint of project boundary along Baker St	71	72
9	Northern internal courtyard	40	Not applicable

SOURCE: Linscott, Law & Greenspan Engineers (LLG). 2013. *Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (May 14, 2013) (surface street traffic data); Caltrans, *2011 Traffic Volumes on the California State Highway System* (August 2012) [SR-55 data]; Caltrans, *2011 Annual Average Daily Truck Traffic on the California State Highway System* (2012) [SR-55 data]; Caltrans, *Peak Hour Volume Data* (June 29, 2012) [SR-55 data]; Federal Highway Administration, *Traffic Noise Model, Version 2.5* (February 2004) [noise level estimates].

See appendix for noise model assumptions and output. Calculated peak hour noise level was used to determine CNEL using the equation recommended by Caltrans (Technical Noise Supplement page 2-60).

However, implementation of mitigation measure MM4.6-1 would reduce this impact to a **less-than-significant** level by requiring incorporation of noise attenuating features to ensure interior noise levels would be at or below 45 dBA CNEL.

**MM4.6-1** *Prior to issuance of a certificate of occupancy, the applicant shall prepare an acoustical analysis ensuring that interior noise levels due to exterior noise sources will be at or below 45 dBA CNEL in all units. One or a combination of the following measures will be incorporated as necessary to ensure interior noise will be at or below 45 dBA CNEL:*

- a. *Limit opening and penetrations on portions of buildings impacted by noise.*
- b. *Apply noise insulation to walls, roofs, doors, windows, and other penetrations.*
- c. *Install dual-paned windows. For some units, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 dBA CNEL. Consequently, a ventilation or air conditioning system would be required for these units to provide a habitable interior environment with the windows closed.*

Implementation of mitigation measure MM 4.6-1 would ensure that the residential occupants of the proposed project would not be exposed to excessive noise levels, and therefore, this impact would be considered **less than significant**.

Threshold	Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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**Impact 4.6-2** **Implementation of the proposed project would potentially result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels during construction. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.**

The main concern associated with groundborne vibration from this type of project is annoyance; however, vibration-sensitive instruments and operations can be disrupted at much lower levels than would typically affect other uses. In extreme cases, vibration can cause damage to buildings, particularly those that are old or otherwise fragile. There are no existing sources of groundborne vibration surrounding the project site and the proposed residences would not be exposed to excessive groundborne vibration. Therefore, this analysis focuses on the potential for the project to generate vibration at surrounding land uses. Groundborne vibration occurring as part of the project would result from construction equipment. Following construction, the proposed residences would not generate groundborne vibration.

As a guide, major construction activity within 200 feet may be potentially disruptive to sensitive operations (Caltrans 2002). The FTA damage thresholds indicate that, for buildings not extremely sensitive to vibration, a damage threshold of between 0.2 in/sec to 0.5 in/sec would apply depending on the type of building. Construction equipment does not typically generate vibration greater than 0.2 in/sec beyond 25 feet of construction (FTA 2006). Therefore, the proposed project would not result in groundborne vibration that would have the potential to result in structural damage. However, the commercial and industrial development within 200 feet of the project site boundary to the east and south includes manufacturing facilities that may be vibration sensitive. Therefore, a potentially significant impact related to excessive groundborne vibration would occur during construction.

This is considered a potentially significant impact. However, implementation of mitigation measure MM4.6-2 would reduce this impact to a *less-than-significant* level by requiring best management practices, and notification to receptors so that receptors can anticipate and prepare for temporary groundborne vibration.

- MM4.6-2** *For construction activities within 200 feet of existing commercial or industrial businesses, the construction contractor shall implement the following measures during construction:*
- a. The construction contractor shall provide written notification to all commercial and industrial tenants at least three weeks prior to the start of construction activities within 200 feet of the receptor informing them of the estimated start date and duration of daytime vibration-generating construction activities.*
  - b. Stationary sources, such as temporary generators, shall be located as far from off-site receptors as possible.*
  - c. Trucks shall be prohibited from idling along streets serving the construction site.*

Threshold	Would the 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 4.6-3** **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.**

This section addresses the potential for implementation of the proposed project to permanently increase ambient noise levels as a result of increased traffic noise. The potential for other noise sources associated

with project implementation to result in noise levels that would expose NSLU to excessive noise levels is addressed in under Impact 4.6-1.

The potential for the project to permanently increase traffic noise is addressed under the following scenarios: Existing + Project and Future (Year 2025). Year 2025 is the year assumed for General Plan buildout in the traffic analysis for the project. Traffic volumes for each roadway are included in the appendix. Noise levels for area roadways on site and at nearby receptors were calculated using the TNM model. The modeling calculations take into account the posted vehicle speed, peak hour traffic volume, noise attenuation from on site structures, and the estimated vehicle mix. Peak hour noise level is converted CNEL using the equation recommended by Caltrans (Technical Noise Supplement page 2-60). Noise levels at distances further from the source than the specific receptor would be lower due to attenuation provided by increased distance from the noise source. Generally, noise from heavily traveled roadways would experience a decrease of approximately 3 dBA for every doubling of distance from the roadway.

### **Existing + Project Scenario**

An existing plus project scenario is included for informational purposes to compare noise levels that would result from the proposed project trip distribution to existing baseline noise levels. This scenario is conservative and does not represent the actual anticipated impact of the proposed project. Additional growth and development would occur in the City prior to project operation, which would affect the project's noise impact relative to conditions that would occur without the proposed project.

Existing and Existing + Project traffic noise levels are provided in Table 4.6-8 (Existing + Project Roadway Noise Levels). The Existing + Project scenario is conservative for estimating the project's contribution to area traffic noise because additional growth in the city would occur prior to completion of project construction, which would generate increased ambient traffic noise. As shown in Table 4.6-8, increased traffic noise resulting from implementation of the proposed project would result in a 1 to 2 dBA CNEL increase at the on-site receptors located adjacent to SR-55. However, the proposed structure would provide additional noise attenuation on and off site and would reduce noise levels at several receptors separated from SR-55 by the proposed structure. The proposed project would not result in an increase in noise level at any off-site receptors. The proposed project would not result in an increase of 3 dBA CNEL or more at any receptor, and this impact would be *less than significant*.

### **Future (Year 2025) Scenario**

The Future (Year 2025) scenario includes buildout of the project as well as the cumulative growth and development anticipated under buildout of the General Plan through Year 2025. Future increases in traffic, with and without the project, are provided in Table 4.6-9 (Future (Year 2025) Traffic Noise Levels). As shown in Table 4.6-9, implementation of the proposed project would not exceed the applicable incremental noise impact standard on any roadway. The proposed structure would provide additional noise attenuation on and off site and would reduce noise levels at several receptors separated from SR-55 by the proposed structure. Therefore, the project would not result in a significant traffic noise impact under the Future (Year 2025) scenario. This impact is considered *less than significant*, and no mitigation is required.

**Table 4.6-8 Existing + Project Roadway Noise Levels**

Receptor No.	Receptor Location	Existing Noise Level (dBA CNEL)	Existing + Project Noise Level (dBA CNEL)	Increase in Noise Level	Significant Impact?
1	Proposed southwest edge of residential structure	74	75	+1	No
2	Proposed northwest edge of residential structure	72	74	+2	No
3	Proposed northeast edge of residential structure	69	66	-3	No
4	Proposed residential units along Pullman St, northeast of leasing office	64	63	-1	No
5	Midpoint of project boundary along Baker St	70	70	0	No
6	River Church of OC	72	72	0	No
7	Light industrial use at northeast corner of Pullman St/Briggs Ave intersection	63	63	0	No
8	Light industrial use at southeast corner of Pullman St/Briggs Ave intersection	66	64	-2	No

SOURCE: Linscott, Law & Greenspan Engineers, *Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (May 14, 2013) [traffic data];  
Caltrans, *2011 Traffic Volumes on the California State Highway System* (August 2012) [traffic data];  
Caltrans, *2011 Annual Average Daily Truck Traffic on the California State Highway System* (2012) [traffic data];  
Caltrans, *Peak Hour Volume Data* (June 29, 2012) [traffic data];  
Federal Highway Administration, *Traffic Noise Model, Version 2.5* (February 2004) [noise level estimates].

See appendix for noise model assumptions and output. Calculated peak hour noise level was used to determine CNEL using the equation recommended by Caltrans (Technical Noise Supplement page 2-60).

**Table 4.6-9 Future (Year 2025) Traffic Noise Levels**

Receptor No.	Receptor Location	Year 2025 Noise Level (dBA CNEL)	Year 2025 + Project Noise Level (dBA CNEL)	Increase in Noise Level	Significant Impact?
1	Proposed southwest edge of residential structure	75	75	0	No
2	Proposed northwest edge of residential structure	75	74	-1	No
3	Proposed northeast edge of residential structure	70	67	-3	No
4	Proposed residential units along Pullman St, northeast of leasing office	65	63	-2	No
5	Midpoint of project boundary along Baker St	71	71	0	No
6	River Church of OC	73	73	0	No
7	Light industrial use at northeast corner of Pullman St/Briggs Ave intersection	64	63	-1	No
8	Light industrial use at southeast corner of Pullman St/Briggs Ave intersection	66	64	-2	No

SOURCE: Linscott, Law & Greenspan Engineers, *Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (May 14, 2013) [traffic data];  
Caltrans, *2011 Traffic Volumes on the California State Highway System* (August 2012) [traffic data];  
Caltrans, *2011 Annual Average Daily Truck Traffic on the California State Highway System* (2012) [traffic data];  
Caltrans, *Peak Hour Volume Data* (June 29, 2012) [traffic data];  
Federal Highway Administration, *Traffic Noise Model, Version 2.5* (February 2004) [noise level estimates].

See appendix for noise model assumptions and output. Calculated peak hour noise level was used to determine CNEL using the equation recommended by Caltrans (Technical Noise Supplement page 2-60).

Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
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**Impact 4.6-4**      **Implementation 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.**

Construction of the proposed project would generate noise that could expose nearby NSLU to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction phase, distance between the noise source and receiver, and intervening structures. Sound levels from typical construction equipment range from 74 to 85 dBA  $L_{eq}$  at 50 feet from the source, as shown in Table 4.6-10 (Typical Noise Levels for Construction Equipment). Noise from construction equipment generally exhibits point source acoustical characteristics. Strictly speaking, a point source sound decays at a rate of 6 dBA per doubling of distance from the source. The rule applies to the propagation of sound waves with no ground interaction.

Standard equipment, including loaders, dozers, scrapers, backhoes, rollers, and dump trucks, would be used for construction of the proposed project. Noise levels from construction activities on the project site were determined based on the construction equipment list provided by the applicant and typical equipment noise levels determined by the Roadway Construction Noise Model (RCNM) (FHWA 2008).

<i>Construction Equipment</i>	<i>Typical Noise Level at 50 feet (dBA)</i>
Air Compressor	77.7
Backhoe	77.6
Concrete Mixer Truck	78.8
Crane	80.6
Dozer	81.7
Dump Truck	76.5
Excavator	80.7
Generator	80.6
Grader	85.0
Loader	79.1
Paver	77.2
Roller	80.0
Scraper	83.6
Tractor	84.0
Welder	74.0

SOURCE: Federal Highway Administration, *Roadway Construction Noise Model (RCNM)*, Version 1.1 (December 8, 2008).

The five noisiest pieces of construction equipment (loader, dozer, scraper, roller, and backhoe) that could be required for the project were assumed to operate simultaneously in the same location. Based on this worst-case assumption, construction of the project would have the potential to generate hourly average noise levels up to 79 dBA at the nearest NSLU, the River Church of OC located 80 feet from the project site. This estimate is conservative because construction equipment would be spread out over the site and would not be operating all at once.

Construction noise would have the potential to exceed the City's noise level limits for churches. However, the City of Costa Mesa Noise Ordinance exempts construction activities from the noise levels limits, provided that construction takes place during the allowable hours established in the Noise Ordinance. The City limits construction activities to Mondays through Fridays between the hours of 7:00 AM and 7:00 PM and on Saturdays from 9:00 AM and 6:00 PM. The proposed project would comply with these restrictions. No evening or nighttime construction would be necessary. Therefore, the City would comply with applicable requirements for construction noise and a significant impact would not occur during construction. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would 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, result in the exposure of people residing or working in the project area to excessive noise levels?
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**Impact 4.6-5      Implementation of the proposed project would not result in the exposure of people residing or working in the project area to excessive noise levels. This would be a *less-than-significant* impact.**

The nearest airport to the project site is John Wayne Airport, located approximately 0.5 mile southwest of the project site. The project site is located just outside of the 60 dBA CNEL noise contour of John Wayne Airport (JWALUC 2010). As discussed under Impact 4.6-1, traffic noise is the dominant noise source on the project site. Noise levels from traffic noise exceed 60 dBA on the project site. Therefore, although the site may experience intermittent noise from overflights, noise levels would not exceed 60 dBA CNEL and would generally not be noticeable over surrounding traffic noise. Therefore, the project would not be exposed to excessive noise from John Wayne Airport. This impact is considered *less than significant*, and no mitigation is required.

#### 4.6.4 Cumulative Impacts

Threshold	Would the project result in the 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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Noise is a localized phenomenon and is progressively reduced as the distance from the source increases; specifically, noise levels from stationary noise sources decrease by approximately 6 dB for every doubling of distance. Therefore, the geographic limit that would be considered for the noise cumulative analysis would include only those projects in close proximity to the project site. According to the traffic analysis, there are no approved, planned, or foreseeable projects in the area of the project site (LLG 2013). The

proposed project would not generate excessive noise levels. Therefore, a significant cumulative impact would not occur.

Threshold	Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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Similar to noise effects, vibration is a localized phenomenon and is progressively reduced as the distance from the source increases. Therefore, the area of projects that would be considered for the vibration cumulative analysis would be only those projects close to the project site. There are no approved, planned or foreseeable projects adjacent to the project site that would generate similar vibration. Therefore, vibration generated by construction on the project site and other sites would not combine to generate cumulative vibration impacts. Once constructed, the proposed land use would not generate a significant source of vibration during normal operation. Therefore, a significant cumulative vibration impact would not occur.

Threshold	Would the 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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Buildout of the proposed project, along with future cumulative growth in Costa Mesa, would result in increases in traffic that would cumulatively increase traffic noise. The cumulative analysis compares future noise levels to existing noise levels to determine if a significant cumulative increase in noise level would occur. A significant cumulative impact would occur if cumulative projects would cause an increase in roadway noise of 3 dBA CNEL or more. The potential noise impacts that would result from cumulative projects and cumulative growth are included in the Future (Year 2025) scenario. Table 4.6-11 (Cumulative Traffic Noise Impacts) compares Future (Year 2025) traffic noise levels to existing conditions. As shown in Table 4.6-11, a significant cumulative impact would not occur at any receptor. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact.

Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
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Construction noise impacts are localized in nature because they are limited to the construction site where construction equipment is operating. As discussed above, sound levels from project construction would be up to 79 dBA approximately 80 feet from the construction site (FHWA 2008). There are no approved, planned, or foreseeable projects in the vicinity that would generate similar construction noise levels. Additionally, cumulative projects and the proposed project would be subject to the City's Noise Ordinance, which limits construction to daytime hours. Therefore, a significant cumulative impact would not occur.

Receptor No.	Segment	Existing	Future (Year 2025) + Project	Increase in Noise Level	Significant Cumulative Impact?	Increase Attributable to Project <sup>a</sup>	Cumulatively Considerable Contribution?
1	Proposed southwest edge of residential structure	74	75	+1	No	0	No
2	Proposed northwest edge of residential structure	72	74	+2	No	-1	No
3	Proposed northeast edge of residential structure	69	67	-2	No	-3	No
4	Proposed residential units along Pullman St, northeast of leasing office	64	63	-1	No	-2	No
5	Midpoint of project boundary along Baker St	70	71	+1	No	0	No
6	River Church of OC	72	73	+1	No	0	No
7	Light industrial use at northeast corner of Pullman St/Briggs Ave intersection	63	63	0	No	-1	No
8	Light industrial use at southeast corner of Pullman St/Briggs Ave intersection	66	64	-2	No	-2	No

SOURCE: Linscott, Law & Greenspan Engineers, *Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (May 14, 2013) [traffic data];  
Caltrans, *2011 Traffic Volumes on the California State Highway System* (August 2012) [traffic data];  
Caltrans, *2011 Annual Average Daily Truck Traffic on the California State Highway System* (2012) [traffic data];  
Caltrans, *Peak Hour Volume Data* (June 29, 2012) [traffic data];  
Federal Highway Administration, *Traffic Noise Model, Version 2.5* (February 2004) [noise level estimates].

See appendix for noise model assumptions and output. Calculated peak hour noise level was used to determine CNEL using the equation recommended by Caltrans (Technical Noise Supplement page 2-60).

a. Based on the results in Table 4.6-10. The project's contribution to the cumulative noise impact is based on the increase in traffic noise attributable to the proposed project under the Future (Year 2025) scenario. If the project's contribution is less than 3 dB, the project's contribution is not cumulatively considerable.

Threshold	Would 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, result in the exposure of people residing or working in the project area to excessive noise levels?
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No additional aviation uses are planned to be introduced in the immediate vicinity of the project site. In addition, the project does not propose any new air traffic. No NSLU would be exposed to excessive noise levels from aviation as a result of the project. Therefore, a cumulative impact related to aviation would not occur.

## 4.6.5 References

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## 4.7 POPULATION/HOUSING

This section of the EIR analyzes the potential environmental effects on population/housing from implementation of the proposed project. One comment letter addressing population/housing were received in response to the notice of preparation (NOP) circulated for the proposed project.

Data for this section were taken from U.S. Census Bureau (Census), and the City of Costa Mesa General Plan Housing Element. Full reference-list entries for all cited materials are provided in Section 4.7.5 (References).

### 4.7.1 Environmental Setting

#### ■ Population

The most recent United States Census was published in 2010. The City of Costa Mesa General Plan examined past and current population (Section 5.5 [Housing Needs Assessment]) to summarize and analyze the existing housing conditions in Costa Mesa. The section consists of two major sections: analysis of population and employment trends; and a housing profile which includes an analysis of existing housing characteristics, housing conditions, vacancy trends, housing costs and availability, coastal zone housing, neighborhood and community resources, “at-risk housing” and suitable lands for future development.

#### ***Population and Employment***

When evaluating housing needs in a community, demographic variables, such as population, employment, and households must be examined to assess the whether the proposed project would result in substantial new population growth that may displace people and housing.

#### ***Population Trends***

Orange County or the Orange County Primary Metropolitan Statistical Area (PMSA) is part of the Los Angeles Consolidated Metropolitan Statistical Area (CMSA) that also consists of the Los Angeles-Long Beach PMSA, Riverside-San Bernardino PMSA and Ventura County PMSA. The City of Costa Mesa is located in Orange County which remains the second largest PMSA in the Los Angeles CMSA. In 1980, Orange County’s population was 1,932,921 and increased by nearly 25.0 percent to 2,410,556 in 1990. Between 1990 and 2000, the population of Orange County further increased by 18.1 percent to 2,846,289. According to the 2010 Census, the population of Orange County is now 3,010,232, an increase of 5.7 percent from the 2000 Census estimates. As shown in Table 4.7-1 (Regional Population Trends), the largest gains in population are being recorded in the inland counties: Riverside and San Bernardino. However, proportionate increases have slowed for all counties over the last 7 years.

**Table 4.7-1 Regional Population Trends**

County	1980	1990	2000	2010
Los Angeles	7,477,238	8,863,164	9,519,338	9,818,605
Orange	1,932,921	2,410,556	2,846,289	3,010,232
Riverside	663,199	1,170,413	1,545,387	2,189,641
San Bernardino	895,016	1,418,380	1,709,434	2,042,441
Ventura	529,174	669,016	753,197	843,318
<b>Total</b>	<b>11,499,528</b>	<b>14,533,519</b>	<b>16,377,645</b>	<b>17,877,066</b>

SOURCE: U.S. Census Bureau (1960-2010 Census).

The City of Costa Mesa is surrounded by five cities: Fountain Valley, Huntington Beach, Irvine, Newport Beach and Santa Ana. Between 1980 and 2010, Santa Ana and Irvine experienced the largest numerical and proportionate gains for the six-city area, but Costa Mesa also experienced a fair amount of population gains. In 2010, Costa Mesa has a total population of 109,960 persons. As shown in Table 4.7-2 (Population Trends—Costa Mesa and Surrounding Cities, 1980–2010), Costa Mesa’s population has increased by approximately 33 percent since 1980.

**Table 4.7-2 Population Trends—Costa Mesa and Surrounding Cities, 1980–2010**

City	1980	1990	2000	2010	Change 1980–2010	
					Number	Percent
Costa Mesa	82,562	96,357	108,724	109,960	27,398	33.2%
Fountain Valley	55,080	53,691	54,978	55,313	233	0.4%
Huntington Beach	170,505	1,818,519	189,594	189,992	19,487	11.4%
Irvine	62,134	110,330	143,072	212,375	150,241	241.8%
Newport Beach	62,556	66,643	70,032	85,186	22,630	36.2%
Santa Ana	203,713	293,742	337,977	324,528	120,815	59.3%
<b>Six-City Total</b>	<b>638,530</b>	<b>804,272</b>	<b>904,377</b>	<b>991,354</b>	<b>358,824</b>	<b>56.2%</b>
<b>Total County</b>	<b>1,932,921</b>	<b>2,410,556</b>	<b>2,846,289</b>	<b>3,010,232</b>	<b>1,077,311</b>	<b>55.7%</b>

SOURCES: U.S. Census Bureau (1980-2010 Census).

## ■ Housing

### Housing Growth

According to the City of Costa Mesa General Plan Housing Element, Costa Mesa has seen modest housing growth since 1990 and is consistent with an urbanized, built-out community. As shown in Table 4.7-3 (Housing Units by Type, 1990–2010), the housing stock grew from 39,611 in 1990 to 42,867 in 2010, an 8 percent increase over 20 years. In comparison, Orange County experienced the same proportion of housing unit growth (8 percent) in just the last 10 years.

Housing Type	1990		2000		2010	
	Number	Percent	Number	Percent	Number	Percent
Single-Family	18,847	47.6%	19,467	48.2%	21,275	49.6%
2-4 Units	5,922	14.9%	5,855	14.4%	5,811	13.6%
5+ Units	13,620	34.4%	13,871	34.4%	14,835	34.7%
Mobile Home/Other	1,222	3.1	1213	3.0	946	2.1
<b>Total</b>	<b>39,611</b>	<b>100%</b>	<b>40,406</b>	<b>100%</b>	<b>42,867</b>	<b>100.0%</b>

SOURCES: 1. U.S. Census Bureau (1990, 2000 Census).  
2. 2006-2010 American Community Survey 5-Year Estimates

### Household Trends

According to the City of Costa Mesa General Plan Housing Element, a household is defined as all persons occupying a housing unit. Families are a subset of households, and include all persons living together who are related by blood, marriage, or adoption. Single households include persons living alone in housing units, but do not include persons in group quarters such as convalescent homes or dormitories. Other households are unrelated people living together, such as roommates.

### Household Trends

As shown in Table 4.7-4 (Household Trends, 1960–2010), 12,973 households resided in the City of Costa Mesa in the year 1960 and that number nearly doubled by 1970. Between 1950 and 1970, the City added 20,312 households, while increasing its land area through annexations from 3.5 square miles to 14.7 square miles. The City continued to experience large increases in the number of households through the 1970s but its growth had slowed over the past 30 years as the City became increasingly built-out. As of 2010, there were 39,946 households within 16 square miles in the City.

	Households	Numeric Change	Percent Change
1960	12,973	—	—
1970	24,152	11,179	86.2%
1980	32,637	8,485	35.1%
1990	37,467	4,830	14.8%
2000	39,206	1,739	4.6%
2010	39,946	741	1.9%

SOURCES: U.S. Census Bureau (1950-2010 Census).

Household growth rate is the primary factor in determining housing needs. Even during periods of fairly static population growth, there may be an increase in households due to (1) young people leaving home; (2) divorce; (3) aging of the population; and (4) other social activities that cause people to occupy a new residence. Conversely, the population may increase in fairly static household growth periods. Between

1970 and 1980, household growth far exceeded population growth, while in more recent times population has been slightly greater than household growth. The difference between population and household growth rates has resulted in a fluctuating household size over the years.

### Household Size

The City of Costa Mesa has a smaller average household size (2.68 persons per household) than the county (2.99 persons per household) and the state (2.90 persons per household), generally reflecting a community where young families with children and young adults represent a smaller component of the community. However, consistent with countywide and statewide trends, average household size in Costa Mesa has held steady over the last decade. As shown in Table 4.7-5 (Household Size Trends—Costa Mesa and Orange County, 2000–2010), nearly 60 percent of the Costa Mesa population in 1960 was in a 1- or 2-person household, similar to the County in general. Generally between 2000 and 2010, the distribution of households based on their size remained the same, with a slight increase in the number of 3- and 4-person households (City of Costa Mesa General Plan Housing Element 2013).

<b>Table 4.7-5 Household Size Trends—Costa Mesa and Orange County, 2000–2010</b>				
	<b>2000</b>		<b>2010</b>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<b>City of Costa Mesa</b>				
1 person	11,006	28.1%	10,963	27.4%
2 persons	12,398	31.6%	12,605	31.6%
3–4 persons	10,351	26.4%	11,050	27.7%
5+ persons	5,452	13.9%	5,328	13.3%
<b>Total</b>	<b>39,207</b>	<b>100%</b>	<b>39,946</b>	<b>100%</b>
<b>Orange County</b>				
1 person	197,010	21.0%	207,849	20.9%
2 persons	277,708	29.7%	290,542	29.3%
3–4 persons	298,241	31.9%	325,599	32.8%
5+ persons	163,195	17.4%	168,809	17.0%
<b>Total</b>	<b>936,154</b>	<b>100%</b>	<b>992,781</b>	<b>100%</b>

SOURCES: 1. U.S. Census Bureau (2000 and 2010 Census).

## 4.7.2 Regulatory Framework

### ■ Federal

There are no federal regulations that apply to population, housing, and employment.

### ■ State

There are no state regulations that apply to population, housing, and employment.

## ■ 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, household and employment forecasts provided in Table 4.7-6 (SCAG Population Forecast) for the City of Costa Mesa and Orange County (OCCOG Subregion) were prepared by SCAG in 2012.

<b>Table 4.7-6 SCAG Population Forecast</b>			
	<b>2008</b>	<b>2020</b>	<b>2035</b>
<b>City of Costa Mesa</b>			
Population	109,100	113,700	114,000
Households	39,700	40,100	40,900
Employment	94,200	88,300	88,800
<b>Orange County (OCCOG Region)</b>			
Population	2,989,000	3,266,000	3,424,000
Households	987,000	1,049,000	1,125,000
Employment	1,624,000	1,626,000	1,779,000

SOURCE: SCAG, Growth Forecast (2012).

### **Regional Housing Needs Assessment**

Pursuant to state law, each jurisdiction in California is responsible for a share of the region’s housing growth needs. The process of determining that “fair share” is called Regional Housing Needs Assessment (RHNA). For the 2008–2014 Housing Element cycle, the City of Costa Mesa was assigned a RHNA of 1,682 units, divided into four income categories:

- Very Low Income (0–50 percent Area Median Income): 353 units
- Low Income (51–80 percent Area Median Income): 289 units
- Moderate Income (80–120 percent Area Median Income): 330 units
- Above Moderate Income (>120 percent Area Median Income): 710 units

The RHNA for the 2008–2014 Housing Element cycle in the SCAG region used January 1, 2006, as the baseline for projecting housing needs. As such, housing units constructed, permitted, approved, or

affordable housing units preserved from January 1, 2006, to 2008 were credited toward the RHNA. Table 4.7-7 (Progress toward RHNA, 2006–2014) summarizes the City’s accomplishments in meeting the remaining RHNA.

<b>Table 4.7-7 Progress toward RHNA, 2006–2014</b>		
<i>Income Category</i>	<i>RHNA-Identified Need</i>	<i>Units Constructed</i>
Very Low	244	0
Low	201	1
Moderate	—	—
Above Moderate	—	430
<b>Total</b>	<b>445</b>	<b>1,048</b>

SOURCE: SCAG, RHNA (2013).

## ■ Local

### General Plan Housing Element

The 2013 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 HOU-1** *Preservation and Enhancement.* Preserve the availability of existing housing opportunities and to conserve as well as enhance the quality of existing dwelling units and residential neighborhoods.
- Policy HOU-1.1** Develop standards and/or guidelines for new development with emphasis on site (including minimum site security lighting) and building design to minimize vulnerability to criminal activity.
- Policy HOU-1.2** Encourage existing stabilized residential neighborhoods, including but not limited to mobile home parks and manufactured home parks, from the encroachment of incompatible or potentially disruptive land uses and/or activities.
- Policy HOU-1.3** Actively enforce existing regulations regarding derelict or abandoned vehicles, outdoor storage, and substandard or illegal buildings and establish regulations to abate weed-filled yards when any of the above is deemed to constitute a health, safety or fire hazard.
- Policy HOU-1.4** Establish code enforcement as a high priority and provide adequate funding and staffing to support code enforcement programs.

- Policy HOU-1.5** Install and upgrade public service facilities (streets, alleys, and utilities) to encourage increased private market investment in declining or deteriorating neighborhoods.
- Policy HOU-1.6** Continue existing rehabilitation loan and grant programs for low and moderate-income homeowners as long as funds are available.
- Policy HOU-1.7** Minimize the displacement of existing residences due to public projects.
- Policy HOU-1.8** Encourage the development of housing that fulfills specialized needs.
- Goal HOU-2** *Preserving and Expanding Affordable Housing Opportunities.* Provide a range of housing choices for all social and economic segments of the community, including housing for persons with special needs.
- Policy HOU-2.1** Encourage concurrent applications (i.e., rezones, tentative tract maps, conditional use permits, variance requests, etc.) if multiple approvals are required, and if consistent with applicable processing requirements.
- Policy HOU-2.2** Promote the use of State density bonus provisions to encourage the development of affordable housing for lower and moderate income households, as well as senior housing.
- Policy HOU-2.3** Provide incentive bonus units to encourage the redevelopment of residential units that are nonconforming in terms of density. The incentive shall be limited to the multi-family residential land use designations. The density incentive shall be limited to an increase of 25 percent above Medium-Density or an increase of 50 percent above High-Density. In no case shall the resulting number of units exceed the existing number of units on each site.
- Policy HOU-2.4** Encourage developers to employ innovative or alternative construction methods to reduce housing costs and increase housing supply.
- Policy HOU-2.5** Continue membership in the Orange County Housing Authority to provide rental assistance to very low income households.
- Policy HOU-2.6** Provide clear rules, policies, and procedures, for reasonable accommodation in order to promote equal access to housing. Policies and procedures should be ministerial and include but not be limited to identifying who may request a reasonable accommodation (i.e., persons with disabilities, family-members, landlords, etc.), timeframes for decision-making, and provision for relief from the various land-use, zoning, or building regulations that may constrain the housing for persons of disabilities.

**Policy HOU-2.7** Monitor the implementation of the City’s ordinances, codes, policies, and procedures to ensure they comply with the “reasonable accommodation” for disabled provisions and all fair housing laws.

**Goal HOU-3**

*Provision of Adequate Sites.* Provide adequate, suitable sites for residential use and development or maintenance of a range of housing that varies sufficiently in terms of cost, design, size, location, and tenure to meet the housing needs of all segments of the community at a level that can be supported by infrastructure.

**Policy HOU-3.1** Encourage the conversion of existing marginal or vacant motels, commercial, and/or industrial land to residential, where feasible and consistent with environmental conditions that are suitable for new residential development.

**Policy HOU-3.2** Provide opportunities for the development of well planned and designed projects which, through vertical or horizontal integration, provide for the development of compatible residential, commercial, industrial, institutional, or public uses within a single project or neighborhood.

**Policy HOU-3.3** Cooperate with large employers, the Chamber of Commerce, and major commercial and industrial developers to identify and implement programs to balance employment growth with the ability to provide housing opportunities affordable to the incomes of the newly created job opportunities.

**Policy HOU-3.4** Consider the potential impact on housing opportunities and existing residential neighborhoods when reviewing rezone petitions affecting residential properties.

**Goal HOU-4**

*Equal Housing Opportunity.* Ensure that all existing and future housing opportunities are open and available to all social and economic segments of the community without discrimination on the basis of race, color, religion, sex, sexual orientation, disability/medical conditions, national origin or ancestry, marital status, age, household composition or size, source of income, or any other arbitrary factors.

**Policy HOU-4.2** Continue to provide fair housing and counseling services for all Costa Mesa residents in an effort to remove barriers and promote access to affordable housing in the City.

**Policy HOU-4.3** Encourage programs that address the housing needs of senior citizens.

**Policy HOU-4.4** Encourage and support the construction, maintenance and preservation of residential developments which will meet the needs of families and individuals with specialized housing requirements.

**Policy HOU-4.10** Support the intent and spirit of equal housing opportunities as expressed in Federal and State fair housing laws.

**Goal HOU-5** *Coordination and Cooperation.* Coordinate local housing efforts with appropriate federal, state, regional, and local governments and/or agencies and to cooperate in the implementation of intergovernmental housing programs to ensure maximum effectiveness in solving local and regional housing problems.

**Policy HOU-5.1** Investigate alternative intergovernmental arrangements and program options to deal with area-wide housing issues and problems.

### 4.7.3 Impacts and Mitigation Measures

#### ■ Analytic Method

This analysis considers population and household growth that would occur with implementation of the proposed project 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 proposed project area consisting of a maximum of 240 high-density residential units, which would result in an increase to the supply of housing and associated population in the area.

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. 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. 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 proposed project would occur in 2016; therefore, SCAG 2020 population projections are used in concert with General Plan development maximums. For purposes of this analysis, a “substantial increase” is considered one in which identified growth projections are exceeded.

#### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on population/housing 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 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 Not Found to Be Significant

Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
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Project implementation would not result in the displacement of existing housing, since none are present on the Project site. The proposed development would result in a net increase of 240 dwelling units. Therefore, Project implementation would not necessitate the construction of replacement housing elsewhere. As such, there would be *no impact* from implementation of the proposed project.

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
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As the Project would not displace substantial numbers of people, the construction of replacement housing elsewhere would not be required and significant impacts would not occur. Therefore, there would be *no impact* from the implementation of the proposed project.

## ■ Project Impacts and Mitigation

Threshold	Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
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**Impact 4.7-1**      **Implementation of the proposed project would not induce substantial population growth in an area, either directly or indirectly. This would be a *less-than-significant* impact.**

The City's population as of January 2013 is 111,358 persons and the City's housing stock totals 42,162 units, with an average household size of 2.72 (Department of Finance 2013). The project consists of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-level parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces. The total density for the proposed 240-unit project is 57.7 dwelling units per acre.

A project could induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). The Project proposes new homes, thus, would induce direct population growth within the City. It is likely that the proposed type of urban housing would appeal to a niche market of young urban professionals, recent college graduates formerly residing with their parents, or single first-time homeowners. The demand of moderately-priced, contemporary housing for this niche market could be satisfied by the proposed development. It is estimated that the proposed project would result in approximately 346 persons to the site, and it is therefore, it is likely the proposed units would have a smaller household size than a traditional Costa Mesa housing unit. Notwithstanding, in order to provide a conservative analysis, based on an average household size of 2.72, Project implementation could result in a population increase of approximately 653 persons. The potential population growth would be nominal, representing less than 0.1 percent increase over the City's existing 2013 population of 111,358

persons. Therefore, Project implementation would not induce substantial population growth within the City, and the impact would be *less than significant* with no mitigation measures required.

#### 4.7.4 Cumulative Impacts

Threshold	Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
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The proposed project would include the development of 240 high density residential units, which would result in an increase to the supply of housing and associated population in the area. Since the apartments are planned to be marketed to professionals in the area, they would mostly be comprised of studios, one-bedrooms and two-bedroom units. The proposed breakdown of units is as follows: 26 studio and studio+loft units; 117 one-bedroom and one-bedroom+loft units, 85 two-bedroom and two-bedroom+loft units; and, 12 three-bedroom and three-bedroom+loft units

The cumulative context for population and housing growth is the City of Costa Mesa, as represented by full build-out of the Costa Mesa General Plan and SCAG's 2035 population projection. The proposed project would develop residential uses that would—in combination with other cumulative development in the City—increase population and housing opportunities in Costa Mesa, which could directly and/or indirectly induce growth in the City. According to the Southern California Association of Governments (SCAG), the City of Costa Mesa had a population of 109,260 within approximately 39,946 households in 2010. The population described in the 2008 SCAG Population Forecast of 109,100 reflects unsubstantial growth compared to the 2010 City population of 109,960. When compared to the projected growth for the year 2020 of 113,700, which indicates considerable growth potential for population in the City of Costa Mesa, there remains substantial room for population growth without exceeding current projections established by SCAG.

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*.

#### 4.7.5 References

California Department of Finance. 2013. *E-5 Population and Housing Estimates for Cities, Counties, and the State—January 1, 2011–2013*. Sacramento, California, May.

Costa Mesa Development Services Department Planning Division. 2013. *Draft Housing Element*, May. <http://www.costamesaca.gov/ftp/planningcommission/agenda/2013/2013-05-28/VI.2.pdf> (accessed October 22, 2013).

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[http://www.scag.ca.gov/Housing/pdfs/rhna/RHNA\\_FinalAllocationPlan071207.pdf](http://www.scag.ca.gov/Housing/pdfs/rhna/RHNA_FinalAllocationPlan071207.pdf) (accessed 10/22/2010).

———. 2011. *City of Costa Mesa Profile Report*, May.

<http://scag.ca.gov/resources/pdfs/2011LP/Orange/CostaMesa.pdf> (accessed October 23, 2013).

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<http://www.scag.ca.gov/forecast/index.htm> (accessed 10/22/ 2010).

## 4.8 PUBLIC SERVICES

This section of the EIR analyzes the potential environmental effects on public services from implementation of the proposed project. For purposes of this EIR, the public service analysis is divided into five subsections: (1) fire protection and emergency response, (2) police protection, (3) schools, (4) parks, and (5) libraries. No comment letters addressing public services were received in response to the notice of preparation (NOP) circulated for the proposed project.

### Fire Protection and Emergency Response

This section of the EIR describes fire protection and emergency response services within the City of Costa Mesa and analyzes the potential physical environmental effects related to fire protection and emergency response created by construction of new or additional facilities associated with implementation of the proposed project.

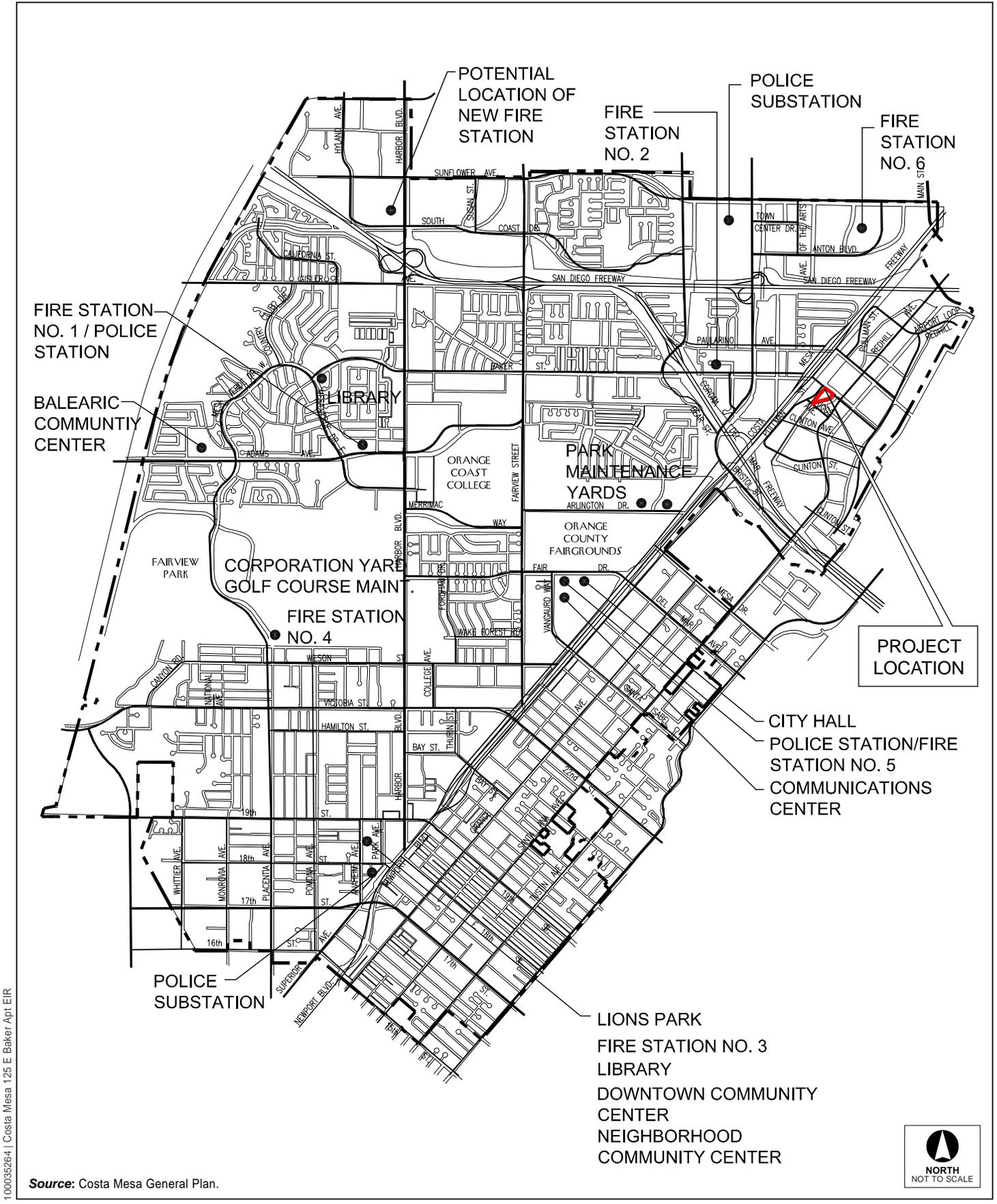
Data for this section were taken from City of Costa Mesa General Plan, and various other sources. Full reference-list entries for all cited materials are provided in Section 4.8.5 (References).

#### 4.8.1 Environmental Setting

The Costa Mesa Fire Department (CMFD) provides fire protection and emergency medical services to the City, which include fire prevention and suppression, paramedic, emergency medical, and hazardous materials management/environmental safety. The CMFD is comprised of three divisions: Administration; Suppression/Mobile Intensive Care (Emergency Medical Services); and Fire Prevention. There are four paramedic engine companies, two truck companies, an urban search and rescue squad, and a Battalion Chief on duty 24 hours a day, seven days a week. These fire personnel respond from six fire stations strategically located within the City (Costa Mesa 2013). The closest station to the project is the Baker Station, located at 800 Baker Street, approximately 0.7 mile to the northwest. Depending on the nature, size, and location of the alarm, units from multiple stations will respond. According to the GPEIR page 4.11-4, the goal of the CMFD is to respond to fire alarms and emergencies within five minutes, 80 percent of the time. Figure 4.8-1 (Location of City Public Facilities [Fire and Police Stations and Libraries]) illustrates the location of the fire stations within the City.

Additional staff is available to the City, as needed, through mutual aid and automatic aid agreements with Orange County and other cities including, Santa Ana, Newport Beach, Fountain Valley, and Irvine. The City receives and provides staffing assistance from and to other fire agencies on a countywide and statewide basis through the Office of Emergency Services when a large fire or disaster occurs.

Criteria for evaluating acceptable levels of service and for determining the thresholds of significance associated with service levels are based on CMFD criteria. According to the City's General Plan Safety Element, the City of Costa Mesa is able to maintain low, base fire insurance rates, as established by ISO Commercial Risk Services, Inc. These rates are on a scale of one to ten with protection class one affording the best rates. Ratings are based essentially on the capability of the Fire Department to deliver needed quantities of water to building fires in a timely fashion. Factors considered in the rating include



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Source: Costa Mesa General Plan.



Figure 4.8-1  
Location of City Public Facilities (Fire and Police Stations and Libraries)

required fire flow for buildings; available water supplies; fire station locations; fire equipment and personnel; fire inspection programs; firefighter training programs; and fire communications systems. Costa Mesa has achieved and maintains a protection class two, which affords residents and business owners excellent base fire insurance rates.

## **4.8.2 Regulatory Framework**

### **■ Federal**

#### ***Federal Emergency Management Agency***

In March 2003, the Federal Emergency Management Agency (FEMA) became part of the U.S. Department of Homeland Security. FEMA's continuing mission is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any major national incident. FEMA also initiates mitigation activities, trains first responders, and manages the National Flood Insurance Program and the U.S. Fire Administration.

#### ***Disaster Mitigation Act of 2000***

In 2000, the Disaster Mitigation Act amended the Robert T. Stafford Disaster Relief Act of 1988. Among other things, this new legislation reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide by controlling and streamlining the administration of federal disaster relief and developing programs that promote hazard mitigation activities. Among the Act's major provisions:

- Funding for pre-disaster mitigation activities
- Developing experimental multi-hazard maps to better understand risk
- Establishing state and local government infrastructure mitigation planning requirements
- Defining how states can assume more responsibility in managing the Hazard Mitigation Grant Program (HMGP)
- Adjusting ways in which management costs for projects are funded

The mitigation planning provisions outlined in Section 322 of the Act establish performance-based standards for mitigation plans. The Act further requires states to provide for a public assistance program (Advance Infrastructure Mitigation [AIM]) to develop County government plans. Counties which fail to develop an infrastructure mitigation plan, risk significant reduction in federal government assistance for repair/replacement of damaged facilities if that facility has been damaged on more than one occasion during the preceding 10-year period by a similar event.

#### ***Uniform Fire Code***

The Uniform Fire Code includes specialized technical fire and life safety regulations which apply to the construction and maintenance of buildings and land uses. 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 fire

responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings.

## ■ State

### ***California Fire Code (Title 24, Part 9, California Code of Regulations)***

The California Fire Code is Part 9 of the California Code of Regulations (CCR), Title 24, and is also referred to as the California Building Standards Code (CBSC). The California Fire Code combines the Uniform Fire Code with amendments necessary to address California's unique needs. The CBSC includes regulations which are consistent with nationally recognized standards of good practice, intended to facilitate protection of life and property. Among other things, its regulations address the mitigation of the hazards of fire explosion, management and control of the storage, handling and use of hazardous materials and devices, mitigation of conditions considered hazardous to life or property in the use or occupancy of buildings and provisions to assist emergency response personnel.

### ***California Health and Safety Code***

State fire regulations set forth in California Health and Safety Code Sections 13000 et seq. address building standards, fire protection and notification systems, provision of fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

### ***California Emergency Management Agency (Cal EMA)***

The Cal EMA was established as part of the Governor's Office on January 1, 2009, and created by Assembly Bill (AB) 38, which merged the duties, powers, purposes, and responsibilities of the former Governor's Office of Emergency Services with those of the Governor's Office of Homeland Security.

Cal EMA is responsible for the coordination of overall state agency response to major disasters in support of local government. The Agency is responsible for assuring the state's readiness to respond to and recover from all hazards—natural, manmade, war-caused emergencies and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

### ***California Code of Regulations, Title 19***

CCR Title 19, Chapters 1 through 6, establishes regulations related to emergency response and preparedness.

## ■ Local

### ***City of Costa Mesa Municipal Code***

#### **Fire Code**

The California Fire Code, discussed above under "State" regulations, is adopted by the City under Costa Mesa Municipal Code Chapter 17.14.

## City of Costa Mesa General Plan

The City of Costa Mesa General Plan is concerned with identifying, maintaining, and enhancing fire protection services. Applicable goals and policies of the General Plan include the following:

- Goal LU-3** *Socio-Economic Considerations.* It is the goal of the City of Costa Mesa to respond to the needs of its citizens for housing, public services, community facilities, and safety of persons and property, to the extent possible within budgetary constraints, and when deemed appropriate for local governmental involvement.
- Objective LU-3A** Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.
- Policy LU-3A.3** Establish a development impact fee program to fund additional fire and police personnel, facilities, and equipment to meet the demands of additional growth in the City.
- Policy LU-3A.4** Require appropriate site and environmental analysis for future fire and police station site locations or for the relocation or closure of existing fire and police facilities.

### 4.8.3 Impacts and Mitigation Measures

#### ■ 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 CMFD has established objectives for response times for emergency and non-emergency events. The following analysis considers the potential impacts of the proposed 240 residential units uses on the CMFD's objective of responding within 5 minutes to an emergency call, 80 percent of the time. The CMFD's response time could be affected by inadequate staffing levels caused by increases in demands.

#### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on fire protection and emergency response if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response

## ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to fire protection services.

## ■ Project Impacts and Mitigation

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency response?
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**Impact 4.8-1**      **Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or in the need for new or physically altered fire 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 fire protection and emergency response. This would be a *less-than-significant* impact.**

The Costa Mesa Fire Department (CMFD) provides fire protection and emergency medical services to the City, which include fire prevention and suppression, paramedic, emergency medical, and hazardous materials management/environmental safety. The CMFD is comprised of three divisions: Administration; Suppression/Mobile Intensive Care (Emergency Medical Services); and Fire Prevention. There are four paramedic engine companies, two truck companies, an urban search and rescue squad, and a Battalion Chief on duty 24-hours a day, seven days a week. These fire personnel respond from six fire stations strategically located within the City. Depending on the nature, size, and location of the alarm, units from multiple stations will respond. According to the GPEIR page 4.11-4, the goal of the Costa Mesa Fire Department is to respond to fire alarms and emergencies within five minutes, 80 percent of the time.

The project does not propose new or physically altered fire protection facilities. The project consists of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-level parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces. The total density for the proposed 240-unit project is 57.7 dwelling units per acre; therefore, project implementation would result in an increase of 240 dwelling units that include approximately with a resultant increase in the demand for fire protection services. However, because the project proposes infill redevelopment that is similar to the existing uses, project implementation is not anticipated to increase CMFD response times to the project site or surrounding vicinity, or require construction of new or physically altered fire protection facilities. The project's design would be subject to compliance with 2010 California Fire Code requirements, and all amendments, including the provision of fire sprinkler systems throughout buildings, as specified in CMMC Title 7 (Fire Protection and Prevention). The development would also be subject to compliance with the fire provisions specified in the 2010 California Building Code and all incorporated amendments, and the 2009 International Fire

Code. Additionally, the project would be subject to compliance with the Standard Conditions specified below, in order to enhance fire protection measures. The project plans would be reviewed and approved by the Costa Mesa Building and Fire Departments, which would ensure adequate emergency access, fire hydrant availability, and compliance with all applicable codes and standards. Additionally, the following Standard Conditions would apply:

Standard Conditions

- The final master plan for development of the Project site shall provide sufficient capacity for fire flows required by the City of Costa Mesa Fire Department.
- Vehicular access shall be provided and maintained serviceable throughout construction to all required fire hydrants.
- Prior to the issuance of a Building Permit, the City of Costa Mesa Fire Department shall review and approve the developer's Project design features to assess compliance with the California Building Code and California Fire Code. Fire staff shall examine the projected demands of the proposed Project and make recommendations to ensure that adequate personnel/resources will be available to meet projected demand. Recommendations of the study shall be implemented to the satisfaction of the Fire Department to ensure that emergency response impacts are minimized to below a level of significance.
- The Project shall provide approved smoke detectors to be installed in accordance with the 2007 Edition of the Uniform Fire Code.
- The Project shall provide fire extinguishers with a minimum rating of 2A to be located within 75 feet of travel distance from all areas. Extinguishers may be of a type rated 2A, 10BC as these extinguishers are suitable for all types of fires and are less expensive.
- The Project shall provide an automatic fire sprinkler system according to NFPA 13 R.
- The Project shall provide a fire alarm system.
- The Project shall provide individual numeric signage for proposed residences with minimum 6 inches height.

The quantity of water required for fire protection (i.e., fire flows) varies and is dependent upon many factors that are specific to each particular building, such as the floor area, type of construction, expected occupancy, type of activities conducted within the building, and the distance to adjacent buildings. All development plans are reviewed by the CMFD prior to construction to ensure that adequate fire flows would be maintained and that an adequate number of fire hydrants would be provided in the appropriate locations in compliance with the California Fire Code. Adequate fire flows would be required by law prior to construction and the proposed project will be equipped with water distribution infrastructure. Compliance with the City's discretionary review process and CMMC requirements would ensure that project implementation would result in a less than significant impact to fire protection services. As such, impacts associated with the provision of fire protection services are considered *less-than-significant* and no mitigation is required.

## 4.8.4 Cumulative Impacts—Fire Protection and Emergency Response

As additional development occurs in the City, there may be an overall increase in the demand for fire protection services, including personnel, equipment, and/or facilities. The provision of adequate fire protection services is of critical importance to the City, and funds are allocated to these services during annual monitoring and budgeting processes to ensure that fire protection services are responsive to changes in the City. Funds collected in the form of increased on-going property tax revenues and one-time plan check fees are deposited into the General Fund and allocated (in part) to City services, such as fire protection services. In addition, staffing levels are evaluated by the CMFD during the annual budgetary process, and personnel are hired, as needed, to ensure that adequate fire protection services are provided. The cumulative impact, therefore, on fire services in the City would be less than significant, as new development in the City results in increased general fund revenues that are used, in part, to maintain existing service levels for public services. In addition, the incremental effect of the proposed project on this impact would not be cumulatively considerable as (1) the project site is anticipated to be served within the established response times and distances for the CMFD, while providing adequate fire flows, (2) adequate staffing levels exist to serve the proposed project and (3) no new or physically altered fire facilities would need to be constructed to accommodate the proposed project. Therefore, the cumulative impact of the project on fire protection services would be *less than significant*.

## 4.8.5 References

- Costa Mesa, City of. 1974. City of Costa Mesa Municipal Code, January 1974.
- . 2002a. City of Costa Mesa 2000 General Plan, adopted January 2002.
- . 2002b. City of Costa Mesa 2000 General Plan Environmental Impact Report. Final EIR No. 1051, January.
- . Website, Costa Mesa Fire Department, <http://www.costamesaca.gov>, Accessed on October 22, 2013.

## **Police Protection**

This section of the EIR describes police protection services within the City of Costa Mesa and analyzes the potential physical environmental effects related to police protection created by construction of new or additional facilities associated with implementation of the proposed project.

Data for this section were taken from City of Costa Mesa General Plan, and various other sources. Full reference-list entries for all cited materials are provided in Section 4.8.10 (References).

### **4.8.6 Environmental Setting**

The City of Costa Mesa Police Department (CMPD) is responsible for maintaining the social order within prescribed ethical and constitutional restrictions through the enforcement of local, State and Federal laws. The completion of this mission involves crime prevention, field patrol (ground and air), crime investigation, apprehension of offenders, traffic enforcement and control, regulation of noncriminal activity, and the performance of a number of related and support services.

The CMPD provides police protection services to the City from their headquarters located at 99 Fair Drive. The CMPD is composed of three divisions: Administration; Field Operations; and Support Services. The CMPD is comprised of 196 fulltime positions, of which 130 are sworn officers and 66 are civilians, with various part-time positions to aid throughout the organization (Costa Mesa 2013). The Department also maintains three substations: one located in the South Coast Plaza complex, the Westside Substation located at 567 West 18<sup>th</sup> Street, and a small office in Fire Station No. 3 located 2803 Royal Palm (see Figure 4.8-1). An elevated heliport is located at the Police Facility in the Civic Center complex from which the Department operates three helicopters in conjunction with A.B.L.E. (Airborne Law Enforcement), a joint powers authority with the cities of Costa Mesa and Newport Beach to provide law enforcement helicopter patrol and related services.

The City's existing police protection service ratio is 852 officers per person, based on the City's existing 2012 population of 110,757 persons. The CMPD's standard response time goals are as follows:

- Five minutes or less for emergency calls, 85 percent of the time
- Fifteen minutes or less for non-emergency class, 85 percent of the time
- Thirty minutes or less for report calls, 85 percent of the time

### **4.8.7 Regulatory Framework**

#### **■ Federal**

There are no federal regulations related to police protection services applicable to the proposed project.

#### **■ State**

There are no State regulations related to police protection services applicable to the proposed project.

## ■ Local

### **City of Costa Mesa General Plan**

The City of Costa Mesa General Plan is concerned with identifying, maintaining, and enhancing fire protection services. Applicable goals and policies of the General Plan include the following:

**Goal CD-14** *Public Safety through Design.* Create a safe place to live, work, and play for Costa Mesa residents.

**Objective CD-14** Incorporate public safety considerations into community design.

## **4.8.8 Impacts and Mitigation Measures**

### ■ Analytic Method

The CMPD does not have any standard criteria for assessing the significance of impacts to service levels, or emergency response times. Alternatively, impacts on police protection services are considered significant if an increase in population or building area would result in inadequate staffing levels (as measured by the ability of the CMPD to respond to call loads) and/or increased demand for police services that would require the construction or expansion of new or altered police protection facilities.

### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on police protection if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection

### ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to fire protection services.

## ■ Project Impacts and Mitigation

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection?
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**Impact 4.8-2**      **Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, or in the need for new or physically altered police 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. This would be a *less-than-significant* impact.**

The project does not propose new or physically altered police protection facilities. The project consists of a five-story 240-unit residential apartment building (63 feet overall height) that wraps around a six-level parking structure (57 feet overall height) with 465 parking spaces in the structure and four outdoor on-grade parking spaces. The total density for the proposed 240-unit project is 57.7 dwelling units per acre; however, because the project proposes infill development that is similar to the existing uses, project implementation is not anticipated to increase CMPD response times to the project site or surrounding vicinity, or require construction of new or physically altered police protection facilities. The project would be subject to compliance with standard conditions of approval in order to enhance police protection services. Also, the project plans would be reviewed and approved by the Costa Mesa Building and Police Departments, which would ensure adequate safety and crime prevention measures are provided. Additionally, the following Standard Conditions would apply:

### Standard Conditions

- As final building plans are submitted to the City of Costa Mesa for review and approval, the Costa Mesa Police Department shall review all plans for the purpose of ensuring that design requirements are incorporated into the building design to increase safety and avoid unsafe conditions. These measures focus on security measures are recommended by the Police Department, including but not limited to, the following:
- Lighting shall be provided in open areas and parking lots.
- Required building address numbers shall be readily apparent from the street and rooftop building identification shall be readily apparent from police helicopters for emergency response agencies.
- Prior to the issuance of a grading permit, the City of Costa Mesa Police Department shall review and approve the developer's project design features to ensure adequate security measures are incorporated into the project design and that sufficient personnel/resources are available to meet the demands of the proposed project. Any requirements with regard to additional resources shall be completed by the Developer and shall be implemented to the satisfaction of the Police Chief to ensure that emergency response impacts are minimized to below a level of significance.

Compliance with the City’s discretionary review process would ensure that project implementation would result in the need to construct new or expand existing police facilities, and therefore; this impact is considered *less than significant*, and no mitigation is required.

### 4.8.9 Cumulative Impacts—Police Protection

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection?
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As with fire protection services, as additional development occurs in the City, there may be an overall increase in the demand for police protection services, including personnel, equipment, and/or facilities. As with fire protection service, the provision of adequate police protection services is of critical importance to the City, and funds are allocated to these services during annual monitoring and budgeting processes to ensure that police protection services are responsive to changes in the City. Funds collected in the form of increased on-going property tax revenues and one-time plan check fees are deposited into the General Fund and allocated (in part) to City services, such as police protection services. In addition, staffing levels are evaluated by the CMPD during the annual budgetary process, and personnel are hired, as needed, to ensure that adequate police protection services are provided. The cumulative impact, therefore, on police services in the City would be less than significant, as new development in the City results in increased general fund revenues that are used, in part, to maintain existing service levels for public services. In addition, the incremental effect of the proposed project on this impact would not be cumulatively considerable as (1) the project site is anticipated to be served within the established response times and distances for the CMPD, (2) adequate staffing levels exist to serve the proposed project and (3) no new or physically altered police facilities would need to be constructed to accommodate the proposed project. Therefore, the cumulative impact of the project on police protection services would be *less than significant*.

### 4.8.10 References

Costa Mesa, City of. 1974. City of Costa Mesa Municipal Code, January 1974.

———. 2002a. City of Costa Mesa 2000 General Plan, adopted January 2002.

———. 2002b. City of Costa Mesa 2000 General Plan Environmental Impact Report. Final EIR No. 1051, January.

———. Website, Costa Mesa Fire Department, <http://www.costamesaca.gov>, Accessed on October 22, 2013.

## Schools

This section of the EIR describes school services within the City of Costa Mesa and analyzes the potential physical environmental effects related to schools created by construction of new or additional facilities associated with implementation of the proposed project.

Data for this section were taken from Newport Mesa Unified School District (NMUSD) and the Santa Ana Unified School District (SAUSD). Full reference-list entries for all cited materials are provided in Section 4.8.15 (References).

### 4.8.11 Environmental Setting

The City of Costa Mesa is located in two school districts, the NMUSD and the SAUSD, with the majority of the City served by the NMUSD. However, the SAUSD serves the airport industrial area, which includes the area of the proposed project. SAUSD currently operates thirty-six elementary schools, nine intermediate schools, seven high schools, five alternative high schools, and eight special schools/programs.

The location of each school is illustrated on Figure 4.8-2 (Location of SAUSD Schools). The current enrollment of each school serving the project site is listed in Table 4.8-1 (Capacity and Enrollment of Schools).

<b>Table 4.8-1 Capacity and Enrollment of Schools</b>					
<i>School</i>	<i>Location</i>	<i>Grades</i>	<i>Capacity</i>	<i>Current Enrollment (2013)</i>	<i>% of Capacity</i>
Monroe Elementary School	417 E Central Ave Santa Ana, CA 92707	K-5	566	484	81.0%
McFadden Intermediate	2701 S Raitt Santa Ana, CA 92704	6-8	1,014	1,411	139.1%
Century High School	1401 S Grand Ave Santa Ana, CA 92705	9-12	2,155	1,942	90.1%

SOURCE: Santa Ana Unified School District, *Santa Ana Unified School District Facilities Master Plan* (January), <http://www.sausd.us/page/1130>.

According to the SAUSD Facilities Master Plan—January 2013 Update, school enrollment for all schools in the District peaked in 2007 and has since experienced a significant decline (Figure 4.8-3 [Annual Enrollment Change]). The District’s 10-year enrollment projection shows future enrollment as slightly declining or remaining essentially level (Figure 4.8-4 [Ten-Year Enrollment Projection Scenario A]). Table 4.8-1 shows that there is a modest surplus capacity at Monroe Elementary and Century High School, while McFadden Intermediate School has exceeded its capacity limits. However, these capacity estimates are based on the existence of both permanent classrooms and portable classrooms. Portable classrooms were added to SAUSD schools in order to meet a rapidly growing student population that peaked in 2007. These portable classrooms were placed on areas of the school grounds used for play areas and other open space. Therefore, while there are some modest capacity surpluses in terms of classroom space, and while enrollment levels are not projected to reach 2007 levels, these schools are still overcrowded from an overall school site standard.

## 4.8.12 Regulatory Framework

### ■ Federal

There are no federal education regulations applicable to the proposed project.

### ■ State

#### ***California State Assembly Bill 2926 (AB 2926)—School Facilities Act of 1986***

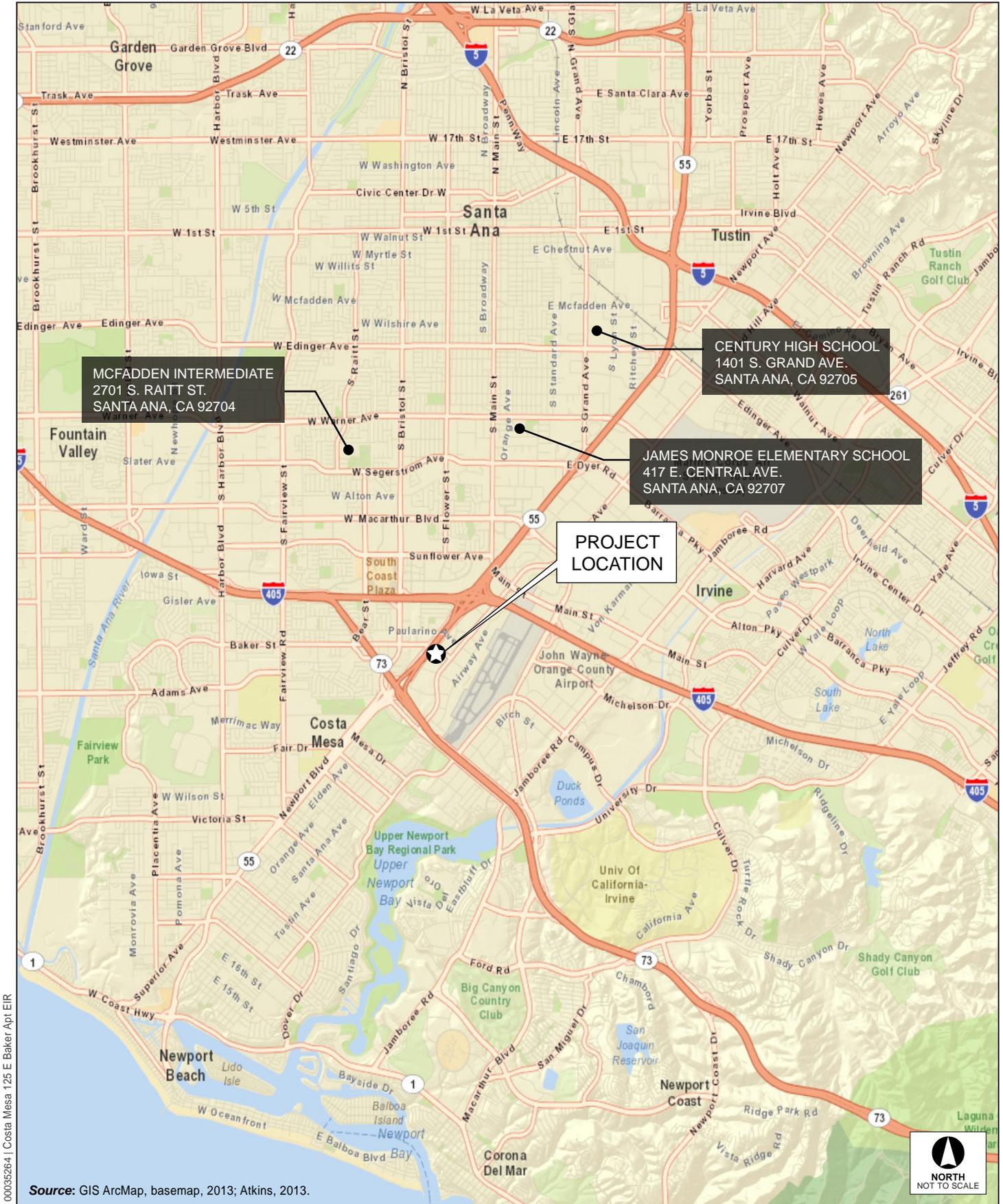
AB 2926 was passed in 1986 and is known as the School Facilities Act. The Act authorizes imposition and collection of school facilities fees assessed against new construction by local districts to generate revenue for capital acquisitions and improvements. It also established that the maximum fees (adjustable for inflation) which may be collected under this and any other school fee authorization program.

#### ***California Senate Bill 50 (SB 50—Leroy Green School Facilities Program [1998])***

Proposition 1A/Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) is a school construction measure that was approved by the voters on the November 3, 1998, ballot. The passage of SB 50 defined the Needs Analysis process in Government Code Sections 65995.5 to 65998. 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. Under the terms of this statute, payment of statutory fees by developers fully mitigates the impacts of development on school facilities for purposes of CEQA. The fees (referred to as 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 Proposition 1A (approved by the voters in 1998) 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 only Level Two fees, as calculated according to SB 50. Under this statute, payment of statutory fees by developers would serve as total CEQA mitigation to satisfy the impact of development on school facilities.

### ■ Local

There are no local education regulations applicable to the proposed project.

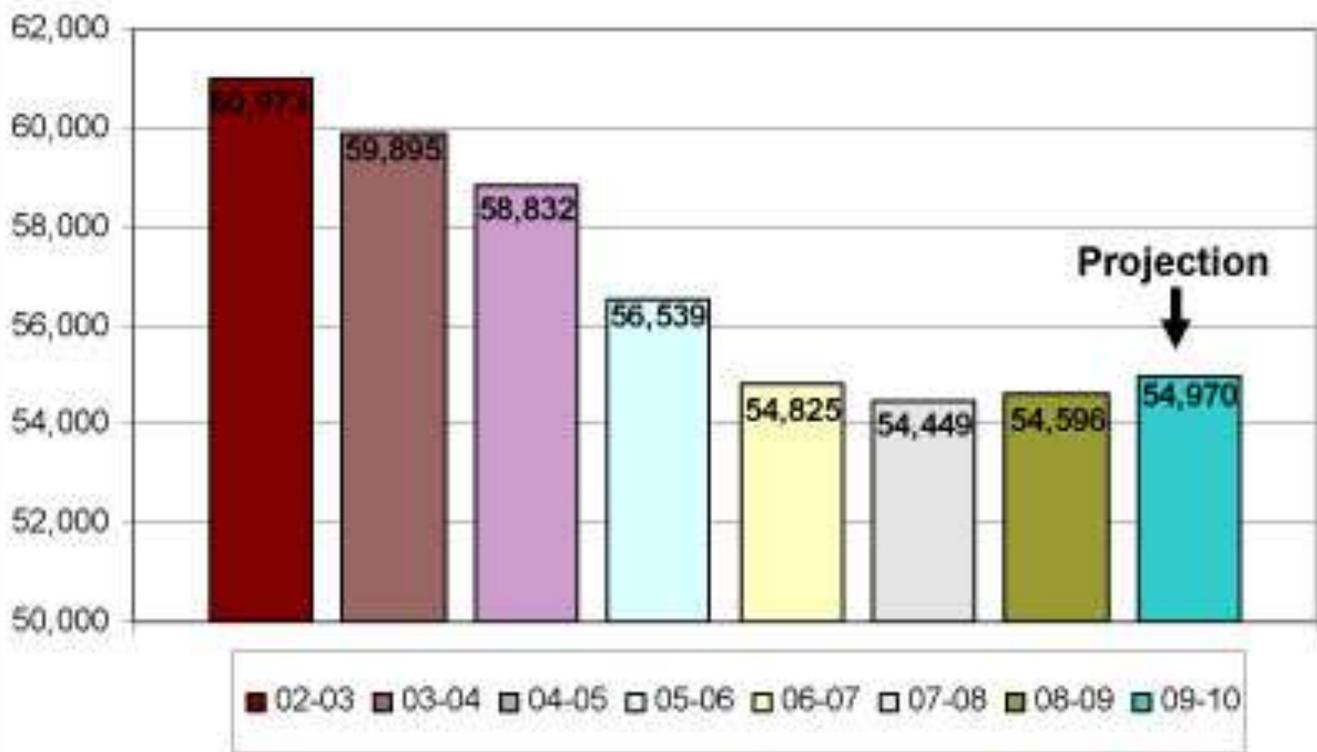


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Source: GIS ArcMap, basemap, 2013; Atkins, 2013.

Figure 4.8-2  
Location of SAUSD Schools

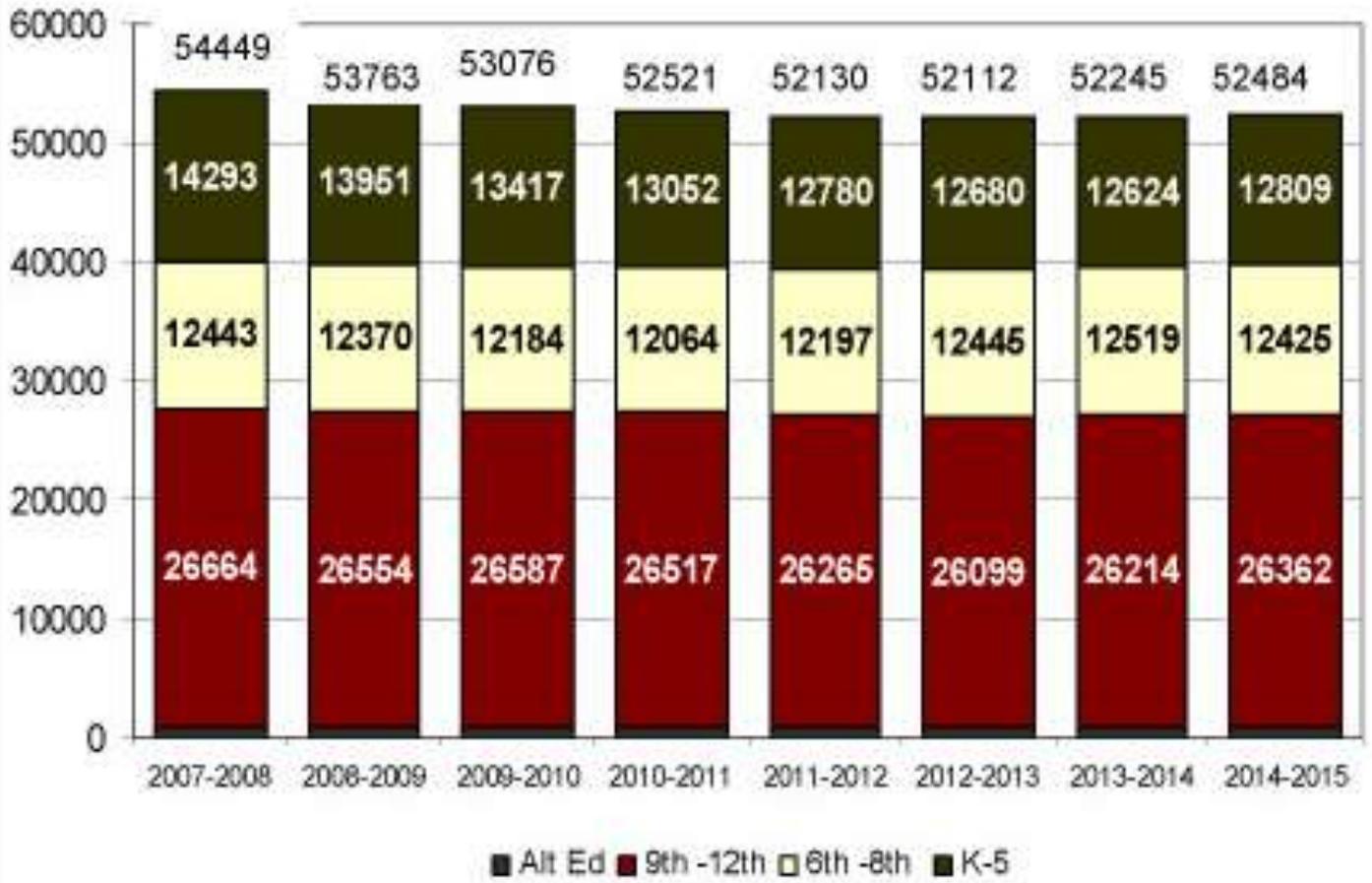




Source: SAUSD Comprehensive Facilities Master Plan—January 2013 Update.

Figure 4.8-3  
Annual Enrollment Change





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Source: SAUSD Comprehensive Facilities Master Plan—January 2013 Update.

Figure 4.8-4  
Ten-Year Enrollment Projection Scenario A



## 4.8.13 Impacts and Mitigation Measures

### ■ 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 the state Department of Education Development Fee, which was enacted to provide for school facilities construction, improvements, and expansion. The operational analysis focuses upon the number of new residents that would result from the proposed project.

### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on schools if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools

### ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to school services.

### ■ Project Impacts and Mitigation

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?
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**Impact 4.8-3**      **Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or in the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools. This would be a *less-than-significant* impact.**

It is noted that the type of residential uses for the proposed project are typically marketed to homeowners who do not have minor children and therefore would have no need for school services. While the proposed development would not preclude families with children, it is likely that this "new type of urban housing" would appeal to a niche market of young urban professionals, recent college graduates formerly residing with their parents, or single first-time homeowners. The demand of

moderately-priced, contemporary housing for this niche market could be satisfied by the proposed live/work development. Therefore, the following analysis is based on student generation factors for traditional residences and may not necessarily address this new type of urban housing.

To determine impacts SAUSD uses the student generation rates (SGRs). These rates are based on units built over the past five years, which should be comparable to units to be constructed in the future. Table 4.8-2 (Student Generation Rates by Housing Type) shows the SGRs used for SAUSD.

Housing Type	School Level		
	Elementary School	Middle School	High School
Single-Family Detached Units	0.4863	0.1922	0.3255
Single-Family Attached (Condo And Town Homes)	0.0124	0.0034	0.0045
Multifamily	0.0055	0.0010	0.0020
Multifamily Attached	0.0076	0.0017	0.0028

The project consists of a five-story 240-unit residential apartment building. The total density for the proposed 240-unit project is 57.7 dwelling units per acre. As such, the proposed project is anticipated to result in an increase of approximately 1.32 elementary school student, 0.24 middle school students, 0.48 high school students. As the Project is anticipated to generate a nominal increase in the student population, it is anticipated that the SAUSD schools would have the capacity to accommodate these students and construction of new or physically altered school facilities would not be required.

Assembly Bill 2926 (AB 2926) passed in 1986 allows school districts to collect impact fees from developers of new residential and commercial/industrial building space. Senate Bill 50 (SB 50) and Proposition 1A, both of which passed in 1998, provided a comprehensive school facilities financing and reform program. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate, and reinstate the school facility fee cap for legislative actions (e.g., General Plan amendments, specific plan adoption, zoning plan amendments). According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation.”

The SAUSD collects \$2.63 per square foot of residential uses from developers. The Project Applicant would be subject to payment of this development fee pursuant to standard conditions of approval, which would fully mitigate any potential impact to SAUSD school facilities. Therefore, this impact is considered *less than significant*, and no mitigation is required.

Standard Conditions

- Prior to issuance of building permits, the Developer shall pay a school impact fee.

## 4.8.14 Cumulative Impacts—Schools

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?
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Increases in residential and nonresidential development throughout the City would generate additional demand for public school classroom seating capacity in SAUSD schools. The SAUSD has experienced, and may continue to experience, a shortfall of classroom capacity. The degree to which this demand would be satisfied is dependent upon future enrollment trends. However, per AB 2926, all new private sector development will be required to pay statutory impact fees to the SAUSD to help fund construction of additional classroom capacity, and under current law, payment of these fees is deemed to constitute full mitigation under CEQA. For this reason, cumulative impacts throughout the SAUSD would be less than significant. Also, because an applicant would be required to pay the impact fees to the SAUSD, which mitigates all project-related school impacts, the contribution of the proposed project would be less than cumulatively considerable, and, therefore, the cumulative impact of the proposed project on school facility capacity would be considered to be a *less-than-significant* impact.

## 4.8.15 References

Newport Mesa Unified School District. School Locator.

[http://web.nmusd.us/cms/page\\_view?d=x&piid=&vpid=1223740746931](http://web.nmusd.us/cms/page_view?d=x&piid=&vpid=1223740746931) (accessed July 25, 2013).

Santa Ana Unified School District (SAUSD). 2013. Welcome. <http://www.sausd.k12.ca.us> (accessed October 22, 2013).

———. *Santa Ana Unified School District Facilities Master Plan*, January. <http://www.sausd.us/page/1130>.

## Parks

This section of the EIR describes park services within the City of Costa Mesa and analyzes the potential physical environmental effects related to parks created by construction of new or additional facilities associated with implementation of the proposed project.

Data for this section were taken from City of Costa Mesa Open Space Element. Full reference-list entries for all cited materials are provided in Section 4.8.20 (References).

### 4.8.16 Environmental Setting

Costa Mesa’s inventory of open space and recreation opportunities includes a diversity of facilities, ranging from highly developed, active recreation sites to low activity, passive open spaces. The existing network of open space and recreation facilities is illustrated in Figure 4.8-5 (Parks, Recreation, and Open Space Inventory) and inventoried in Table 4.8-3 (Open Space Inventory).

<b>Table 4.8-3 Parks, Recreation, and Open Space Inventory</b>	
<i>Park</i>	<i>Acres</i>
<b>Open Space and Park Sites</b>	
Brentwood	1.45
Canyon	35
Civic Center Park	2.49
Civic Center	9.48
Community Garden	0.5
Del Mesa	2.46
Estancia	10
Fairview	Developed: 11 Undeveloped: 200
Farm Sports Park	18
Gisler	3.15
Harper	1
Heller	2.61
Lindbergh	1
Lions	12.61
Marina View	2.29
Mesa Verde	2.66
Paularino	2.23
Pinkley	2.58
Smallwood	3.38
Shalimar	0.16

<i>Park</i>	<i>Acres</i>
Shiffer	6.72
Moon	1.2
Suburbia II	0.6
Tanager	7.42
TeWinkle	44.67
Maple Street Park	0.5
Vista	6.02
Wakeham	9.91
Willard T. Jordan	2.48
Wilson	3.45
Wimbledon	3.36
Balearic (Community Center)	9.97
<b>Total</b>	<b>420.35</b>

SOURCE: City of Costa Mesa, *City of Costa Mesa General Plan, Open Space and Recreation Element* (January 2002).

Residents of the proposed project will most likely use Del Mesa Park, located approximately 0.5 mile to the north. The 4-acre park includes picnic tables, playground, volleyball, and basketball facilities.

## 4.8.17 Regulatory Framework

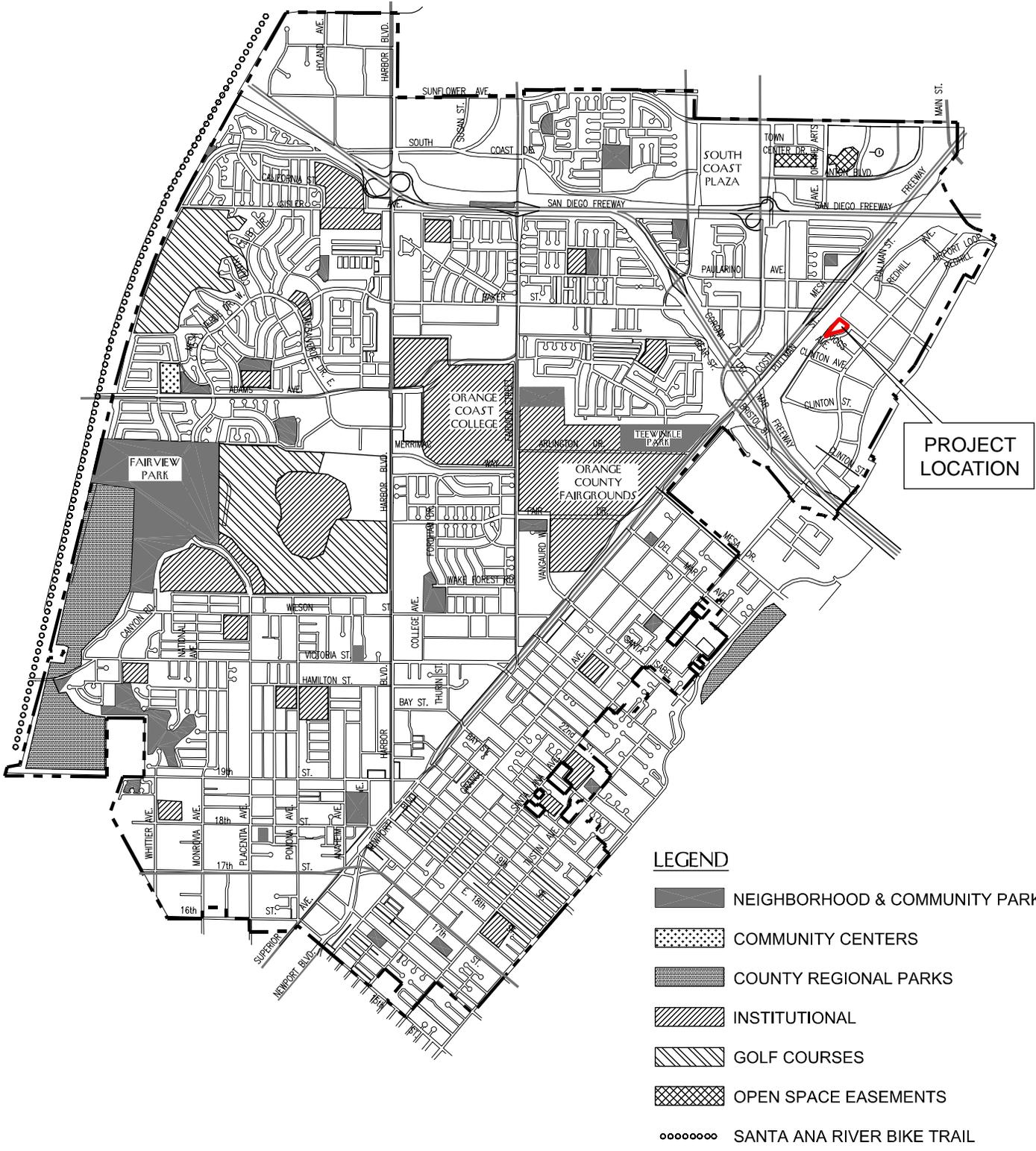
### ■ Federal

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.



Source: City of Santa Ana Transit Zoning Code (SD 84A and SD 84B) EIR.

Figure 4.8-5  
Parks, Recreation, and Open Space Inventory

## **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**

### **City of Costa Mesa General Plan**

The City of Costa Mesa General Plan Open Space and Recreation Element includes the following goals and policies that are relevant to the analysis:

**Goal OSR-1** *Environmental Quality and Resource Conservation.* It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the development of recreation resources, and the preservation of open space.

**Objective OSR-1A** Preserve the City's open space lands and provide additional community and neighborhood parkland in conjunction with future population increases to provide adequate recreational opportunities and relief from the pressures of urban development.

**Policy OSR-1A.1** Provide a minimum of 5.76 acres of permanent public open space (consisting of 4.26 acres of neighborhood and community parks and 1.5 acres in school yards) for every 1,000 residents.

**Policy OSR-1A.5** Encourage, through development rights transfers or other incentives, the development of private permanent open space, and recreation facilities to meet the needs of the City's residents.

**Policy OSR-1A.8** Continue to require, through development standards, the integration of open space and recreational uses and facilities into all multiple-family residential projects.

### **City of Costa Mesa Municipal Code Title 13, Chapter XI, Article 5 (Park and Recreation Dedications)**

The City's standard for permanent public open space is 5.76 acres per 1,000 residents. City Municipal Code Section 13-251 states, "Every residential subdivider who creates a subdivision shall be required to dedicate a portion of the land, pay a fee in lieu thereof, or do a combination of both, as established in this article for the purpose of providing park and recreational facilities to serve future residents of the subdivision." Chapter XI, Article 5, establishes the development impact fees for residential development

in lieu of land dedication. CMMC Section 13-256 (Amount of Fee in Lieu of Land Dedication) specifies that “where there is no public park or recreation facility required within the proposed subdivision, or where the subdivision contains fifty (50) lots or fewer, the subdivider shall pay a fee in lieu of land dedication reflecting the value of land required for park and recreation purposes, in accordance with the schedule of fees as adopted by resolution of the City Council.”

## 4.8.18 Impacts and Mitigation Measures

### ■ 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.

### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on parks if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks

### ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to parks.

### ■ Project Impacts and Mitigation

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks?
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**Impact 4.8-4**      **Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, or in the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks. This would be a *less-than-significant* impact.**

The proposed project will result in the addition of approximately 346 residents to the project site. Residents of the proposed project will most likely use Del Mesa Park, located approximately 0.5 mile to the north. The 4-acre park includes picnic tables, playground, volleyball, and basketball facilities.

The addition of 346 residents may place additional demands on the programming capability at Del Mesa Park. However, the proposed project would provide approximately 66,050 sf of common open space and on-site amenities, which include recreation areas, a pool, and a clubhouse, and would alleviate demands on Del Mesa Park and other parks. Based upon an anticipated population of 346 residents, the proposed project would generate the need for 1.47 acres of parkland. The proposed project includes construction of a pool, clubhouse and fitness facility on site, as well as, sports courts.

Although no tract map is proposed for this development, CMMC Title 13, Chapter XI, Article 5 (Park and Recreation Dedications), establishes procedures for requiring park and recreational facilities in conjunction with residential subdivisions. More specifically, CMMC Section 13-256 (Amount of Fee in Lieu of Land Dedication) specifies that “where there is no public park or recreation facility required within the proposed subdivision, or where the subdivision contains fifty (50) lots or fewer, the subdivider shall pay a fee in lieu of land dedication reflecting the value of land required for park and recreation purposes, in accordance with the schedule of fees as adopted by resolution of the City Council.”

According to the City of Costa Mesa Parkland Impact Fee Schedule, the current fee per multi-family dwelling unit is \$13,829. As permitted by CMMC Section 13-256 and in compliance with the identified Standard Condition 4.14-11, the Applicant would pay this Parkland Impact Fee in lieu of dedication of parkland.

#### Standard Conditions

- If a tract map is proposed for this project, the Developer shall pay a park impact fee or dedicate parkland to meet the demands of the proposed development. The current park impact fee is calculated at \$13,829 per new multi-family dwelling unit.

Compliance with CMMC Title 13, Chapter XI, Article 5, would ensure that Project implementation would result in a less than significant impact involving parkland demand. This impact is considered *less than significant*, and no mitigation is required.

### 4.8.19 Cumulative Impacts—Parks

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks?
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Project development, in combination with other cumulative residential development within the City of Costa Mesa, 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 and Recreation Element of the City’s General Plan establishes a parkland demand factor of 5.76 acres per 1,000 residents. This standard could be provided through park fees, land dedication, or a combination of both as described in CMMC Title 13, Chapter XI, Article 5 (Park and Recreation

Dedications). 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 CMMC) 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*.

#### 4.8.20 References

Costa Mesa, City of. 1974. *City of Costa Mesa Municipal Code*, January 1974.

———. 2002a. *City of Costa Mesa 2000 General Plan*, adopted January 2002.

———. 2002b. *City of Costa Mesa 2000 General Plan Environmental Impact Report*. Final EIR No. 1051, January.

## 4.9 TRANSPORTATION/TRAFFIC

This section of the EIR analyzes the potential environmental effects on transportation/traffic from implementation of the proposed project. No comment letters addressing transportation/traffic were received in response to the notice of preparation (NOP) circulated for the proposed project.

Data for this section were taken from the Revised Traffic Impact Analysis Report prepared by Linscott Law and Greenspan (LLG) in September 2013, and the Parking Study prepared by LLG in October 2013. These reports are provided as Appendix E to this EIR. Full reference-list entries for all cited materials are provided in Section 4.9.5 (References).

### 4.9.1 Environmental Setting

#### ■ Existing Roadway Network

The principal local network of streets that serves the project site includes Baker Street, Red Hill Avenue, Pullman Street, and Briggs Avenue. The following discussion provides a brief synopsis of these key area streets, based on an inventory of existing roadway conditions (LLG 2013):

- **Baker Street** is generally a four-lane, divided roadway oriented in the east/west direction. Baker Street borders the project site to the north. The posted speed limit on Baker Street is 40 miles per hour (mph). On-street parking is not permitted along this roadway in the vicinity of the project. Traffic signals control the study intersections of Baker Street at State Route 55 (SR-55) southbound (SB) ramps, SR-55 northbound (NB) ramps, and Red Hill Avenue while a one-way stop controls the study intersection of Baker Street at Pullman Street. Baker Street is classified as a Major Arterial in the City of Costa Mesa Circulation Element.
- **Red Hill Avenue** is generally a four-lane, divided roadway, oriented in the north/south direction. The posted speed limit on Red Hill Avenue is 50 mph. On-street parking is not permitted along this roadway in the vicinity of the project. A one-way stop controls the study intersection of Red Hill Avenue at Briggs Avenue. Red Hill Avenue is classified as a Major Arterial in the City of Costa Mesa Circulation Element.
- **Pullman Street** is a two-lane, undivided roadway that borders the project site to the east. Pullman Street is oriented in the north/south direction. The posted speed limit on Pullman Street is 40 mph. On-street parking is permitted along this roadway in the vicinity of the project. A one-way stop controls the study intersection of Pullman Street at Briggs Avenue. Pullman Street is classified as a Secondary Roadway in the City of Costa Mesa Circulation Element.
- **Briggs Avenue** is a two-lane, undivided roadway, oriented in the east/west direction. On-street parking is permitted along this roadway in the vicinity of the project site. Briggs Avenue is classified as a Secondary Roadway in the City of Costa Mesa Circulation Element.

#### ■ Traffic Level of Service

Level of service (LOS) is a relative measure of roadway network performance. For signalized intersections, LOS is based on the intersection's intersection capacity utilization (ICU) value. The ICU value is the sum of the critical volume to capacity ratios at an intersection. The six qualitative categories

of LOS are defined along with the corresponding ICU value range in Table 4.9-1 (Level of Service Criteria for Signalized Intersections). For unsignalized intersections, LOS is based on the Highway Capacity Manual (HCM) methodology, which is based on average control delay measured in seconds per vehicle. The six LOS qualitative categories and corresponding HCM control delay value range are shown in Table 4.9-2 (Level of Service Criteria for Unsignalized Intersections). The HCM also defines LOS categories based on delay for signalized intersections, which are applicable to state-controlled intersections. These LOS categories are shown in Table 4.9-3 (HCM Level of Service Criteria for Signalized Intersections).

**Table 4.9-1 Level of Service Criteria for Signalized Intersections**

LOS	Intersection Capacity Utilization (ICU) Value	Level of Service Description
A	≤ 0.600	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.601–0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701–0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801–0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901–1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

SOURCE: Linscott Law & Greenspan Engineers, *Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (September 2013).

**Table 4.9-2 Level of Service Criteria for Unsignalized Intersections**

LOS	Highway Capacity Manual Delay Value (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

SOURCE: Linscott Law & Greenspan Engineers, *Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (September 2013).

**Table 4.9-3 HCM Level of Service Criteria for Signalized Intersections**

LOS	Highway Capacity Manual Delay Value (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 20.0	Short traffic delays
C	> 20.0 and ≤ 35.0	Average traffic delays
D	> 35.0 and ≤ 55.0	Long traffic delays
E	> 55.0 and ≤ 80.0	Very long traffic delays
F	> 80.0	Severe congestion

SOURCE: Linscott Law & Greenspan Engineers, Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California (September 2013).

### ■ Existing Traffic Volumes and Level of Service

The study area for transportation and traffic related impacts for the proposed project focuses on six key study area intersections that provide both regional and local access to the area surrounding the project site. These intersections will carry the bulk of project traffic and as such, analysis of these intersections will demonstrate the relative impacts of the project on the area circulation network. The location of these intersections and existing traffic volumes are shown in Figure 4.9-1 (Traffic Study Area and Existing Conditions). These intersections consist of the following:

1. SR-55 Southbound Ramps at Baker Street (Signalized)
2. SR-55 Northbound Ramps at Baker Street (Signalized)
3. Pullman Street at Baker Street (Unsignalized)
4. Red Hill Avenue at Baker Street (Signalized)
5. Pullman Street at Briggs Avenue (Unsignalized)
6. Red Hill Avenue at Briggs Avenue (Unsignalized)

Table 4.9-4 (Existing Peak Hour Intersection Capacity Analysis) summarizes the existing peak hour service level calculations for the six key study intersections based on existing traffic volumes and current street geometrics. As shown in Table 4.9-4, five of the six key study intersections currently operate at acceptable service levels (LOS D or better) during the AM and PM peak hour. One intersection, Pullman Street at Baker Street, currently operates at LOS F during the PM peak hour.

### ■ Existing Trip Generation

The project site is currently developed with a general office building that is currently 74 percent occupied. The existing land use generates approximately 506 daily trips, with 57 trips (53 inbound, 4 outbound) produced in the AM peak hour and 57 trips (22 inbound, 35 outbound) produced in the PM peak hour.

**Table 4.9-4 Existing Peak Hour Intersection Capacity Analysis**

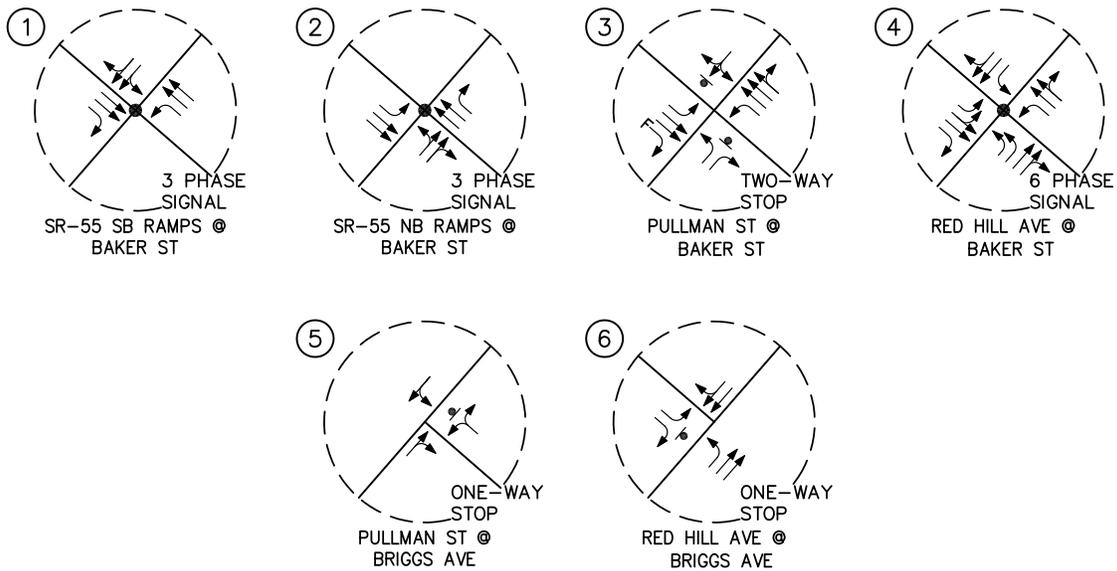
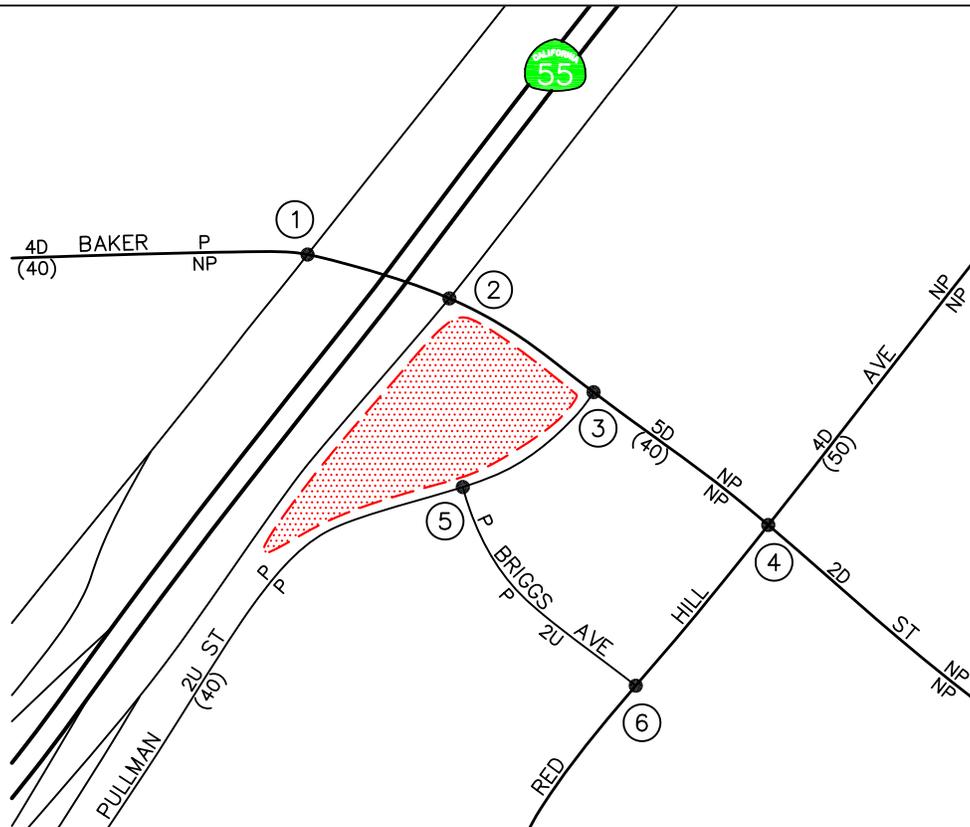
<i>Intersection</i>	<i>Time Period</i>	<i>Jurisdiction</i>	<i>Control Type</i>	<i>ICU/HCM</i>	<i>LOS</i>
1. SR-55 SB Ramps at Baker St	AM	Costa Mesa/Caltrans	Three-Phase Signal	0.672	B
	PM			0.678	B
2. SR-55 NB Ramps at Baker St	AM	Costa Mesa/Caltrans	Three-Phase Signal	0.730	C
	PM			0.726	C
3. Pullman St at Baker St	AM	City of Costa Mesa	One-Way Stop	33.5 s/v	D
	PM			<b>133.3 s/v</b>	<b>F</b>
4. Red Hill Ave at Baker St	AM	City of Costa Mesa	Six-Phase Signal	0.453	A
	PM			0.619	B
5. Pullman St at Briggs Avenue	AM	City of Costa Mesa	One-Way Stop	9.6 s/v	A
	PM			10.7 s/v	B
6. Red Hill Ave at Briggs Avenue	AM	City of Costa Mesa	One-Way Stop	17.9 s/v	C
	PM			19.4 s/v	C

SOURCE: Linscott Law & Greenspan Engineers, *Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (September 2013).  
s/v = seconds per vehicle

## Existing Alternative Transportation Facilities

The project site is not currently served by a bicycle lane or sidewalk. No bicycle lanes are provided on Pullman Street or Baker Street in the vicinity of the proposed project. A sidewalk is provided on the north side of Baker Street, but no sidewalk exists on Baker Street adjacent to the project site or on Pullman Street. A pedestrian crossing is provided west of the project site at the Baker Street/SR-55 NB Ramps intersection to provide access for eastbound pedestrians to the sidewalk on the north side of Baker Street. Baker Street is identified in the City’s Master Bikeway Plan to provide a Class II bike lane adjacent to the project site (Costa Mesa 2002), but a bike lane is not included in the current configuration.

The project area is serviced by Orange County Transportation Authority Bus Routes 71 and 464. Route 71 provides a local connection between Newport Beach and Yorba Linda. The route runs along Red Hill Avenue in the project area. The nearest stop is provided at the intersection of Red Hill Avenue and Bristol Street, approximately 0.7 mile west of the project site. Route 464 is intended to connect riders to the Metrolink Rail system and includes service from Costa Mesa to the Santa Ana Depot. The nearest station to the project site is located at the intersections of Paularino Avenue and Manistee Drive, approximately 0.2 mile north of the project site.



- KEY**
- ← = APPROACH LANE ASSIGNMENT
  - = TRAFFIC SIGNAL, ◻ = STOP SIGN
  - P = PARKING, NP = NO PARKING
  - U = UNDIVIDED, D = DIVIDED
  - 2 = NUMBER OF TRAVEL LANES
  - (XX) = POSTED SPEED LIMIT (MPH)
  - F = FREE RIGHT
  - [Red Hatched Box] = PROJECT SITE



100035264 | Costa Mesa 125 E Baker Apt EIR

Source: Linscott Law & Greenspan, 2013.

Figure 4.9-1  
Traffic Study Area and Existing Conditions



## 4.9.2 Regulatory Framework

### ■ State

#### ***Statewide Transportation Improvement Program***

The California 2010 Statewide Transportation Improvement Program (STIP), approved by the U.S. Department of Transportation in October 2009, is a multi-year, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes, metropolitan plans, and CFR Title 23. The STIP is prepared by the California Department of Transportation (Caltrans) in cooperation with the metropolitan planning organizations and the regional transportation planning agencies. The STIP contains all capital and non-capital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and CFR Title 23, including federally funded projects.

#### ***Congestion Management Program***

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a congestion management program (CMP). The purpose of the management program is to monitor the performance of the region's transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. A CMP has been prepared for Orange County, as described below.

### ■ Regional

#### ***Orange County Congestion Management Program***

The Orange County CMP includes an established Highway System (CMPHS), which consists of principle local arterials, Super Streets, and State Highways. In the City of Costa Mesa, Adams Avenue (west of Harbor Drive), Harbor Drive, and Newport Avenue (south of SR-55) are on the County CMPHS. A minimum operating LOS E is required on CMP facilities, unless the facility was operating at a worse level when the baseline counts were conducted in 1991. Cities are required to maintain LOS E or better (or baseline levels, if worse than LOS E) on the CMPHS.

An important aspect of the CMP regulations is the requirement that new developments mitigate any significant traffic impacts to the CMPHS. This means that cities need to develop a review process whereby the traffic impacts of new projects are evaluated and impacts mitigated. This serves to ensure that the LOS standards on the CMPHS are maintained. In addition, the CMP contains requirements such as a Capital Improvement Program (CIP) submittal, a trip reduction program (TDM), and the need for inter-jurisdictional coordination (Costa Mesa 2002).

### ■ Local

#### ***Costa Mesa General Plan Circulation Element***

The Circulation Element of the City's General Plan contains the City's overall transportation plan. The Circulation Element identifies and establishes the City's policies governing the system of roadways,

intersections, bike paths, pedestrian ways, and other components of the circulation system, which collectively provide for the movement of persons and goods throughout the City. Circulation Element Policy CIR-1A.12 establishes LOS D as the City's minimum acceptable LOS for intersections.

### **Costa Mesa Municipal Code: Title 13, Chapter VI (Off-Street Parking Standards)**

City of Costa Mesa Municipal Code Section 13-85 establishes the required parking standards for residential uses as follows:

- Studio units—1 covered space, 0.5 open space and 0.5 guest space
- One-bedroom units—1 covered space, 1.0 open space and 0.5 guest space
- Two-bedroom units—1 covered space, 1.5 open space and 0.5 guest space
- Three-bedroom units—1 covered space, 2.5 open space and 0.5 guest space
- Open parking can be reduced by 0.25 space per unit for one-bedroom and larger units if the covered parking is provided within either a carport or a parking structure.
- Guest parking may be reduced to 0.25 space per unit for each unit above 50 in a large residential development.

## **4.9.3 Impacts and Mitigation Measures**

### **■ Analytic Method**

The analysis of traffic LOS standards was prepared by LLG (2013) in conformance with the City of Costa Mesa and Orange County CMP requirements. Existing AM and PM peak hour operating conditions for the six study intersections were evaluated using the ICU methodology for signalized intersections and the methodology outlined in HCM Chapter 17 for unsignalized intersections. In order to estimate the traffic impact characteristics of the proposed project, LLG determined trip generation based on vehicle trip generation equations; trip distribution based on demographics and existing and expected travel patterns; and traffic assignment, which involves the allocation of project traffic to the study area streets and intersections. LOS for conditions with and without the project are compared to determine whether an impact would occur. The trip generation potential of the proposed Project has been estimated using the average rates for Institute of Transportation Engineers (ITE) Land Use 220: Apartments category. A detailed description of the method of analysis is provided in the Revised Traffic Impact Analysis Report (Appendix D).

### **■ Thresholds of Significance**

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on transportation/traffic if it would do any of the following:

- 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.

Per the City of Costa Mesa guidelines, LOS D is the minimum acceptable level of service that should be maintained during the weekday AM peak hour and weekday PM peak hour. The project would result in a significant impact if the following criteria are met:

- > For Signalized Intersections: (1) the ICU value under “with project” conditions is 0.91 or greater (LOS E or F) and (2) the ICU increase attributable to the project is 0.01 or greater.
- > For Unsignalized Intersections: (1) the intersection LOS under “with project” conditions is LOS E or F and (2) the project would result in an increase in delay.

For state-controlled study intersections, LOS D is the target level of service standard, based on guidance from Caltrans.

- 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
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities
- Result in inadequate parking capacity

## ■ Effects Not Found to Be Significant

The proposed project would not result an increase in air traffic. Additionally, the maximum project building height of 65 feet would be well below the applicable obstruction imaginary surface for John Wayne Airport (200 feet) and the project would not require any change in the location of air traffic (Orange County ALUC 2008). Implementation of the proposed project would have *no impact* related to air traffic, and no further analysis of this issue is required in this EIR.

## ■ Project Impacts and Mitigation

Threshold	Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and 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?
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**Impact 4.9-1**      **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. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a *less-than-significant* level.**

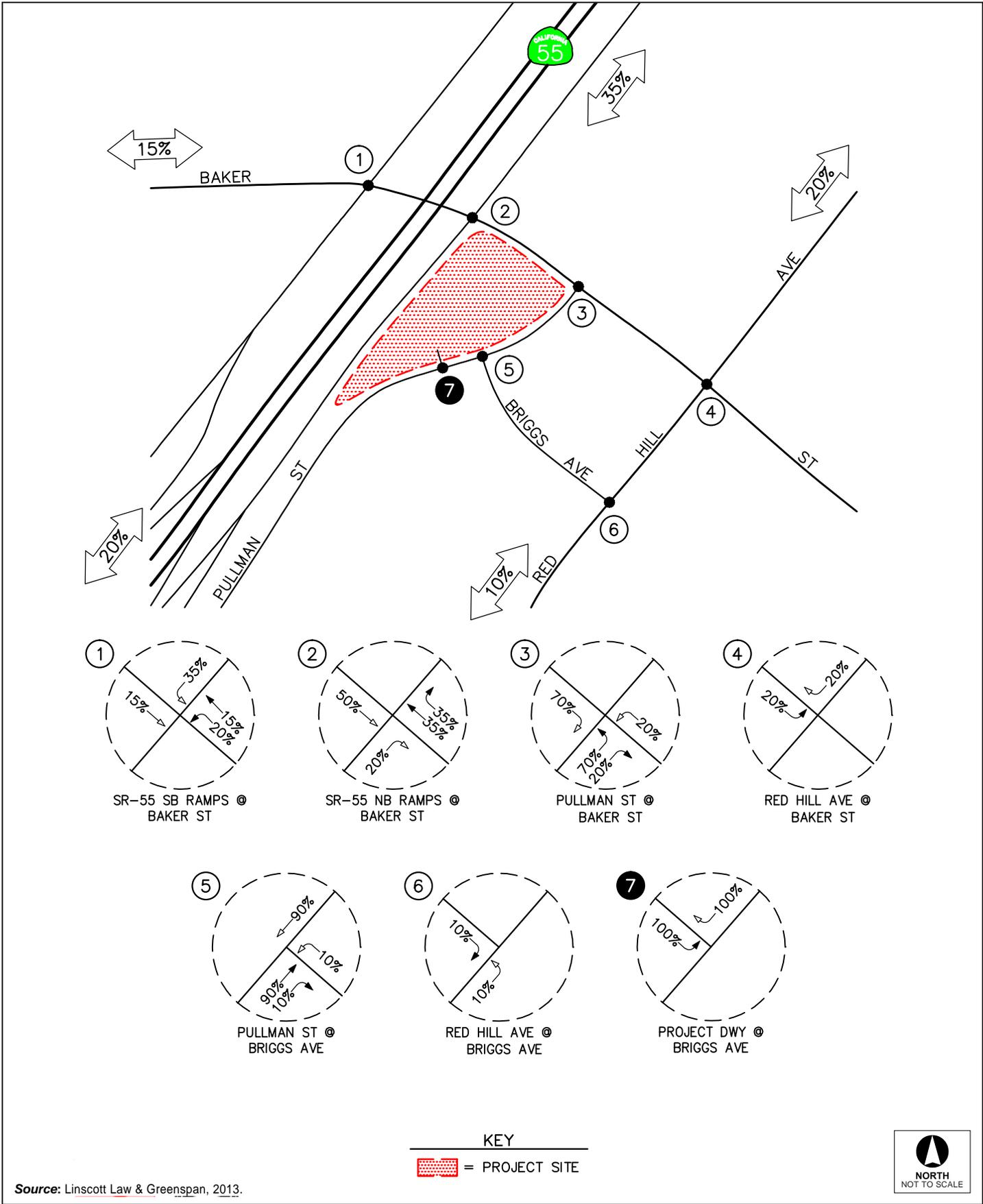
The applicable guidelines for determining the performance of the area roadway network are the City’s and Caltrans’ LOS guidelines. The City and Caltrans consider LOS D and above to be acceptable for network performance. The project’s impact on LOS in the project area is addressed below. The potential of the project to affect mass transit and non-motorized travel is addressed under Impact 4.9-5. However, a circulation network that operates at an acceptable LOS would encourage more effective mass transit and non-motorized circulation by reducing congestion that may hinder transit movement or result in a hazard to non-motorized travelers.

### Project Traffic Generation

As previously described, the existing office building on the project site generates approximately 506 daily trips, with 57 trips (53 inbound, 4 outbound) produced in the AM peak hour and 57 trips (22 inbound, 35 outbound) produced in the PM peak hour. Therefore, the project’s impact on the circulation network would result from the project’s net increase in daily and peak hour trips, rather than total trips. Table 4.9-5 (Project Traffic Generation Forecast) summarizes the trip distribution for the proposed project compared to the existing office building. The project is forecast to result in 1,090 additional daily trips, 65 additional AM peak hour trips and 92 additional PM peak hour trips. The project’s anticipated traffic distribution pattern is provided in Figure 4.9-2 (Project Trip Distribution Pattern).

Land Use	Daily Two-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project (240 dwelling units)	1,569	24	98	<b>122</b>	96	53	<b>149</b>
Existing General Office Building (62,000 square feet with 74% occupancy)	-506	-53	-4	<b>-57</b>	-22	-35	<b>-57</b>
<b>Project Net Trip Increase</b>	<b>1,090</b>	<b>-29</b>	<b>94</b>	<b>65</b>	<b>74</b>	<b>18</b>	<b>92</b>

SOURCE: Linscott Law & Greenspan Engineers, *Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (September 2013).



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Figure 4.9-2  
 Project Trip Distribution Pattern



The following scenarios evaluate the proposed project’s impact on the area circulation network based on intersection LOS at the six area intersections. AM and PM Peak Hour traffic volumes for each of the three scenarios are provided in Figures 5-5 and 5-6 (Existing Plus Project); Figures 6-1, 6-2, 6-3, and 6-4 (Year 2016); and Figures 6-5, 6-6, 6-7, and 6-8 (General Plan Buildout) of the Revised Traffic Impact Analysis Report (Appendix D). The LOS associated with these traffic volumes and the proposed project’s impact in each scenario are summarized below.

## City of Costa Mesa Circulation Network

### Existing Plus Project Scenario

An existing plus project scenario is included for informational purposes to compare traffic volumes and distribution that would result from the proposed project to the existing baseline circulation network performance. This scenario is conservative and does not represent the actual anticipated impact of the proposed project. Additional growth and development would occur in the City prior to project operation, which would affect the project’s impact relative to conditions that would occur without the proposed project.

Table 4.9-6 (Existing Plus Project Peak Hour Intersection LOS Analysis) summarizes the peak hour LOS results at the six study intersections for existing plus project traffic conditions. As shown in Table 4.9-6, one intersection would operate at a deficient LOS without implementation of the proposed project: Pullman Street at Baker Street (PM Peak Hour). Traffic associated with the proposed project would significantly impact this intersection because the proposed project would cause the intersection to operate at a LOS F during the AM Peak Hour and would increase delay during the PM Peak hour. The remaining five study intersections currently operate and are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of project generated traffic.

<b>Table 4.9-6 Existing Plus Project Peak Hour Intersection LOS Analysis</b>							
Key Intersection	Time Period	Existing Traffic Conditions		Existing+Project Traffic Conditions		Increase	Significant Impact?
		ICU/HCM Delay	LOS	ICU/HCM Delay	LOS		
1. SR-55 SB Ramps at Baker St	AM	0.672	B	0.675	B	0.003	No
	PM	0.678	B	0.679	B	0.001	No
2. SR-55 NB Ramps at Baker St	AM	0.730	C	0.731	C	0.001	No
	PM	0.726	C	0.733	C	0.007	No
3. Pullman St at Baker St	AM	33.5 s/v	D	<b>71.8 s/v</b>	<b>F</b>	<b>38.3 s/v</b>	<b>Yes</b>
	PM	<b>133.3 s/v</b>	<b>F</b>	<b>201.0 s/v</b>	<b>F</b>	<b>67.7 s/v</b>	<b>Yes</b>
4. Red Hill Ave at Baker St	AM	0.453	A	0.457	A	0.004	No
	PM	0.619	B	0.626	B	0.007	No
5. Pullman St at Briggs Ave	AM	9.6 s/v	A	10.6 s/v	B	1.0 s/v	No
	PM	10.7 s/v	B	11.9 s/v	B	1.2 s/v	No
6. Red Hill Ave at Briggs Ave	AM	17.9 s/v	C	14.4 s/v	B	-3.5 s/v	No
	PM	19.4 s/v	C	19.7 s/v	C	0.3 s/v	No

SOURCE: Linscott Law & Greenspan Engineers, Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California (September 2013).

s/v = seconds per vehicle

## Year 2016 Scenario

The Year 2016 scenario evaluates the project’s potential impact on the area circulation network at the time the project is projected to be fully operational. Based on an assumed ambient traffic volume growth rate of one percent per year, the Year 2016 cumulative traffic volumes were calculated using three percent growth from the existing (2013) traffic volumes.

Table 4.9-7 (Year 2016 Peak Hour Intersection LOS Analysis) summarizes the peak hour LOS results at the six study intersections for the Year 2016 scenario. As shown in Table 4.9-7, the Pullman Street/Baker Street intersection would operate at a deficient LOS during the AM and PM peak hour in Year 2016 without implementation of the proposed project. The proposed project would increase delay at this intersection during both the AM and PM peak hour and would result in a significant impact. The remaining five study intersections are forecast to continue to operate at an acceptable service level during the AM and PM peak hours with the addition of project-generated traffic.

**Table 4.9-7 Year 2016 Peak Hour Intersection LOS Analysis**

Key Intersection	Time Period	Existing Traffic Conditions		Existing+Project Traffic Conditions		Increase	Significant Impact?
		ICU/HCM Delay	LOS	ICU/HCM Delay	LOS		
1. SR-55 SB Ramps at Baker St	AM	0.692	B	0.694	B	0.002	No
	PM	0.698	B	0.700	B	0.002	No
2. SR-55 NB Ramps at Baker St	AM	0.752	C	0.752	C	0.000	No
	PM	0.748	C	0.754	C	0.006	No
3. Pullman St at Baker St	AM	<b>36.3 s/v</b>	<b>E</b>	<b>83.7 s/v</b>	<b>F</b>	<b>47.4 s/v</b>	<b>Yes</b>
	PM	<b>161.2 s/v</b>	<b>F</b>	<b>235.3 s/v</b>	<b>F</b>	<b>74.1 s/v</b>	<b>Yes</b>
4. Red Hill Ave at Baker St	AM	0.467	A	0.471	A	0.004	No
	PM	0.638	B	0.645	B	0.007	No
5. Pullman St at Briggs Ave	AM	9.6 s/v	A	10.7 s/v	B	1.1 s/v	No
	PM	10.8 s/v	B	12.0 s/v	B	1.2 s/v	No
6. Red Hill Ave at Briggs Ave	AM	18.5 s/v	C	14.7 s/v	B	-3.6 s/v	No
	PM	20.3 s/v	C	20.6 s/v	C	0.3 s/v	No

SOURCE: Linscott Law & Greenspan Engineers, *Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California* (September 2013).

s/v = seconds per vehicle

## General Plan Buildout Scenario

The General Plan buildout scenario evaluates the project’s long-term impact on the area circulation network. This scenario includes forecasted traffic volumes for buildout of the land uses designated in the Costa Mesa General Plan. This scenario also assumes the following planned circulation network improvements:

- **SR-55 SB Ramps at Baker Street**—Widen and/or re-stripe to provide an exclusive southbound free right-turn lane. Modify the eastbound approach to provide an exclusive through lane, shared through/right-turn lane and an exclusive right-turn lane. Modify existing traffic signal accordingly to current City of Costa Mesa standards and design requirements.

- **SR-55 NB Ramps at Baker Street**—Widen and/or re-stripe to provide an exclusive northbound left-turn lane, shared left/through lane and shared through/right-turn lane. Modify the eastbound approach to provide dual left-turn lanes. Modify existing traffic signal accordingly to current City of Costa Mesa standards and design requirements.
- **Red Hill Avenue at Baker Street**—Widen and/or re-stripe to provide an additional through lane in the northbound and southbound direction on Red Hill Avenue. Modify existing traffic signal accordingly to current City of Costa Mesa standards and design requirements.

Table 4.9-8 (General Plan Buildout Peak Hour Intersection LOS Analysis) summarizes the peak hour LOS results at the six study intersections for the General Plan Buildout scenario. As shown in Table 4.9-8, two intersections would operate at a deficient level of service under this scenario without project implementation:

1. Pullman Street/Baker Street (AM and PM Peak Hour)
2. Red Hill Avenue/Baker Street (PM Peak Hour)

The proposed project would result in a significant impact to both of the above intersections by increasing delay. The remaining four study intersections are forecast to operate at an acceptable LOS during the AM and PM peak hours for the General Plan Buildout scenario with implementation of the proposed project.

<b>Table 4.9-8 General Plan Buildout Peak Hour Intersection LOS Analysis</b>							
Key Intersection	Time Period	Existing Traffic Conditions		Existing+Project Traffic Conditions		Increase	Significant Impact?
		ICU/HCM Delay	LOS	ICU/HCM Delay	LOS		
1. SR-55 SB Ramps at Baker St	AM	0.672	B	0.675	B	0.003	No
	PM	0.621	B	0.634	B	0.013	No
2. SR-55 NB Ramps at Baker St	AM	0.809	D	0.816	D	0.007	No
	PM	0.695	B	0.700	C	0.005	No
3. Pullman St at Baker St	AM	<b>56.2 s/v</b>	<b>F</b>	<b>181.3 s/v</b>	<b>F</b>	<b>125.1 s/v</b>	<b>Yes</b>
	PM	<b>408.9 s/v</b>	<b>F</b>	<b>531.6 s/v</b>	<b>F</b>	<b>122.7 s/v</b>	<b>Yes</b>
4. Red Hill Ave at Baker St	AM	0.555	A	0.561	A	0.006	No
	PM	<b>0.919</b>	<b>E</b>	<b>0.930</b>	<b>E</b>	<b>0.011</b>	<b>Yes</b>
5. Pullman St at Briggs Ave	AM	9.6 s/v	A	10.7 s/v	B	1.1 s/v	No
	PM	10.8 s/v	B	12.0 s/v	B	1.2 s/v	No
6. Red Hill Ave at Briggs Ave	AM	22.6 s/v	C	17.1 s/v	B	-5.5 s/v	No
	PM	32.2 s/v	C	32.9 s/v	C	0.7 s/v	No

SOURCE: Linscott Law & Greenspan Engineers, Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California (September 2013).

s/v = seconds per vehicle

### State-Controlled Intersections

In conformance with the current Caltrans Guide for the Preparation of Traffic Impact Studies, existing and projected AM and PM peak hour operating conditions at the two state-controlled study intersections were also evaluated against the HCM LOS criteria. These state-controlled locations include the following

intersections: (1) SR-55 SB Ramps at Baker Street and (2) SR-55 NB Ramps at Baker Street. The LOS criteria applicable to this analysis are provided in Table 4.9-3. Table 4.9-9 (State-Controlled Intersection LOS Analysis) summarizes the HCM LOS results for the SR-55 ramps at Baker Street for the Existing Plus Project, Year 2016, and General Plan buildout scenarios. As shown in Table 4.9-9, the proposed project would not result in a significant impact to any intersection under the HCM LOS criteria.

Table 4.9-9 State-Controlled Intersection LOS Analysis							
Key Intersection	Time Period	No Project Condition		With Project Condition		Increase (s/v)	Significant Impact?
		HCM (s/v)	LOS	HCM (s/v)	LOS		
<b>Existing + Project Scenario</b>							
SR-55 SB Ramps at Baker St	AM	28.6	C	28.0	C	-0.6	No
	PM	31.4	C	31.6	C	0.2	No
SR-55 NB Ramps at Baker St	AM	31.1	C	31.2	C	0.1	No
	PM	29.7	C	29.9	C	0.2	No
<b>Year 2016 Scenario</b>							
SR-55 SB Ramps at Baker St	AM	30.0	C	29.3	C	-0.7	No
	PM	33.3	C	33.5	C	0.2	No
SR-55 NB Ramps at Baker St	AM	33.3	C	33.0	C	0.0	No
	PM	30.9	C	31.1	C	0.2	No
<b>General Plan Buildout Scenario</b>							
SR-55 SB Ramps at Baker St	AM	26.1	C	25.4	C	-0.7	No
	PM	24.4	C	24.7	C	0.3	No
SR-55 NB Ramps at Baker St	AM	34.2	C	35.0	C	0.8	No
	PM	25.5	C	25.5	C	0.0	No

SOURCE: Linscott Law & Greenspan Engineers, Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California (September 2013).  
s/v = seconds per vehicle

## Conclusion

The project’s impact to the Pullman Street/Baker Street intersection under the Existing Plus Project, Year 2016, and General Plan Buildout scenarios is considered a significant impact. Additionally, the project’s impact to the Red Hill Avenue/Baker Street intersection under the General Plan Buildout scenario is considered a significant impact. However, implementation of mitigation measures MM4.9-1, MM4.9-2, and MM4.9-3 would reduce the decrease in service to acceptable levels, as shown in Table 4.9-10 (Traffic LOS with Implementation of Mitigation). With implementation of mitigation measure MM4.9-1, the intersection of Pullman Street and Baker Street would operate at an LOS A during both the AM and PM peak periods. With the implementation of mitigation measure MM4.9-2, the Red Hill Avenue and Baker Street intersection would operate at an LOS C during the PM peak period, and impacts would be reduced to *less than significant*.

**MM4.9-1** Pullman Street/Baker Street Intersection. *Prior to issuance of a certificate of occupancy for the proposed project, the project applicant shall install a traffic signal and associated signing modifications*

and pavement legends at the Pullman Street/Baker Street intersection. Intersection design will incorporate the existing driveway that provides access to the 150 Baker Street property per the City of Costa Mesa Design Guidelines and California Manual on Uniform Traffic Control Devices. The applicant will install signal interconnect between Pullman Street/Baker Street traffic signal and existing traffic signals at the Baker Street/Red Hill Avenue and Baker Street/SR-55 NB Ramps intersections. In conjunction with signalization, the project applicant will restripe Baker Street to provide a dedicated eastbound and westbound left-turn lane, and a dedicated eastbound right-turn lane. Crosswalks and ADA compliant ramps will be installed as required by the City.

**MM4.9-2** Red Hill Avenue/Baker Street Intersection. Prior to issuance of a certificate of occupancy for the proposed project, the project applicant will implement the planned improvements at this intersection as identified in the current City of Costa Mesa General Plan, except the project applicant will provide a dedicated southbound right-turn lane, with overlap phasing, in lieu of the planned third southbound shared through/right-turn lane. The applicant will modify the existing traffic signal accordingly to current City of Costa Mesa Standards and Design Guidelines.

**MM4.9-3** Traffic Impact Fees. Prior to issuance of a certificate of occupancy for the proposed project, the project applicant will pay the City's required traffic impact fee, based on the project's net increase in trips. The precise fee required will be determined upon issuance of project building permits.

Intersection	Scenario	Mitigation Measure	Time Period	Condition Without Mitigation		Mitigated Condition	
				ICU/HCM Delay	LOS	ICU/HCM Delay	LOS
Pullman St/Baker St	Existing + Project	MM4.9-1	AM	71.8 s/v	F	0.409a	A
			PM	201.0 s/v	F	0.433a	A
	Year 2016 + Project		AM	83.7 s/v	F	0.419a	A
			PM	235.3 s/v	F	0.445a	A
	General Plan Buildout + Project		AM	181.3 s/v	F	0.475a	A
			PM	531.6 s/v	F	0.511a	A
Red Hill Ave/Baker St	General Plan Buildout + Project	MM4.9-2	PM	0.930	E	0.779	C

SOURCE: Linscott Law & Greenspan Engineers, Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California (September 2013).

s/v = seconds per vehicle

a. Mitigation measure MM4.9-1 consists of signalizing the intersection

Threshold 2 Would the 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?

**Impact 4.9-2** Implementation of the proposed project would not 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. This would be a *less-than-significant* impact.

A traffic impact analysis (LLG 2013) was prepared for the proposed project that is consistent with the requirements and procedures outlined in the current Orange County CMP. 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. The proposed Project is expected to generate 1,569 daily trips, and thus does not meet the criteria required for a CMP traffic analysis. Therefore, the traffic impact analysis concluded that the proposed Project will not have any significant traffic impacts on the Congestion Management Program Highway System. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
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**Impact 4.9-3**      **Implementation of the proposed project would substantially increase hazards due to a design feature. This is considered a potentially significant impact. However, implementation of mitigation would reduce this impact to a less-than-significant level.**

Implementation of the proposed project would have the potential to result in a traffic hazard if the proposed access driveways did not provide a clear line of sight between drivers of vehicles waiting and the project driveway and approaching drivers on the cross street, or if substantial congestion would occur at the driveway. Primary vehicular access to the project site will be provided via one full access driveway with direct access to the parking structure along Pullman Street. This driveway is located in close proximity to an existing driveway that now serves the office building. A secondary driveway located at the southernmost edge of the property would be provided for future tenants and fire access.

**Driveway Congestion**

Table 4.9-11 (Project Driveway Peak Hour Intersection Capacity Analysis) summarizes the intersection LOS at the proposed project driveway along Pullman Street under near-term (Year 2016) and long-term (General Plan Buildout) traffic conditions at completion and full occupancy of the proposed Project. This analysis is conservative and assumed that all vehicles entering and exiting the site during the AM peak hour and PM peak hour would utilize the primary driveway. As shown in Table 4.9-11, the proposed project driveway along Pullman Street is forecast to operate at acceptable LOS B or better during the AM and PM peak hours for near-term (Year 2016) and long-term (General Plan Buildout) traffic conditions. As such, motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion.

Intersection	Time Period	Year 2016 + Project Conditions		General Plan Buildout + Project Conditions	
		HCM	LOS	HCM	LOS
Pullman St/ Main Project Driveway	AM	13.6 s/v	B	13.6 s/v	B
	PM	11.8 s/v	B	11.8 s/v	B

SOURCE: Linscott Law & Greenspan Engineers, Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California (September 2013).

s/v = seconds per vehicle

## Sight Distance Evaluation

The Sight Distance Evaluation prepared for the proposed project was based on the criteria and procedures set forth by Caltrans. Based on a design speed of 40 miles per hour for Pullman Street, a minimum stopping sight distance of 300 feet is required for the proposed project driveways. The site distance evaluation determined that motorist's sight distance may be obstructed by on-street parking and proposed landscaping and hardscape elements along Pullman Street. The stopping sight distance at the primary project driveway on Pullman Street, as proposed, may be insufficient as a result of the combination of proposed landscaping, allowed curbside parking on Pullman Street, and the roadway alignment of Pullman Street.

This is considered a potentially significant impact. However, implementation of mitigation measure MM4.9-4 would reduce this impact to a ***less-than-significant*** level by minimizing potential obstructions within the required line of sight.

**MM4.9-4** *To ensure adequate sight distance is provided at the project driveways, the project driveways and landscaping and/or hardscape on north side of these driveways will be designed such that a driver's clear line of sight is not obstructed and does not threaten vehicular or pedestrian safety, as determined by the City Traffic Engineer. The minimum stopping sight distance will be 300 feet. The following design recommendations will be implemented:*

- *Install stop signs and stop bars at the proposed project driveways on Pullman Street. Install all appropriate striping, signage and/or pavement legends per City of Costa Mesa standards/requirements.*
- *All plants and shrubs within the limited use area (see Figure 4.9-3 [Line of Sight Analysis]) will be of the type that will grow no higher than 30 inches above the curb or have a canopy no lower than 72 inches above curb.*
- *The maximum tree size and minimum tree spacing in the limited use area will be limited to 24-inch caliper tree trunks (maximum size at maturity) spaced at 40 feet on center.*
- *Subject to review and approval by the City Traffic Engineer, prohibit on-street parking on Pullman Street between project driveways and on the north side of the primary project driveway, and restripe Pullman Street to include a dedicated southbound right-turn lane at the primary project driveway with minimum storage of 100 feet be provided. Curbside parking will be restricted for a minimum of 200 feet north of the primary driveway. Parking will be restricted via installation of red curb and appropriate parking restriction signs.*

Threshold	Would the project result in inadequate emergency access?
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**Impact 4.9-4** **Implementation of the proposed project would not result in inadequate emergency access. This would be a *less-than-significant* impact.**

The proposed project would provide two project access driveways on Pullman Street, and an additional emergency fire access drive would be provided off of Baker Street. The proposed structure would be easily accessible to emergency vehicles from Pullman Street and Baker Street. The proposed fire lane would provide emergency access to the portion of the property adjacent to SR-55. Therefore, all areas of the project site would be accessible during an emergency. Project plans would be reviewed by the Costa Mesa Fire Department during design review to confirm access driveways could accommodate emergency

vehicles. Additionally, the proposed project would redevelop a currently developed site and does not propose to remove or add any roadways in the project area. Existing emergency access routes serving the project site and surrounding area would not be affected by the proposed project. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
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**Impact 4.9-5**      **Implementation of the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This would be a *less-than-significant* impact.**

As previously described, the project site is not currently served by a bicycle lane or sidewalk. The project would provide a new sidewalk along the project’s Baker Street frontage and along Pullman Street from Baker Street to the main project driveway. Therefore, the proposed project would not result in any changes to bicycle facilities and would enhance pedestrian facilities in the project area. Additionally, the design features listed in mitigation measure MM4.9-4 would enhance safety for bicyclists that may utilize Pullman Street by providing a clear line of sight at project driveways.

The proposed project would not result in any changes to the existing transit network, or pedestrian and bicycle facilities that provide access to transit stops. The intersection of Red Hill Avenue and Baker Street, which is located on Bus Route 71, would operate at a deficient LOS under the General Plan Buildout scenario with or without project implementation; however, implementation of project mitigation would improve LOS at this intersection to an acceptable level. Performance of this bus route would not be adversely affected by the proposed project.

With implementation of mitigation measure MM4.9-4, the proposed project would enhance pedestrian and bicyclist accessibility and this impact would be considered *less than significant*.

Threshold	Would the project result in inadequate parking capacity?
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**Impact 4.9-6**      **Operation of the proposed project would not result in inadequate parking capacity per City of Costa Mesa Municipal Code. Impacts would be *less than significant*.**

As part of the prior project application (and as approved by the City), the 547-space supply was calculated based solely upon the direct application of the City Code parking ratios for 240 units. By dividing the 547-space requirement by the 240 units proposed, a “blended” ratio of 2.28 spaces per unit is derived. This resultant parking ratio (based strictly on City Code calculation) is conservative, and likely overestimates the potential parking needs of the project.

In addition to City Code ratios, the City has adopted other ratios for residential uses as part of the North Costa Mesa Specific Plan (NCMSP). The NCMSP ratios are as follows:

- Tenants—1.5 to 2.0 parking spaces per unit

- Guests—0.5 parking spaces per unit for the first 50 units, and 0.25 parking spaces for each unit above 50

Applying the NCMSP ratios (presuming 1.5 spaces per unit for tenants) to the proposed 238 units yields a total requirement of 429 spaces. Dividing this 429-space requirement by the 238 units corresponds to a blended ratio of 1.80 spaces per unit, which is significantly less than the blended ratio derived from strict application of standard City Code ratios (2.28 spaces per unit).

Notwithstanding the requirements of City Code, the actual parking requirements for multifamily residential uses have been found to be significantly less than the City's own Code requirement. Table 4.9-12 (Parking Summary) presents a comparison of parking ratios from various sources, and underscores the fact that the ratio of 2.28 spaces per unit derived from the project's prior application is significantly greater than all of the peak parking ratios compiled.

The upper portion of Table 4.9-12 presents nine comparable sites in Costa Mesa, Irvine, Orange, Fullerton, Santa Ana, Monrovia, and Pasadena. This array of peak parking rates yields an average ratio of 1.33 spaces per unit, an 85<sup>th</sup> percentile ratio of 1.47 spaces per unit, and a maximum ratio of 1.75 spaces per unit (based on the 580 Anton Boulevard multifamily residential project in Costa Mesa).

*Parking Generation* (4<sup>th</sup> Edition) published by the Institute of Transportation Engineers (ITE), and *Shared Parking* (2<sup>nd</sup> Edition) published by the Urban Land Institute (ULI), as well as other reference materials for the cities of Ontario and Rancho Cucamonga, San Bernardino County, and Riverside County, provide peak parking ratios for apartment complexes, as summarized in the middle portion of Table 4.9-12. These parking ratios range from 1.20 spaces per unit (average ratio per ITE) to 1.66 spaces per unit (field studies in Ontario and Rancho Cucamonga).

The bottom portion of Table 4.9-12 estimates the project's parking needs based on the application of the average, 85<sup>th</sup> percentile, and maximum parking rates from comparable sites. For the 238 units as now proposed, it is estimated that the average demand would be 317 spaces, the 85<sup>th</sup> percentile demand would be 350 spaces, and the maximum demand would be 417 spaces. Comparing the maximum demand of 417 spaces against the proposed supply of 452 spaces in the structure yields a surplus of 35 spaces.

As indicated previously, dividing the proposed supply of 452 spaces by the 238 units translates to the project's "supply provision" ratio of 1.90 spaces per unit. This ratio exceeds the minimum allowed per the NCMSP (1.80 spaces per unit), the ratio recently approved by the City for the 580 Anton Boulevard project (1.75 spaces per unit), and also the maximum empirical ratio derived from comparable sites (1.48 spaces per unit). Based on these findings, it is concluded that the proposed parking supply is more than sufficient to meet the projected peak parking demand, and this impact would be *less than significant*.

<b>Table 4.9-12 Parking Summary</b>	
<i>Comparable Site</i>	<i>Tenants &amp; Guest Peak Parking Ratio (Spaces per DU)</i>
580 Anton Blvd, Costa Mesa (proposed 250-unit mid-rise residential building)	1.75
Main Street Village, Irvine, 2555 Main St, Irvine	1.42
279-Unit Apartment Complex, Irvine	1.36
403-Unit Apartment Complex, Irvine	1.29
460-Unit Apartment Complex, Orange	1.40
183-Unit Apartment Complex, Fullerton	1.10
250-Unit Apartment Complex, Santa Ana	0.94
Paragon at Old Town, 700 S. Myrtle Ave, Monrovia	1.48
Trio Apartments, 44 N. Madison Ave, Pasadena	1.22
<b>Average</b>	<b>1.33</b>
<b>85<sup>th</sup> Percentile</b>	<b>1.47</b>
<b>Maximum</b>	<b>1.75</b>
<i>Reference</i>	
<b>ITE Parking Generation, 4<sup>th</sup> Edition, Low/Mid-Rise Apartment (Urban)</b>	
<b>Average</b>	<b>1.20</b>
<b>85<sup>th</sup> Percentile</b>	<b>1.61</b>
ULI <i>Shared Parking</i> : Residential (Rental) Units	1.65
Field Studies in Ontario and Rancho Cucamonga	1.58-1.66
American Community Survey (ACS) in Ontario	1.62
Household Surveys in San Bernardino and Riverside	1.45
<b>Parking Calculations Using Empirical Rates Above (238 DUs for 125 Baker Street Apartments)</b>	
<b>Average Demand (1.33 x 238 DUs)</b>	<b>317</b>
<b>85<sup>th</sup> Percentile Demand (1.47 x 238 DUs)</b>	<b>350</b>
<b>Maximum Demand (1.75 x 238 DUs)</b>	<b>417</b>

SOURCE: Linscott Law & Greenspan Engineers, *Parking Study for 125 Baker Street Apartments, Costa Mesa, California* (October 2013).



**STOPPING SIGHT DISTANCE**

DESIGN SPEED LIMIT:	40 MPH
REQUIRED STOPPING SIGHT DISTANCE:	300 FEET

**LEGEND**

 LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 30 INCHES. NO FENCES OR WALLS IN LIMITED USE AREA.

Source: Linscott Law & Greenspan, 2013.



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Figure 4.9-3  
Line of Sight Analysis



## 4.9.4 Cumulative Impacts

Threshold	Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and 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?
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The potential for a cumulative impact to circulation system performance to occur is addressed under Impact 4.9-1 in the General Plan Buildout scenario. This scenario includes buildout of the land uses designated in the Costa Mesa General Plan. As shown in Table 4.9-8, at General Plan buildout, two intersections would operate at a deficient LOS without project implementation:

1. Pullman Street/Baker Street (AM and PM Peak Hour)
2. Red Hill Avenue/Baker Street (PM Peak Hour)

The proposed project would result in a significant impact to both of the above intersections by increasing delay. However, implementation of the mitigation measures MM4.9-1 through MM4.9-3 would improve LOS at these intersections to an acceptable level. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact to the circulation network with implementation of the mitigation measures MM4.9-1 through MM4.9-3.

Threshold	Would the 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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A potential conflict with the CMP would occur if regional growth would exceed the projected CMPHS facilities' capacity. The CMP considers projects that would generate trips totaling more than three percent of CMP system capacity to have the potential to result in a cumulatively considerable impact to CMP system performance (LLG 2013). As discussed under Impact 4.9-2, the proposed project does not meet the CMP criteria for a potential impact to the CMPHS. Therefore, the proposed project would not result in a cumulatively considerable contribution to a potential cumulative impact to the CMP highway system.

Threshold	Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
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Impacts related to traffic hazards are site specific and not cumulative in nature. A dangerous design feature or incompatible use at one project site would generally not result in a hazard at another site. As discussed under Impact 4.9-3, with implementation of mitigation measure MM4.9-4, the proposed project would not result in any traffic hazards. Therefore, a cumulative impact would not occur.

Threshold      Would the project result in inadequate emergency access?

Impacts related to emergency access are site specific and not cumulative in nature. Inadequate emergency access at one site would not affect emergency access at another site. As discussed under Impact 4.9-4, the proposed project design includes adequate emergency access. Therefore, a cumulative impact would not occur.

Threshold      Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

A cumulative impact to alternative transportation would occur if development in the project area would decrease the performance or safety of area transit, pedestrian, or bicycle facilities. There are no cumulative development projects planned within close proximity to the project site (LLG 2013). Additionally, as discussed under Impact 4.9-5, the proposed project would enhance the existing pedestrian network, and would not adversely impact any bicycle facilities or transit routes. Therefore, a cumulative impact would not occur.

Threshold      Would the project result in inadequate parking capacity?

It is anticipated that future development of the cumulative projects and other future development would be required to adhere to Costa Mesa Municipal Code Title 13, Chapter VI (Off-Street Parking Standards), which provide detailed parking requirements and parking standards for residential parking. Plans for future development that would potentially impact parking would be subject to the requirements of CEQA and, as part of standard development procedures, would be submitted to the City for review and approval to ensure that all new development has adequate parking capacity. For this reason, and because such impacts (if and where they occur) are relatively site specific, cumulative impacts associated with parking are *less than significant*.

## 4.9.5 References

- Costa Mesa, City of. 1974. City of Costa Mesa Municipal Code, January 1974.
- . 2002. *City of Costa Mesa 2000 General Plan Environmental Impact Report*, January 22.
- Linscott Law & Greenspan Engineers (LLG). 2013. *Revised Traffic Impact Analysis Report, 125 Baker Street Apartments, Costa Mesa, California*, September.
- . 2013. *Parking Study for 125 Baker Street Apartments Costa Mesa, California*, October.
- Orange County Airport Land Use Commission (OCALUC). 2008. *Land Use Plan for John Wayne Airport*, April 17.
- Orange County Transportation Authority (OCTA). 2013. Schedule for Route 71 and Route 464. <http://www.octa.net/Bus-Transit/Routes-and-Schedules/Overview/> (accessed August 28, 2013).

## 4.10 UTILITIES/SERVICE SYSTEMS

This section of the EIR analyzes the potential environmental effects on utilities/service systems from implementation of the proposed project. For purposes of this EIR, the public service 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 are addressed at the end of each respective subsection. No comment letters addressing utilities/service systems were received in response to the notice of preparation (NOP) circulated for the proposed project.

### Water Supply

This section describes the current status of water supply services in the City of Costa Mesa, including a discussion of local water conservation initiatives and the ability of the City's water supply services to meet the current needs of the City.

Data for this section were taken from the City of Costa Mesa General Plan Conservation Element and the Mesa Consolidated Water District's (Mesa Water) 2010 Urban Water Management Plan (UWMP) (2011). Full reference-list entries for all cited materials are provided in Section 4.10.5 (References).

#### 4.10.1 Environmental Setting

##### ■ Groundwater Basins

The City of Costa Mesa is situated within the Orange County groundwater basin. This basin is situated within the Santa Ana Plain, which encompasses the southern half of the great eastern coastal plain of Southern California that extends 24 miles into Orange County from its northern periphery at the Santa Monica Mountains. This valley, with an average width of approximately 15 miles, is the upper surface of a great deposit of alluvial material which fills a deep depression extending from the foothills of the Santa Ana Mountains to near the coast.

The Orange County Water District (OCWD) is responsible for the protection and management of the Lower Santa Ana Basin which is the only source of groundwater supply. The basin encompasses an area of about 387 square miles in north and central Orange County. The basin is bounded on the north by the Chino-Puente Hills, on the east by the Santa Ana Mountains, and on the south by the San Joaquin Hills and the Pacific Ocean. OCWD monitors 646 active wells within the basin: 225 are large municipal production wells, 200 are small production (mostly agricultural), and 221 are operated solely for water quality monitoring purposes. Under full storage, the basin is estimated to contain 10 million to 40 million acre-feet of fresh water, with about 1 million to 1.2 million acre-feet usable for water supply purposes within the withdrawal capacity of installed wells.

## ■ Groundwater

Extensive portions of Orange County are underlain by deep deposits of permeable, water-bearing sedimentary geologic strata. Groundwater occurs in semi- to moderately consolidated sand, gravel, and silt occurring in aquifers extending from approximately 40 to over 2,500 feet beneath the ground surface in Costa Mesa. Groundwater for Costa Mesa is withdrawn from the largest of four groundwater basins in Orange County—the Lower Santa Ana Groundwater Basin.

The Mesa Consolidated Water District (Mesa Water) owns and operates nine groundwater production wells. Seven of these wells are currently in operation. These seven wells have a total design capacity of approximately 14,000 gallons per minute (gpm). All of the wells are located in the northwest portion of the service area and produce water from the Orange County groundwater basin which is managed by OCWD. In addition, Mesa Water is developing additional (previously untapped) groundwater supplies from deeper aquifers. Mesa Water's Reservoir No. 1 has a capacity of about 10 million gallons (MG). The reservoir is located next to Mesa Water's offices on Placentia Avenue in southwest Costa Mesa and is partially below ground. Completed in 1995, Mesa Water's Reservoir No. 2, the Karl Kemp Reservoir, has a capacity of about 18.0 MG. The underground reservoir is located under the playing field at the Lindbergh School site.

## ■ Water Supply

Costa Mesa is served by two water supply agencies: Mesa Water and Irvine Ranch Water District (IRWD). A majority (85 percent) of the City is within the boundaries of Mesa Water, which also serves unincorporated areas of the County and portions of Newport Beach. Both Mesa Water and IRWD are affiliated with both the Coastal Municipal Water District (Coastal) and the Municipal Water District of Orange County (MWDOC). Mesa Water encompasses approximately 18 square miles.

Mesa Water serves Costa Mesa, part of Newport Beach and the John Wayne Airport. Mesa Water serves a population of 103,000 residents, and provides domestic and irrigation water services to 23,000 metered connections. On an annual basis, Mesa Water delivers 21,000 acre-feet (6.6 billion gallons) of water to the various users. IRWD encompasses approximately 78,000 acres, or 123 square miles in southern central Orange County. IRWD serves all of the City of Irvine and the unincorporated areas of Foothill Ranch and Newport Coast. In addition, IRWD serves portions of Tustin, Santa Ana, Newport Beach, Costa Mesa, Orange and Portola Hills. Coastal and MWDOC are member agencies in the Metropolitan Water District of Southern California (MWD).

The Mesa Water UWMP shows that Metropolitan is able to meet full service demands of its member agencies with existing supplies from 2015 through 2035 during normal years, single dry year, and multiple dry years. Mesa Water is therefore capable of meeting the water demands of its customers in normal, and single dry, years between 2015 and 2035, as illustrated in Table 4.10-1 (Projected Normal Water Supply and Demand in Normal Years, AFY) and Table 4.10-2 (Projected Single-Dry-Year Water Supply and Demand, AFY).

Mesa Water is also capable of providing their customers all their demands with significant reserves in multiple dry years from 2015 through 2035 with a demand increase of 6.5 percent according to the 2010 UWMP (Mesa Water 2011, p. 3-19).

**Table 4.10-1 Projected Normal Water Supply and Demand in Normal Years, AFY**

	Fiscal Year Ending				
	2015	2020	2025	2030	2035
Total Demand	19,700	19,700	19,700	19,700	19,700
BPP GW	11,532	11,532	11,532	11,532	11,532
BEA GW	7,068	7,068	7,068	7,068	7,068
Recycled Water	1,100	1,100	1,100	1,100	1,100
Imported	—	—	—	—	—
<b>Total Supply</b>	<b>19,700</b>	<b>19,700</b>	<b>19,700</b>	<b>19,700</b>	<b>19,700</b>

SOURCE: Mesa Consolidated Water District, *Final 2010 Urban Water Management Plan* (May 2011).

**Table 4.10-2 Projected Single-Dry-Year Water Supply and Demand, AFY**

	Fiscal Year Ending				
	2015	2020	2025	2030	2035
Total Demand	20,981	20,981	20,981	20,981	20,981
BPP GW	13,008	13,008	13,008	13,008	13,008
BEA GW	6,873	6,873	6,873	6,873	6,873
Recycled Water	1,100	1,100	1,100	1,100	1,100
Imported	—	—	—	—	—
<b>Total Supply</b>	<b>20,981</b>	<b>20,981</b>	<b>20,981</b>	<b>20,981</b>	<b>20,981</b>

SOURCE: Mesa Consolidated Water District, *Final 2010 Urban Water Management Plan* (May 2011).

## ■ Water Sources

Water is imported into Orange County via two extensive systems of aqueducts operated by MWD. At present, the primary source of supply is the Colorado River Aqueduct system. This aqueduct transports water from Lake Havasu on the Colorado River to Lake Mathews, MWD storage reservoir in Riverside County. From this point, water is carried to East Orange County Feeder No. 2, the main distribution line serving the County.

The second source of supply of imported water is the State Water Project (SWP). This system brings water from the Upper Feather River in north-central California via the California Aqueduct to Lake Castaic north of Los Angeles. From Castaic, the Foothill Feeder transports water to the Weymouth Filtration facility in La Verne. From this point, the Yorba Linda Feeder carries water to the Diemer Filtration Plant for distribution in Orange County. Currently, Mesa Water and IRWD rely on both groundwater and imported water. A majority of Mesa Water’s water supply is derived from groundwater from seven wells. OCWD manages the local area groundwater basin and utilizes advanced techniques for

recharging the groundwater basin. This additional water source provides customers with water that is of higher quality and lower cost than water imported from MWD.

According to the City of Costa Mesa General Plan Conservation Element, approximately 75 percent of Mesa Water's water supply is pumped from natural underground water aquifers, which are located in the Orange County Groundwater Basin. OCWD manages this groundwater basin, supplying water to many areas in Orange County. The remaining 25 percent of Mesa Water's water supply is imported from the MWD via two wholesale water agencies: MWDOC and Coastal. Imported supplies are transported through aqueducts from the Colorado River and Northern California. Imported water is more expensive than groundwater due to transportation and treatment costs.

Mesa Water provides water service to most of the City of Costa Mesa including the project site. Currently, the total water demand for retail customers served by Mesa Water is approximately 19,400 acre-feet annually consisting of 2,400 acre-feet of imported water, 15,900 acre-feet of local groundwater, and 1,100 acre-feet of recycled water. Mesa Water is projecting a flat demand in the next 25 years accompanying a projected 9 percent population growth. As such, Mesa Water is anticipating that water demand in 2035 would increase to 19,700 acre-feet per year (AFY).

Approximately 50 percent of IRWD's water is purchased from MWD. This imported water comes from the Colorado River via the Colorado River Aqueduct and from Northern California via the SWP. The remaining 50 percent of the supply comes from local groundwater wells. To alleviate its dependency on imported water, in 1979 the IRWD began to develop a series of local wells called the Dyer Road Well Field Project. These wells, ranging from 400 to 1,200 feet in depth, extract high quality water from the Orange County Groundwater Basin. This groundwater now accounts for 50 percent of IRWD's total potable water supply.

## ■ Water Conservation

MWD has implemented a mandatory water rationing plan for its customers. Both Mesa Water and IRWD have adopted water conservation policies. The City of Costa Mesa also encourages water conservation in all new developments to incorporate all interior and exterior water conservation measures required by state law and the affected water agencies.

### 4.10.2 Regulatory Framework

#### ■ Federal

##### ***Federal Safe Drinking Water Act***

Enacted in 1974 and implemented by the U.S. Environmental Protection Agency (USEPA), 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.

## **U.S. Environmental Protection Agency**

The USEPA established primary drinking water standards in the Clean Water Act (CWA) 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 USEPA may add additional constituents in the future. State primary and secondary drinking water standards are promulgated in CCR Title 22 Sections 64431–64501. Secondary drinking water standards incorporate non-health risk factors including taste, odor, and appearance.

### ■ State

#### **Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Sections 10610 et seq.)**

The Urban Water Management Planning Act (Act) was developed due to concerns over potential water supply shortages throughout California. It requires information on water supply reliability and water use efficiency measures. Urban water suppliers are required, as part of the Act, to develop and implement UWMPs to describe their efforts to promote efficient use and management of water resources. The City's 2005 UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in the Orange County water supply trends, and conservation and water use efficiency policies. The UWMP, along with the City's Water Master Plan and other City planning documents, is used by City staff to guide the City's water use and management efforts through the year 2010, when the UWMP is required to be updated.

#### **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 ...

#### **SB 221 (Kuehl Bill) and SB 610 (Costa Bill)**

Signed into law on October 2001 and effective beginning in January 2002, Senate Bill 221 (SB 221) and SB 610 serve to ensure that certain land developments in California must be accompanied by an available and adequate supply of water to serve those developments. Serving as companion measures, SB 610 and SB 221 seek to promote more collaborative planning between local water suppliers and cities and counties.

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 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.

SB 610 requires additional factors to be considered in the preparation of urban water management plans and water supply assessments. SB 610 requires all urban water suppliers to prepare, adopt, and update an urban water management plan that, essentially, forecasts water demands and supplies within a certain service territory. In addition, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912(a)) subject to CEQA.

## ■ Local

### ***City of Costa Mesa General Plan Conservation Element***

The following general plan policies relate to water supply:

- Policy CON-1A.2** Encourage sustainable landscapes through landscape techniques that conserve, recycle, and reuse valuable resources, including the use of native vegetation and drought tolerant landscape materials consistent with the City's landscaping standards set forth in Chapter VII of Costa Mesa Zoning Code.
- Policy CON-1B.1** Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local water supplies and water quality and an analysis of the impact on water capacity and water availability.
- Policy CON-1B.2** Pursue the use of reclaimed wastewater for the irrigation of all appropriate open space facilities and require new developments and City projects, and encourage existing developments to tie into the reclaimed water system when recommended by the Orange County Water District, Mesa Consolidated Water District, or Irvine Ranch Water District.
- Policy CON-1B.3** Cooperate with the Mesa Consolidated Water District and Irvine Ranch Water District to advise the citizens of Costa Mesa of the benefits which can be obtained from the practices of water conservation.
- Policy CON-1E.13** Ensure that future land development/redevelopment projects subject to the NPDES Stormwater Permit adhere to the design standards set forth in the current Drainage Area Management Plan (DAMP) and the City's Local Implementation Plan.

### ***Water Resources Master Plan***

The IRWD's Water Resources Master Plan (WRMP) discusses the IRWD's recommendations regarding changes in the water resource mix. The WRMP recommends that IRWD move from a heavy reliance on imported water to a greater utilization of local groundwater for cost, water quality and reliability reasons. New potable groundwater supplies would greatly reduce the reliance on imported water under normal operating conditions and under most emergency outage scenarios. An expansion of the Michelson Water Reclamation Plant treatment capacity and the inclusion of the San Joaquin Reservoir as a reclaimed water seasonal storage reservoir are recommended to meet projected demand increases in the reclaimed water system.

Existing potable system sources are imported treated water purchased from MWD and local groundwater developed through the Dyer Road Well Field. IRWD plans to develop additional potable groundwater to meet its future demand. These projects would ultimately increase supply reliability and water quality, and may reduce overall supply costs.

### 4.10.3 Impacts and Mitigation Measures

#### ■ Analytic Method

To determine impacts on water supply resulting from implementation of the proposed project, this section includes an evaluation of whether the projected increase in water use at the project site falls within the City’s projected water demands. It also includes an analysis of whether there will be an adequate and reliable source of water for the proposed project and whether any infrastructure improvements would be necessary.

#### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. 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 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 are new or expanded entitlements needed

#### ■ Effects Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to water supply.

#### ■ Project Impacts and Mitigation

Threshold	Would the project require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
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**Impact 4.10-1**      **Implementation of the proposed project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. This would be a *less-than-significant* impact.**

The North Costa Mesa High Rise Residential Project Final Program Environmental Impact Report utilized an average domestic water use of 200 gpd per dwelling unit for residential uses. Based on this water demand rate, the proposed project’s 240 residential units would result in approximately 48,000 gpd, or 53.8 AFY.

As previously stated, water supply for the site would be provided by Mesa Water, which primarily relies upon local groundwater wells for water supply, supplemented by imported water provided by MWDOC.

Currently, the total water demand for retail customers served by Mesa Water is approximately 19,400 acre-feet annually consisting of 2,400 acre-feet of imported water, 15,900 acre-feet of local groundwater, and 1,100 acre-feet of recycled water. Mesa Water is projecting a flat demand in the next 25 years accompanying a projected 9 percent population growth. As such, Mesa Water is anticipating that water demand in 2035 would increase to 19,700 AFY. As previously stated the Mesa Water UWMP shows that Metropolitan is able to meet full service demands of its member agencies with existing supplies from 2015 through 2035 during normal years, single dry year, and multiple dry years.

As such, the proposed project would result in an increase of less than 1 percent (0.003 percent) to Mesa Water's overall demand. This proposed increase in water demand from redevelopment of the site is not expected to require new or expanded entitlements. In addition the proposed project would be designed to meet City's landscaping standards set forth in Costa Mesa Zoning Code Chapter VII, which would reduce the use of water needed for irrigation and landscaping. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
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**Impact 4.10-2**      **Implementation of the proposed project would not have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed. This would be a less-than-significant impact.**

See Response to Impact 4.10-1 above. The proposed project would result in an increase of less than 1 percent (0.003 percent) to Mesa Water's overall demand. This proposed increase in water demand from redevelopment of the site is not expected to require new or expanded entitlements. As previously stated the Mesa Water UWMP shows that Metropolitan is able to meet full service demands of its member agencies with existing supplies from 2015 through 2035 during normal years, single dry year, and multiple dry years. MWD has implemented a mandatory water rationing plan for its customers. Both Mesa Water and IRWD have adopted water conservation policies. The City of Costa Mesa also encourages water conservation in all new developments to incorporate all interior and exterior water conservation measures required by state law and the affected water agencies. This impact is considered *less than significant*, and no mitigation is required.

#### 4.10.4 Cumulative Impacts

Threshold	Would the project require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
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All cumulative development could include the construction of necessary water conveyance pipeline upgrades, both on and off site, to serve future development. Construction of water conveyance infrastructure is considered an integral part of the overall construction plan of any development, when

required. Because all cumulative development, including the proposed project, would be required to adhere to existing laws and regulations, and the infrastructure would be appropriately sized for each site-specific development, this is considered a *less-than-significant* cumulative impact.

Metropolitan manages and maintains its treatment plants; any improvements or expansions are the responsibility of Metropolitan and would not adversely affect the City nor is not necessary for the City to operate a proprietary water treatment plant. In order to ensure proper distribution, Metropolitan also manages the regional conveyance system used to transport potable water supplies to the retail water agencies. Therefore, as a result of anticipated cumulative growth in water demand within the City's service area, no new or expanded water treatment facilities. Therefore, this cumulative impact is considered *less than significant*.

Threshold	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
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Development of cumulative projects within the City of Costa Mesa would demand additional quantities of water, depending on net increases in population, square footage, and intensity of uses. The proposed increase in water demand from redevelopment of the site is not expected to require new or expanded entitlements. As previously stated the Mesa Water UWMP shows that Metropolitan is able to meet full service demands of its member agencies with existing supplies from 2015 through 2035 during normal years, single dry year, and multiple dry years.

Development within the City will contribute to the cumulative demand that will result in the need for new or expanded infrastructure facilities. In turn, the City will construct new facilities or expand existing water supply and water treatment facilities, which could result in significant impacts to the environment. Due to the developed nature of the service area, it is expected that such expansion of water conveyance and/or treatment infrastructure would be minimal as existing infrastructure already exists. Because the proposed project would likely not require the expansion of existing infrastructure, only connections to existing conveyance infrastructure, and because there would be adequate capacity in the existing water treatment plant to serve future demand, the contribution of the proposed project would not be cumulatively considerable. Therefore, the project's contribution to cumulative water infrastructure impacts would be *less than significant*.

### 4.10.5 References

Costa Mesa, City of. 2002a. *City of Costa Mesa 2000 General Plan*, adopted January 2002.

———. 2002b. *City of Costa Mesa 2000 General Plan Environmental Impact Report*. Final EIR No. 1051, January.

Mesa Consolidated Water District (Mesa Water). 2011. *Final 2010 Urban Water Management Plan*, May.

## **Wastewater**

This section describes the current status of wastewater services in the City of Costa Mesa, including a discussion of the ability of the City's wastewater services to meet the current needs of the City.

Data for this section were taken from the hydrology study and the sewer study prepared for the proposed project by Fuscoe Engineering, included as Appendix E and Appendix F, respectively, to Appendix A (Initial Study/Notice of Preparation and Comments on the IS/NOP) to this EIR. Full reference-list entries for all cited materials are provided in Section 4.10.10 (References).

### **4.10.6 Environmental Setting**

#### **■ Sewer Services for the City of Costa Mesa**

The Costa Mesa Sanitary District (CMSD) provides sewer services to residents in the city of Costa Mesa, portions of Newport Beach and unincorporated sections of Orange County. CMSD maintains 224.2 miles of gravity sewer mains ranging from 8 to 30 inches in diameter. There are approximately 4,560 sewer manholes within the system, which are used as access points for cleaning and inspection purposes. There are twenty sewer pumping stations located within the collection system that are necessary to convey flow from low lying areas to higher elevations where the wastewater can again flow by gravity.

The remaining portions of the City are served directly by the County Sanitation District of Orange County (CSDOC), which also treats the wastewater. Both CMSD and CSDOC maintain master plans based on anticipated land use intensities in order to estimate and plan for future needs. Wastewater, collected by the Costa Mesa and County districts, is processed at CSDOC's treatment plants located in Fountain Valley and Huntington Beach.

CSDOC operates under a five-year National Pollution Discharge Elimination System (NPDES) ocean discharge permit issued by the California Regional Water Quality Control Board and the USEPA. This permit has a set discharge limit for biochemical oxygen demand (BOD) and suspended solids. Currently, CSDOC's discharge is close to the BOD limit.

County treatment plants had been planned in accordance with regional growth forecasts and the County Sanitation District recently updated their Master Plan to reflect current growth projections. The Costa Mesa 2000 General Plan is consistent with regional growth projections (City of Costa Mesa 2002a, p. CON-38). Collector and trunk lines should generally be adequate to accommodate sewage generated by future growth in Costa Mesa.

#### **■ Project Site Sewer Infrastructure**

The existing public sewer mains for the site are located in Baker Street and Pullman Street which border the project. There is an existing 8" line in Baker Street and an existing 8" line in Pullman Street. The slope of the Baker Street line is relatively steep at approximately 1.2 percent. The slope of the Pullman Street line is approximately 0.43 percent.

## ■ Existing Sewer Usage

The existing wastewater flow was calculated based on an average daily flow of 3,500 gallons per day per acre (gpd/ac), with an additional 800 gpd/ac to account for inflow and infiltration. Based on these rates, the existing uses generate approximately 83,300 gpd.

## ■ Existing Stormwater Flow

According to the Preliminary Hydrology Study prepared by Fuscoe Engineering Inc., for the project site, a portion of the on-site drainage flows to an existing adjacent storm channel via a catch basin and RCP connection (Fuscoe Engineering Inc. 2013a). The remainder of the site flows to Pullman Street via surface flow.

### 4.10.7 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 CWA, 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

##### ***California Water Quality Control Board***

Operation of wastewater treatment plants in Orange County are subject to regulations set forth by the California Department of Health Services and the California State Water Resources Control Board.

#### ■ Regional

##### ***Regional Water Quality Board***

Under the Santa Ana Regional Water Quality Control Board (SARWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface waters within the City would be subject to regulations. The Orange County NPDES permit requires that all development within the City is subject to the provisions of the Orange County NPDES Storm Water Permit. The NPDES storm water permit was issued by SARWQCB for municipal storm water and urban runoff discharges within Orange County, and incorporated cities therein.

## ■ Local

### **City of Costa Mesa General Plan Conservation Element**

The following general plan policy relates to wastewater:

- **Policy CON-1E.12** Ensure that new development/significant redevelopment projects subject to the NPDES Stormwater Permit incorporate, to the maximum extent practicable, measures that reduce the quantity of storm flow and the discharge of pollutants in urban/storm water runoff to protect water quality, biological habitats.

## **4.10.8 Impacts and Mitigation Measures**

### ■ Analytic Method

Existing and proposed sewer flow generation calculations were based on Generation Factors provided by the CMSD. These generation factors provide the average daily flow for various uses within the development area. At the request of the CMSD, the future development of adjoining parcels was also analyzed using high density residential development similar to the Baker Street Apartments.

### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. 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
- 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 Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to wastewater systems.

### ■ Project Impacts and Mitigation

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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- **Impact 4.10-3** 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. Implementation of the proposed project would result in the discharge of wastewater to the project's sewer system, which would ultimately be treated at one or more of the OCSD wastewater treatment plants. The OCSD wastewater treatment plants are permitted for and required to comply with their associated waste discharge requirements (WDRs). WDRs set the levels of pollutants allowable in water discharged from a facility.

Compliance with all applicable WDRs, as monitored and enforced by the OCSD, would ensure that development under the proposed project would not exceed the allowable wastewater treatment requirements of the SARWQCB with respect to discharges to the sewer system. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the 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?
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**Impact 4.10-4**      **Implementation of the proposed project would not 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. This would be a *less-than-significant* impact.**

As shown in Table 4.10-3 (Estimated Sewer Flows for the Proposed Project), the proposed project would result in approximately 40,451 gpd of wastewater, a reduction of approximately 42,849 gpd compared to existing conditions. This flow would be divided between the lines in Baker Street and Pullman Street.

<b>Table 4.10-3      Estimated Sewer Flows for the Proposed Project</b>			
<i>Land Use</i>	<i>Quantity</i>	<i>Duty Factor</i>	<i>Estimated Flow</i>
<b>Proposed Project</b>			
Studio	26 du	111 gpd/du	2,886 gpd
One bedroom	117 du	136 gpd/du	15,912 gpd
Two bedrooms	85 du	187 gpd/du	15,895 gpd
Three bedrooms	12	233 gpd/du	2,796 gpd
Amenities	4,375 sf	3,500 gpd/ac	352 gpd
<b>Total</b>			<b>40,451 gpd 0.0405 mgd</b>

SOURCE: Fusco Engineering, *Sewer Analysis Report, Baker Street Apartments* (May 15, 2013).  
du = dwelling unit, gpd = gallons per day; mgd = million gallons per day

As shown in Table 4.10-3, the increase in sewer flows due to the proposed project is minor and no adverse conditions are anticipated in the public sewer system as a result of the project. The Project flow was assumed to be divided equally between Baker Street and Pullman Street. As shown in Table 4.10-3, it may be desirable to increase the flow to Baker and decrease the flow to Pullman to balance the capacity of the existing systems. No construction of new wastewater treatment facilities or expansion of existing

facilities would be required. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
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**Impact 4.10-5**      **Implementation of the proposed project would not 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. This would be a *less-than-significant* impact.**

The proposed project would result in approximately 40,451 gpd of wastewater, a reduction of approximately 42,849 gpd compared to existing conditions. Treatment facilities that serve the project site would accommodate proposed demand. Consequently, construction or expansion of wastewater treatment facilities is not anticipated to be necessary to serve the proposed project's needs. The OCSD has adequate treatment capacity available over the long term to serve the proposed project. In addition, the proposed project would be required to adhere to existing laws and regulations associated with wastewater discharge and treatment requirements. This impact is considered *less than significant*, and no mitigation is required.

### 4.10.9 Cumulative Impacts

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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The City as a whole operates under several Waste Facility Discharge permits from RWQCB. The RWQCB, in connection with the implementation of the NPDES program, has imposed requirements on the treatment of wastewater and its discharge into local water bodies. Wastewater produced from the proposed project would meet these requirements due to treatment capacity available at the OCSD reclamation plants and the implementation of wastewater BMPs. The proposed project would generate wastewater that would include typical residential wastes. To ensure that the proposed project would not exceed wastewater treatment requirements, all cumulative development, including the proposed project, would adhere to all local, state, and federal regulations. With adherence to these existing requirements and requirements established by the NPDES permit, the cumulative impact of the proposed project is *less than significant*.

Threshold	Would the 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?
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Cumulative impacts from future growth within the City regarding sewer lines are mitigated on a project-by-project basis. To the extent that future projected growth within the City would result in the treatment capacity of the wastewater treatment plant being inadequate, each project would be required to mitigate their 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. Implementation of City of Costa Mesa regulations would ensure that capacity constraints at the time of development are accurately identified and sewer connections are provided for at the proposed project site. The proposed project and future proposed in the surrounding area would not make a cumulatively considerable contribution to the overall impact. 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. The cumulative impact of the proposed project would be *less than significant*.

Threshold	Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
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Development of cumulative projects within the OCSD service area would generate additional quantities of wastewater, depending on net increases in population, square footage of development, and intensification of uses. These projects would contribute to the overall regional demand for wastewater treatment service. Implementation of the proposed project would generate less wastewater than existing uses. In addition, all future development in the City would be required to implement water conservation measures that would result in a decrease in wastewater generation, ensuring that capacity of the existing treatment plants would not be exceeded with future development. Therefore, since the existing treatment plants can currently accommodate excess capacity, this is considered to be a *less-than-significant* cumulative impact.

#### 4.10.10 References

- Costa Mesa, City of. 2002a. *City of Costa Mesa 2000 General Plan*. Conservation Element, adopted January 2002.
- . 2002b. *City of Costa Mesa 2000 General Plan Environmental Impact Report*. Final EIR No. 1051, January.
- Fuscoe Engineering Inc. 2013a. *Preliminary Hydrology Study-Airport Gateway Apartments, Costa Mesa*, August 1.
- . 2013b. *Sewer Analysis Report, Baker Street Apartments*, May 15.

## **Solid Waste**

This section describes the current status of solid waste services in the City of Costa Mesa], including a discussion of the ability of the City’s solid waste services to meet the current needs of the City. Solid waste is defined as refuse requiring collection, recycling, or disposal into a landfill.

Data for this section were taken from online resources. Full reference-list entries for all cited materials are provided in Section 4.10.15 (References).

### **4.10.11 Environmental Setting**

The Orange County Integrated Waste Management Department (IWMD) currently owns and operates three active landfills that serve the Orange County region, including: Frank R. Bowerman Landfill in Irvine; Olinda Alpha Landfill in Brea; and Prima Deshecha Landfill in San Juan Capistrano. All three landfills are permitted as Class III landfills and have a combined design capacity of 23,500 tons per day. Class III landfills accept only nonhazardous municipal solid waste for disposal; no hazardous or liquid waste is accepted. Table 4.10-4 (Landfill Maximum Daily Capacity) shows the maximum daily capacities of each of these landfills, as well as their anticipated closure dates.

<i>Landfill</i>	<i>Location</i>	<i>Estimated Close Date</i>	<i>Maximum Daily Load (tons)</i>
Frank R. Bowerman	11002 Bee Canyon Access Road Irvine, CA 92602	2053	11,500
Olinda Alpha	1942 North Valencia Avenue Brea, CA 92823	2030	8,000
Prima Deshecha	32250 La Pata Avenue San Juan Capistrano, CA 92675	2067	4,000

SOURCES: Orange County Waste & Recycling, Frank R. Bowerman Landfill Fact Sheet (May 2013), <http://oclandfills.com/civicax/filebank/blobdload.aspx?blobid=29056> (accessed September 14, 2013); Orange County Waste & Recycling, Olinda Alpha Landfill Fact Sheet (August 2013), <http://oclandfills.com/civicax/filebank/blobdload.aspx?blobid=29563> (accessed September 14, 2013); Orange County Waste & Recycling, South Region Fact Sheet: Prima Deshecha Landfill (May 2013), <http://oclandfills.com/civicax/filebank/blobdload.aspx?blobid=26776> (accessed September 14, 2013).

Currently, solid waste from the City of Costa Mesa and the project site are sent to the Frank R. Bowerman Landfill in Irvine. The maximum permitted capacity for the landfill is limited to 11,500 tons per day at Frank R. Bowerman.

Frank R. Bowerman is currently scheduled to close in 2053. Olinda Alpha is currently scheduled to close in 2030 while Prima Deshecha is anticipated to close in 2067.

The California Integrated Waste Management Board (CIWMB) requires that all counties have an approved Countywide Integrated Waste Management Plan (CIWMP). To be approved, the CIWMP must demonstrate sufficient solid waste disposal capacity for at least fifteen years, or identify additional available capacity outside of the County’s jurisdiction. To this end, the RELOOC program, a 40-year Strategic Plan, was created. RELOOC evaluates options for trash disposal for Orange County citizens

and ensures that waste generated by the County is safely disposed of and that the County's future disposal needs are met.

## **4.10.12 Regulatory Framework**

### **■ Federal**

There are no applicable federal laws, regulations, or policies that pertain to solid waste.

### **■ State**

#### ***California Integrated Waste Management Board***

At the state level, the management of solid waste is governed by regulations established by the CIWMB, which delegates local permitting, enforcement, and inspection responsibilities to local enforcement agencies. In 1997, some of the regulations adopted by the state Regional Water Quality Control Board pertaining to landfills (Title 23, Chapter 15) were incorporated with CIWMB regulations (Title 14) to form California Code of Regulations Title 27.

#### ***California Solid Waste Reuse and Recycling Access Act of 1991***

The California Solid Waste Reuse and Recycling Access Act of 1991 requires each jurisdiction to adopt an ordinance by September 1, 1994, requiring each "Development Project" to provide an adequate storage area for collection and removal of recyclable materials.

#### ***AB 939—California Integrated Waste Management Act***

In 1989, the State Legislature adopted the Integrated Waste Management Act of 1989 (Assembly Bill 939 [AB 939]), which established an integrated waste management hierarchy that consists of the following in order of importance: source reduction, recycling, composting, and land disposal of solid waste. The law also requires that each county prepare a new IWMP. The Act further required each city to prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. Each SRRE includes a plan for achieving a solid waste goal of 25 percent by January 1, 1995, and 50 percent by January 1, 2000. Recently, a number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act were adopted, including a revision to the statutory requirement for 50 percent diversion of solid waste. Under these provisions, local governments shall continue to divert 50 percent of all solid waste on and after January 1, 2000.

### **■ Local**

#### ***Countywide Integrated Waste Management Plan***

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.

### **Costa Mesa Source Reduction and Recycling Element**

In January 1992, Costa Mesa prepared and adopted an SRRE. A brief description of two of the programs the City adopted in the final SRRE is provided below (City of Costa Mesa 2002a. Conservation Element):

- Source reduction is any action that avoids the creation of waste by reducing waste as its source, including reducing packaging, reducing the use of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing the amount of yard wastes generated and increasing the efficiency of the use of paper, cardboard, glass, metal, plastic, and other materials. It requires manufacturers and consumers to take an active role in reducing the amount of waste that is produced through changes in production methods and consumption patterns.
- Recycling is any action that avoids the creation of waste through the reuse or reprocessing of material. Recycling requires active participation by the community and can take any number of forms. The three areas recycling focuses on within Costa Mesa are (1) single-family residential; (2) multifamily residential, commercial, industrial, and institutional uses and; (3) buy-back and drop-off recycling programs.

As available landfill space diminishes, the City continues to implement source reduction and recycling programs to reduce the production of solid waste. Recycling efforts mandated by Assembly Bill 939 require local jurisdictions to reduce the amount of solid waste produced so the City is looking to expand recycling and source reduction programs in the City to meet state-mandated diversion requirements.

### **4.10.13 Impacts and Mitigation Measures**

#### **■ Analytic Method**

The proposed project would result in the construction of approximately 216,521 square feet (sf) of residential development, which would include a maximum of 240 dwelling units. To determine the amount of solid waste generated by the proposed project, solid waste generation factors identified by the CalRecycle for residential uses were used (CalRecycle 2013). 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 the 2013 CEQA Guidelines Appendix G. 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 Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to solid waste.

## ■ Project Impacts and Mitigation

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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**Impact 4.10-6**      **Implementation of the proposed project would not 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.**

The Orange County Integrated Waste Management District (IWMD) owns and operates three active landfills, including the Olinda Alpha Landfill near Brea, the Frank R. Bowerman Landfill in Irvine, and the Prima Deshecha Landfill in San Juan Capistrano (OCWR n.d.). As previously stated, although waste may be transported to any of the three IWMD-operated sites, the Frank R. Bowerman Landfill is the closest facility to the project and is likely to be the solid waste facility most often receiving waste from the project. The Frank R. Bowerman Landfill located at 11002 Bee Canyon Access Road in Irvine serves the City of Costa Mesa. This 725-acre landfill has 534 acres permitted for landfill disposal. This landfill can accept 8,500 tons of solid waste per day. The expected closure date of this landfill is Year 2053.

The proposed 240-unit residential development is expected to generate 2,029 lbs of solid waste per day (8.6 lbs/dwelling unit/day) or approximately one ton of solid waste per day (CalRecycle 2013). Assuming the landfill capacity is 8,500 tons of solid waste per day, the proposed project would represent approximately 0.01 percent of the daily generation. Existing landfill capacity is expected to accommodate this proposed generation. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the project comply with federal, state, and local statutes and regulations related to solid waste?
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**Impact 4.10-7**      **Implementation of the proposed project would not comply with federal, state, and local statutes and regulations related to solid waste. This would be a *less-than-significant* impact.**

The CMSD is responsible for residential trash collection and transmittal to a recycling facility for recycling and disposal. CMSD is responsible for meeting the AB 939 mandate of 50 percent disposal reduction and for preparing AB 939 solid waste planning documents, including the Source Reduction and Recycling Element (SREE), the Household Hazardous Waste Element (HHWE), and the Non-Disposal Facility Element (NDFE). The City has implemented a recycling program to help ensure that AB 939 requirements are met and reduce construction site waste. The City contracts with several permitted haulers of solid waste that are required to recycle 50 percent of the waste hauled (Ware Disposal, FM Linnes, Federal Disposal, etc.). The ongoing implementation of these programs will further reduce the anticipated solid waste. The proposed project would comply with City requirements related to

reducing and recycling construction waste and would participate in implementing City programs designed to encourage recycling. This impact is considered *less than significant*, and no mitigation is required.

#### 4.10.14 Cumulative Impacts

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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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 by build-out is required to be 50 percent lower than actual waste production. Future development under the proposed project would generate approximately one of solid waste per day. The proposed increase would not create demands for solid waste services that exceed the capabilities of the County's waste management system. Consequently, cumulative impacts associated with solid waste within the County would be considered *less than significant*.

Threshold	Would the project comply with federal, state, and local statutes and regulations related to solid waste?
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Recycling efforts mandated by Assembly Bill 939 require local jurisdictions to reduce the amount of solid waste produced. 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 address reduction and recycling measures and include implementation strategies. Additionally, in an effort to address reduction and recycling of waste, the City of Costa Mesa prepared and adopted the SRRE. Similar to the proposed project, other projects located in the City would be required to adhere to City mandated requirements and policies aimed at reducing and recycling waste. Consequently, cumulative impacts within the County would be considered *less than significant*.

#### 4.10.15 References

CalRecycle. 2013. Residential Developments: Estimated Solid Waste Generation Rates, January 16. <http://www.calrecycle.ca.gov/wastechar/wastegenrates/Residential.htm> (accessed September 14, 2013).

Costa Mesa, City of. 2002a. *City of Costa Mesa 2000 General Plan*, adopted January 2002.

———. 2002b. *City of Costa Mesa 2000 General Plan Environmental Impact Report*. Final EIR No. 1051, January.

Orange County Waste & Recycling (OCWR). 2013a. Frank R. Bowerman Landfill Fact Sheet, May. <http://oqlandfills.com/civicax/filebank/blobdload.aspx?blobid=29056> (accessed September 14, 2013).

———. 2013b. Olinda Alpha Landfill Fact Sheet, August. <http://oqlandfills.com/civicax/filebank/blobdload.aspx?blobid=29563> (accessed September 14, 2013).

———. 2013c. South Region Fact Sheet: Prima Deshecha Landfill, May. <http://oqlandfills.com/civicax/filebank/blobdload.aspx?blobid=26776> (accessed September 14, 2013).

———. n.d. Landfill Information. <http://oqlandfills.com/landfill> (accessed July 25, 2013).

## **Energy**

This section describes the current status of energy (electricity and natural gas) services in the City of Costa Mesa, including a discussion of the ability of the City's energy services to meet the current needs of the City.

Data for this section were taken from on line resources and communication with service providers]. Full reference-list entries for all cited materials are provided in Section 4.10.20 (References).

### **4.10.16 Environmental Setting**

Energy resources consist of electricity and natural gas. Electricity is provided to the City by Southern California Edison (SCE), while the Southern California Gas Company (SCGC) provides natural gas services. Existing gas lines and power lines, both are anticipated to be sufficient to serve the proposed development.

#### **■ Electricity**

The 2012 Integrated Energy Policy Report Update prepared by the California Energy Commission (CEC) summarizes the state of California's electrical and natural gas supplies and updates the 2011 Integrated Energy Policy Report (CEC 2012). Despite improvements in power plant licensing, enormously successful energy efficiency programs and continued technological advances, development of new energy supplies is not keeping pace with the state's increasing demands. A key constraint in energy is the state's electricity transmission system. Under most circumstances, the state's power grid is able to reliably deliver energy to consumers; and for the majority of the days during the year adequate energy supplies are reliably provided to consumers. California's electricity demand is driven by short summer peaks, such that reducing peak demand is the essential factor in adequately planning for the state's electrical needs. These peak demands include a few hours to several days each year, such that managing demand, rather than developing supplies at new power plants for this limited time appears the most efficient method to meet state needs on peak days. The CEC has developed an action plan which includes increasing energy capacity in investor-owned utilities, incentives for combined heat and power projects (cogeneration), energy efficiency programs, expansion of renewable energy programs.

As one of the nation's largest electric utilities, SCE delivers power to more than 14 million people (SCE n.d.a). SCE has undertaken a major infrastructure expansion and replacement project system throughout its 50,000-square-mile service area. The company has proposed investing approximately \$20 billion during coming years to expand and renew the region's essential distribution and transmission grids, making the power grid greener and smarter.

#### **■ Natural Gas**

Natural gas is a "fossil fuel," indicating that it comes from the ground, similar to other hydrocarbons such as coal or oil. The Southern California Gas Company (SCGC) purchases natural gas from several bordering states. SCGC supplies natural gas to 18 million consumers, which encompasses over 23,000 square miles of Southern California, including Costa Mesa (City of Costa Mesa 2002a). The Public

Utilities Commission (PUC) regulates SCGC, who is the default provider required by state law, for natural gas delivery to the City of Costa Mesa. SCGC has the capacity and resources to deliver gas except in certain situations that are noted in state law. As development occurs, SCGC will continue to extend its service to accommodate development and supply the necessary gas lines. SCGC makes periodic upgrades to provide service for particular projects and new development. SCGC is continuously expanding its network of gas pipelines to meet the needs of new commercial and residential developments in Southern California. California has not experienced a widespread natural gas shortage in many years. Current supplies are adequate to meet demands, although natural gas storage could be expanded to improve reliability. The state imports 87 percent of its statewide natural gas supply.

### **4.10.17 Regulatory Framework**

#### **■ Federal**

No federal policies related to energy would apply to the proposed project.

#### **■ State**

##### ***California Code of Regulations (CCR) Title 24***

New buildings in California are required to conform to energy conservation standards specified in CCR Title 24. The standards establish “energy budgets” for different types of residential and non-residential buildings, which all new buildings must comply with. The energy budget has a space-conditioning component and a water-heating component, both expressed in terms of energy (British thermal units [Btu]) consumed per year. The regulations allow for trade-offs within and between the components to meet the overall budget. Energy consumption of 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 or individual agency permit and approval processes. The City requires all new buildings to meet Title 24 standards.

#### **■ Regional**

No regional policies related to energy would apply to the proposed project.

#### **■ Local**

##### ***General Plan Conservation Element***

The City’s General Plan Conservation Element (1996) identifies and establishes the City’s official policy relative to the identification, establishment, preservation, and management of natural resources in the City. It focuses on the City’s water supply, sanitation treatment, storm drainage, solid waste disposal, natural gas, and electricity systems. Applicable goals and policies of this element related to gas and electricity services and facilities include the following:

**Objective CON-1C** Work towards the conservation of energy resources in both existing and new buildings, utilities and infrastructure.

**Policy CON-1C.2** Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units.

## 4.10.18 Impacts and Mitigation Measures

### ■ Analytic Method

To determine whether implementation of the proposed project would result in impacts on electricity and natural gas supplies, the projected increase in energy demand for each utility was analyzed and calculated.

### ■ Thresholds of Significance

The following thresholds of significance are based on the 2013 CEQA Guidelines Appendix G. 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 Not Found to Be Significant

The Initial Study prepared for the proposed project found that the effects of the proposed project would be potentially significant, and are therefore analyzed below with respect to energy supplies.

### ■ Project Impacts and Mitigation

Threshold	Would the 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 4.10-8**      **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**

Implementation of the proposed project would replace an existing two-story office building with a 240-unit residential complex consisting of 119 one-bedroom units, 85 two-bedroom units, 12 three-bedroom units and 24 studio units with a multilevel parking structure. The site is currently occupied by a 62,000-square-foot (sf) two-story office building occupied by a variety of commercial uses. The proposed project would include the demolition of the existing building, and the construction of approximately 216,521 sf

of residential development. As such, implementation of the proposed project would increase the use of electricity at the project site, to light, heat, and air condition the new building. The total annual electricity consumption by the proposed project is estimated to be 3,539.58 kWh/year compared to the existing consumption of 15.62 kWh/year.<sup>6</sup>

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 proposed project would increase use of electricity in the project area, in particular, the demand for electricity to light, heat, and air condition. On peak days, the incremental demand from the proposed project would contribute to electricity supply and delivery constraints. The proposed project 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 the building.

SCE has undertaken a major infrastructure expansion and replacement project system throughout its 50,000-square-mile service area. The company has proposed investing approximately \$20 billion during coming years to expand and renew the region's essential distribution and transmission grids, making the power grid greener and smarter. SCE is accelerating transmission projects, securing new generation, promoting conservation and energy efficiency programs, and increasing community outreach efforts (SCE 2013). These projects will help ensure adequate power flow and voltage.

An adequate supply of electricity is anticipated to be available to serve the proposed project (Gallagher 2007). Further, the proposed project would comply with the provisions of Title 24. As such, the proposed project would be designed to conserve energy. Also, because SCE is currently in the process of upgrading its transmission systems, 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.

### **Natural Gas**

The demand for natural gas from the proposed project would be approximately 18,826.61 kBtu/year. This is an increase in demand compared to the 9.59 kBtu/year consumed by the existing two-story office building.

Future development of the proposed project would be served by existing gas lines located in various locations within the vicinity of the project site. Because the natural gas demand projected for future development would not exceed available or planned supply, and new infrastructure would not be required to serve the project site, 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. Therefore, this impact would be *less than significant*.

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<sup>6</sup> This assumes a rate of 264.15 kWh/yr of proposed Title 24 electricity, 2,399.07 kWh/yr of non-Title 24 electricity, and 876.36 kWh/yr of lighting electricity. The existing office use consumes 5.76 kWh/yr of Title 24 electricity, 4.94 kWh/yr of non-Title 24 electricity, and 4.92 kWh/yr of lighting electricity.

## 4.10.19 Cumulative Impacts

Threshold	Would the 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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SCE has undertaken a major infrastructure expansion and replacement project system throughout its 50,000-square-mile service area. The company has proposed investing approximately \$20 billion during coming years to expand and renew the region's essential distribution and transmission grids, making the power grid greener and smarter. These projects will help ensure adequate power flow and voltage for nearly 14 million people while benefiting electricity customers in all eleven states of the western power grid (SCE n.d.b). Because SCE 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. Project impacts would have a less-than-significant contribution to these impacts.

With regard to natural gas, development in the geographic area surrounding the project site would result in continued use of this resource. The area surrounding the project site is currently served by existing infrastructure that the proposed project would also use. 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 proposed project's contribution would not be cumulatively considerable. This is considered to be a *less-than-significant* impact.

## 4.10.20 References

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## CHAPTER 5 Other CEQA Considerations

This chapter presents the evaluation of additional environmental impacts required by California Environmental Quality Act (CEQA) that are not covered within the other chapters of this EIR. In particular, CEQA Guidelines Section 15126 requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. Accordingly, in addition to the environmental analysis provided in Chapter 4 (Environmental Analysis) of this EIR, the EIR must identify growth-inducing impacts of the proposed project and significant irreversible environmental changes that would result from implementation of the proposed project, including any secondary or indirect impacts that could result from implementation of mitigation measures.

### 5.1 EFFECTS SCOPED OUT IN THE INITIAL STUDY

The initial study prepared in August 2013 (see Appendix A) identified the following resources where the proposed project would have no impact or less-than-significant impact for all thresholds. No impact or less-than-significant impacts for the resources analyzed in this EIR are discussed in the respective individual technical sections.

#### 5.1.1 Agriculture and Forestry Resources

The project site is zoned CL and is occupied with an existing two-story office building. The proposed project would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance to non-agricultural uses. No agricultural uses or related operations are present with the project site or project vicinity, and no portion of the project site is currently used for agricultural purposes. The project site is not zoned for agricultural uses. No forest lands are present on the project site or in the project vicinity. The proposed project would include the demolition of an existing office building and the construction of a five-story residential development. The proposed project would not result in the loss of forest land or the conversion of forest land to nonforest use. Therefore, there would be *no impact* on agriculture and forestry resources as a result of implementation of the proposed project.

#### 5.1.2 Mineral Resources

The proposed project would result in the demolition of an existing two-story office building and the construction of a 240-unit residential development. Construction activities would involve the use of industrial minerals (e.g., aggregate, sand and gravel), but such uses would not result in the loss of availability of such materials. There are no known regionally or locally important mineral resources located on the project site. No mineral extraction operations occur on the site or in the vicinity. Additionally, the project site is not located in an oil field or an oil drilling area and has not historically been used for oil drilling. *No impact* on mineral resources would occur, and further analysis is not required.

## 5.2 GROWTH-INDUCING IMPACTS

As required by the CEQA Guidelines, an EIR must include a discussion of the ways in which the proposed project could directly or indirectly foster economic development, population growth, or the construction of additional housing, and how that growth would, in turn, affect the surrounding environment (CEQA Guidelines Section 15126.2(d)). Growth can be induced in a number of ways, including the construction of new homes and business, elimination of obstacles to growth, or through the stimulation of economic activity within the region. In general, a project may foster physical, economic, or population growth in a geographic area if it meets any one of the criteria identified below:

- The project removes an impediment to growth (e.g., the establishment of an essential public service, or the provision of new access to an area)
- The project results in the urbanization of land in a remote location (leapfrog development)
- The project establishes a precedent-setting action (e.g., a change in zoning or general plan amendment approval)
- Economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion, etc.)

If a project meets any one of these criteria, it may be considered growth-inducing. Generally, growth-inducing projects are either located in isolated, undeveloped, or underdeveloped areas, necessitating the extension of major infrastructure such as sewer and water facilities or roadways, or encourage premature or unplanned growth.

To comply with CEQA, an EIR must discuss the ways in which the proposed project could promote economic or population growth in the vicinity of the project and how that growth will, in turn, affect the surrounding environment (CEQA Guidelines Section 15126.2(d)). Under CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of significant consequence. Induced growth is considered a significant impact only if it affects (directly or indirectly) the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth, in some other way, significantly affects the environment.

### 5.2.1 Economic and Population Growth

#### ■ Population Generation and Housing

The proposed project would include the development of 240 high-density residential units, which would result in an increase to the supply of housing and associated population in the area. Based on Costa Mesa's average household size of 2.72 persons per household, the proposed project is projected to generate a total residential population of approximately 653.<sup>7</sup> The project's increase in population would represent only 0.59 percent of the existing city population of 111,358 persons. The project's population growth would represent 0.57 percent of the SCAG forecasted 2020 population of 113,700 for the city. The project does not include the development of major infrastructure that could induce further growth. Minor infrastructure and utility connections would be implemented to serve the project site only.

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<sup>7</sup> Average household size based on 2010 US Census for the city of Santa Monica.

The proposed project involves construction of a 29-unit, attached live/work development in place of the existing commercial/industrial uses. The development would include approximately 7,486 square feet of work space, or between 250 and 267 square feet per unit. The estimated employment associated with the proposed live/work development is approximately 29 employees or one employee per unit. The proposed project could also result in population growth from employees relocating to the city. This would represent an incrementally small increase in the population of the city of Costa Mesa (0.025 percent of 2020 forecasted population).

A project could induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). The Project proposes new homes, thus, would induce direct population growth within the City. It is likely that the proposed type of urban housing would appeal to a niche market of young urban professionals, recent college graduates formerly residing with their parents, or single first-time homeowners. The demand of moderately-priced, contemporary housing for this niche market could be satisfied by the proposed live/work development. Therefore, it is likely the proposed live/work units would have a smaller household size than a traditional Costa Mesa housing unit. Notwithstanding, in order to provide a conservative analysis, based on an average household size of 2.72, Project implementation could result in a population increase of approximately 79 persons. The potential population growth would be nominal, representing less than one-tenth of one percent increase over the City's existing 2013 population of 111,358 persons. Therefore, Project implementation would not induce substantial population growth within the City.

### ■ Short-Term Employment Generation

Development of the proposed project would generate some short-term, construction-related employment opportunities during construction activities. Given the ample supply of construction workers in the regional work force of Southern California, which is the area from which the workers would be drawn, and the recent economic downturn resulting in additional workforce, the proposed project would not be considered growth-inducing from a short-term employment perspective.

### ■ Long-Term Employment Generation

As noted, above, the proposed project could result in up to 79 new residents generated by employment opportunities associated with the proposed project. Using the estimated number of employment resident equivalents (79) and the Census average of 2.72 pph, the proposed project employment would require 29 dwelling units. As the city has an average vacancy rate of 6.4 percent, and the proposed project would include development of housing units, the city would have ample housing stock to accommodate new residents generated by employment opportunities associated with the proposed project. Additionally, this economic activity can also be considered a benefit to the community by providing jobs within close proximity to public transportation and housing.

### ■ Removal of Obstacles to Population Growth

The proposed project would replace a commercial/industrial development in an existing, urbanized community, with a residential apartment building. Supportive infrastructure (sewer, water, storm drain,

dry utilities, and roads/highways) already exists, and would be sufficient to support the proposed project. Accordingly, the project would not remove an impediment to growth, and would not result in the urbanization of land in a remote location.

### **5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

CEQA Guidelines Section 15126.2(c) requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. 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.

The construction and implementation of the proposed project would entail the commitment of energy and human resources. Manpower will also be committed for the construction of the proposed project.

Ongoing operation of the proposed project would entail a further commitment of energy resources in the form of petroleum products (diesel fuel and gasoline), natural gas, and electricity. Long-term impacts would also result from an increase in vehicular traffic, and the associated air pollutant and noise emissions. This commitment of energy resources would be a long-term obligation in light of the fact that, practically speaking, it is impossible to return the land to its original condition once it has been developed. However, the project site has been developed since the 1970s and the project would provide and residential uses, as well as parking space, none of which would require an unusual amount of energy resources. In summary, implementation of the proposed project would involve the following irreversible environmental changes to existing on-site natural resources:

- Commitment of energy and water resources as a result of the construction, operation and maintenance of the proposed development
- Decrease in ambient air quality

### **5.4 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS**

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. As identified in Chapter 4, Section 4.1 through Section 4.10, all potentially significant impacts have been reduced to less-than-significant levels with the implementation of the identified mitigation measures.

## 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 (CEQA Guidelines 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.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

### 6.1 ALTERNATIVES TO BE EVALUATED

#### 6.1.1 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, as presented in Section 3.2 (Project Objectives), while significantly lessening any significant effects of the project. To identify reasonable alternatives to 125 Baker Street Project, the City, as Lead Agency, considered the objectives of the proposed project. The objectives of the proposed project as identified by the City are as follows:

1. Create a development that is compatible with and sensitive to the existing land uses in the project area.
2. Promote residential buildings that convey a high quality visual image and character.
3. Enhance the community image of Costa Mesa through the design and construction of a high quality development.
4. Ensure adequate utility infrastructure and public services for new development.
5. Achieve the development of projects that enable residents to live in proximity to their jobs, commercial services, transportation and entertainment, and reduce the need for automobile use.
6. Mitigate environmental impacts to the greatest extent possible.

Additionally, the objectives of the proposed project, as identified by the Applicant, are as follows:

■ Community Objectives:

1. Provide local residents and employers with a luxury living alternative, and attract high-income renters from other areas whose spending power and consumption habits will provide support for surrounding retail businesses.
2. Accommodate demand for Class-A market rate rental housing otherwise unmet in the community.

■ Development and Site Design Objectives:

1. Provide for the development of an underutilized site and replace the visual blight of existing office with the visual excitement of new, top-rate development.
2. Improve the open space environment through the addition of open spaces and increased landscaping including new landscaped courtyards and sidewalks, some of which will be accessible not only to the residents, but also to the public.
3. Provide parking with direct access to the development.
4. Create a development that maximizes opportunities for green building and environmentally sound design.

■ Economic Objectives:

1. Maximize the value of the currently underutilized site through the development of new housing, consistent with anticipated market demands.
2. Accommodate sufficient residential density to make demolition of an operating office asset financially feasible.
3. Achieve premium apartment rents by meeting the high market demand for housing that is close to retail, jobs and transportation.

4. Accommodate future economic expansion by providing high density housing and retail within a community that has the necessary infrastructure to support the development.
5. Strengthen the economic vitality of the region by attracting new workers, through construction, rehabilitation, and operation of the project.
6. Increase the Tax to the city by increasing property value by roughly 10 times current value.

The alternatives that are evaluated in this section include the following:

- **Alternative 1: Reduced Density Alternative**—This alternative would consist of development of the site with a 116-unit apartment building, with 291 surface parking spaces. Refer to Figure 6-1 (Reduced Density Alternative Site Plan) for a depiction of Alternative 1.
- **Alternative 2: No Project/No Development Alternative**—In addition to alternative development scenarios, CEQA Guidelines Section 15126.6(e) requires the analysis of a “no project” alternative. The purpose of examining such an alternative is to allow decision-makers to compare the effects of approving the project with the effects of not approving the project. For the purposes of this analysis, the “no project” alternative would serve as a “no development” alternative with the site remaining in its existing condition. Under this alternative, all existing development and uses would remain. CEQA Guidelines Section 15126.6(e)(3)(C) states that the lead agency should analyze the effects of the no project alternative by evaluating what could reasonably be expected to occur in the foreseeable future if no changes were to occur. Therefore, under Alternative 3, the impacts of the proposed project are compared to the impacts that could occur under the existing development. Accordingly, under the No Project Alternative, the site would remain developed with the 66,000 sf two-story office building and no improvements would be constructed at the site.

## 6.1.2 Alternatives Determined to Be Infeasible

In addition to the identified alternatives, other alternatives were considered but ultimately determined to be infeasible as described below.

### ■ Alternative Locations/Sites

The City of Costa Mesa is a highly urbanized area and consequently, undeveloped or vacant land parcels similar in size to the proposed project are limited. In addition, development of the project at an alternative location would not ensure that potentially significant impacts would be avoided or substantially lessened. Depending on the specific site and the environmental constraints present within that area, an alternative location could potentially result in the same (or even greater) environmental impacts when compared to the proposed project. Therefore, moving the project to another location would not satisfy many of the project objectives; nor would it reduce significant and unavoidable impacts.

## 6.2 ANALYSIS OF ALTERNATIVES TO THE PROPOSED PROJECT

This section provides an analysis of the environmental impacts of each of the project alternatives, including a comparison of the potential impacts of the alternative to the proposed project, as well as the impacts that would result from implementation of the project alternatives themselves.

## 6.2.1 Alternative 1: Reduced Density Alternative

### ■ Description

Alternative 1 would consist of development of the site with 116-unit apartment buildings with 291 parking spaces. The apartment building would be four-stories (53 feet overall height) over parking for the residences and the total density for the 116-unit building would be 28 dwelling units per acre. The proposed breakdown of units would be 56 one-bedroom (48 percent) and 60 two-bedroom units (52 percent). Alternative 1 would provide a ground-level parking structure that would be developed as part of the residential structure, as well as surface parking with 11 carports. As with the proposed project, access would be provided from Pullman Avenue. On-site amenities would include common open space and recreation areas, a pool, and a clubhouse. Landscaping would be provided around the perimeter of the project site, entrance and surface parking area, courtyard, and pool area.

### ■ Potential Impacts

#### *Aesthetics*

Alternative 1 would be located on the same site as the proposed project and would result in a similar type of development as compared to proposed project. The four-story residential development would demolish the existing building on-site and would replace it with 116 residential units. The Alternative would be taller than the existing on-site structure and would result in changes to the aesthetic character. However, the overall size and design of the Alternative would be in keeping with the surrounding developments. Furthermore, the Alternative's overall size would be less than that proposed under the project. Impacts associated with light and glare would also be similar to the proposed project, because interior and exterior artificial light would be necessary, and exterior-building materials would be identical to the proposed project. Overall, aesthetic impacts anticipated under this Alternative would be similar to the proposed project, although slightly less due to potentially fewer exterior nighttime lighting requirements, and would be less than significant.

#### *Air Quality*

Development of Alternative 1 would result in a substantially similar duration and amount of construction activities as analyzed for the proposed project in the EIR. Although the construction impacts of Alternative 1 would be less than that identified for the proposed project, the City requirements and mitigation measures identified for the proposed project would apply to Alternative 3 as well, and would not exceed SCAQMD's daily thresholds for construction related emissions.



**4-STORY BUILDING/ TYPE V:**

- 1. 1 BR (770 S.F.) : 56 UNITS (48%)
- 2 BR (1070 S.F.): 60 UNITS (52%)
- TOTAL: 116 UNITS
- 2. TOTAL ACRES: +/- 4.17 ACRES
- 3. DENSITY: 28 DU/AC
- 4. PARKING REQUIRED: 291 STALLS
- 1 BR: 56X1.75=98 STALLS
- 2 BR: 67X2.25=151 STALLS
- GUEST: 50X0.5=25 STALLS
- 66X0.25=17 STALLS

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Source: Architects Orange, 2013.

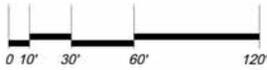


Figure 6-1  
Reduced Density Alternative Site Plan



Construction of this alternative would not expose sensitive receptors to substantial pollutant concentrations due to project-generated toxic air contaminants. Although construction activities typically generate emissions of toxic air contaminants (e.g., diesel emissions, fumes from paint and solvents), neither the amount of these emissions or the location of such emissions would result in substantial exposure for sensitive receptors in the project vicinity. This impact would be less than significant.

Construction activities associated with this alternative would not generate emissions that would result in an exceedance of localized significance thresholds established by the SCAQMD. This impact would be less than significant. As less development would take place under this alternative, impacts would be less than under the proposed project.

Additionally, construction activities occurring in association with Alternative 1 have the potential to emit temporary objectionable odors. However, these would be temporary; be restricted to the immediate vicinity of the construction site and activity; and not affect a significant number of people. Therefore, odor impacts are considered to be *less than significant*, consistent with the proposed project.

With regards to operation of Alternative 1, Alternative 1 would not conflict with, or obstruct implementation of, the 2012 Air Quality Management Plan (AQMP), as it would result in less population growth than what was analyzed for the proposed project. Therefore, Alternative 1 would not exceed the population projections for the City of Costa Mesa. Accordingly, Alternative 1 would be consistent with the 2012 AQMP, and a *less-than-significant* impact would occur.

Consistent with the proposed project, Alternative 1 would involve similar stationary and mobile source emissions. However, Alternative 1 would result in less daily trips than what was analyzed for the proposed project. Daily operational emissions resulting from Alternative 1 would be less than those identified for the proposed project, and would therefore be below the SCAQMD threshold for all criteria pollutants, resulting in a *less-than-significant* impact, consistent with the proposed project. Additionally, as Alternative 1 would result in fewer daily trips than what was analyzed for the proposed project, the localized carbon monoxide (CO) levels for the opening year (2016) under Alternative 1 would be below the state standards for 1-hour and 8-hour CO concentrations, consistent with the proposed project. Operation of Alternative 1 would not expose sensitive receptors to substantial concentrations and a *less-than-significant* impact would occur.

Similar to the proposed project, exposure of project residents to DPM emissions from nearby roadways would result in increased cancer risk above 10 in a million under Alternative 1. However, as with the proposed project, implementation of mitigation measures MM4.2-6 and MM4.2-7 would reduce this impact to a *less-than-significant* level.

Overall, air quality impacts anticipated under this Alternative would be similar to, but slightly less than the proposed project.

### **Greenhouse Gas Emissions**

Development of Alternative 1 would generate greenhouse gases (GHGs) through the construction and operation of new residential uses. GHGs from Alternative 1, consistent with the proposed project, would arise from sources associated with operation including direct sources such as motor vehicles and natural

gas consumption, and indirect sources such as solid waste handling/treatment and electricity generation. As Alternative 1 would result in less daily trips than what was estimated to occur under the proposed project, all other GHG emissions sources would be similar to those identified for the proposed project. Additionally, development under Alternative 1 would be required to comply with state regulations and implement SCAQMD measures described in Section 4.3 (Greenhouse Gas Emissions), and therefore, Alternative 1's GHG emissions would be at a less-than-significant level, similar to, but less than, the proposed project. Furthermore, development under Alternative 1 would produce GHG emissions that are below the SCAQMD threshold and would be consistent with AB 32 and SB 375 (the statewide policies for reducing GHG emissions). Therefore, this impact is considered *less than significant*, similar to the proposed project.

### **Hydrology/Water Quality**

With respect to hydrology and water quality, impacts associated with Alternative 1 would be similar to those identified for the proposed project. Alternative 1 would develop the Project site with 116 residential units as well as a parking garage for residents and visitors. Hydrology impacts related to construction and operation of Alternative 3 would be similar as those identified for the proposed project as a similar, but reduced building footprint would be developed with similar impervious surfaces. All project-specific mitigation measures and code requirements related to hydrology and water quality would apply to this alternative. Therefore, impacts would be less than significant, similar to the proposed project.

### **Land Use**

Implementation of this Alternative would result in land use effects that are nearly identical to the proposed project, as the introduction of new land uses and land use intensification would occur on-site. The overall number of residential units would be reduced, and this Alternative would result in a density of 28 dwelling units per acre, compared to 57.7 dwelling units per acre identified for the proposed project. As identified for the proposed project, this Alternative would not change land use patterns in a manner that would divide an established community and would not conflict with any applicable habitat conservation plans. As currently exists, this Alternative would not be allowed under the existing General Plan zoning, which identifies the site for commercial use. However, this Alternative would involve re-designating the site for residential use, similar to what is proposed under the proposed project. This would include a general plan amendment, a zoning map amendment, and a zoning text amendment. Therefore, this Alternative would not conflict with land use policies established by the City, and would result in a less-than-significant impact.

### **Noise**

Alternative 1 would result in the development of 116 multi-family residential units within an area surrounded by commercial and light industrial development, as well as major sources of traffic noise (SR-55 and Baker Street). Similar to the proposed project, the residential occupants of Alternative 1 would potentially be exposed to normally unacceptable noise levels at the ground floor, and clearly unacceptable noise levels at upper stories. However, as with the proposed project, the implementation of mitigation measure MM4.6-1, identified for the proposed project, would ensure that the residential occupants of the

proposed project would not be exposed to excessive noise levels, and therefore, this impact would be considered *less than significant* for Alternative 1.

Construction of Alternative 1 would result in similar noise and vibration impacts as those identified for the proposed project in consideration of the amount of development, the type of construction, and the construction schedule which would be substantially similar. Construction of Alternative 1 would result in the similar noise impacts identified for the proposed project, as the amount of development, the type of construction, and the construction schedule would be the similar. Specifically, due to the size of the project, the construction equipment required and the location of nearby sensitive receptors to the proposed project, temporary impacts associated with construction-related noise could intermittently exceed the construction noise limits generally permitted by the Costa Mesa Municipal Code. However, City of Costa Mesa Noise Ordinance exempts construction activities from the noise levels limits, provided that construction takes place during the allowable hours established in the Noise Ordinance. The City limits construction activities to Mondays through Fridays between the hours of 7:00 am and 7:00 pm and on Saturdays from 9:00 am and 6:00 pm. However, commercial and industrial uses within 200 feet of the project site may be exposed to excessive groundborne vibration during vibration. As with the proposed project, construction activities that occur under Alternative 1 would implement mitigation measure MM4.6-2 to reduce vibration impacts on nearby sensitive receptors, and similar to the proposed project, this impact would be *less than significant*.

As previously discussed, Alternative 1 would generate fewer daily vehicle trips than what was analyzed for the proposed project. Accordingly, consistent with the proposed project, traffic associated with Alternative 1 would not result in a substantial increase in noise along any roadway segments compared to 2025 Without Project Conditions, and any increases in noise levels would not exceed the identified significance threshold. Therefore, this impact is considered, *less than significant*, similar to, but less than, the proposed project.

Due to the site's location 0.5 mile southwest of the John Wayne Airport, development under Alternative 1 is subject to the state Airport Noise Standards and the Orange County Airport Land Use Commission (ALUC) noise and land use compatibility guidelines for residential uses. As Alternative 1 is located just outside of the 60 dBA CNEL noise contour of John Wayne Airport, this impact would be *less than significant*.

### **Population/Housing**

As Alternative 1 would be located on the same site as the proposed project and would result in a smaller amount and type of development than Option 1, including the number of dwelling units (du) (116 du vs. 240 du), development under Alternative 1 would generate a smaller number of new residents than Option 1. Therefore, population and housing impacts identified for the proposed project would also apply to Alternative 1. Specifically, as no housing is currently located on the site, no impact would occur related to displacement of persons or housing and a less-than-significant impact would occur related to population growth, consistent with the proposed project.

## Public Services

As Alternative 1 would be located on the same site as the proposed project and would result in a smaller amount and type of development than Option 1, including the number of dwelling units (116 du vs. 240 du), development under Alternative 1 would generate a smaller number of new residents than the proposed project. Therefore, impacts to public services identified for the proposed project would also apply to Alternative 1. Accordingly, impacts to fire, police, schools, parks and libraries would be less than significant under Alternative 1 with the payment of required development impact fees and school fees, consistent with the proposed project.

## Transportation/Traffic

Circulation, access, and parking on the site would be substantially similar to the proposed project. Access to the site under Alternative 1 would be similar to the access configuration for the proposed project. Accordingly, review and approval of site plans by the City and its Fire Department before it issues a building permit for Alternative 1 would ensure that development of this alternative does not substantially increase roadway hazards, nor result in inadequate emergency access. Additionally, consistent with the proposed project, Alternative 1 would not conflict with adopted policies, plans, or programs related to alternative transportation, as the site is well served by public transportation, the population increase anticipated under Alternative 1 would not exceed the existing capacities of public transportation in the area, and Alternative 1 would promote a pedestrian-friendly environment. As such, Alternative 1, similar to the proposed project, would result in a **less-than-significant** impact related to roadway hazards, emergency access, and alternative transportation. Additionally, as Alternative 1 would not include the construction of any structures of substantial height that could interfere with existing airspace or flight patterns, a **less-than-significant** impact would occur related to air traffic patterns.

As Alternative 1 would result in a smaller number of residential units, the number of trips generated daily and during the AM and PM peak hours by Alternative 1 would be less than the proposed project. Therefore, consistent with the proposed project, all study intersections would operate at an acceptable level of service (LOS) under Alternative 1, with the exception of the intersections of Pullman Street/Baker Street (AM and PM Peak Hour) and Red Hill Avenue/Baker Street (PM Peak Hour), which would operate at an unacceptable LOS under General Plan Buildout without the implementation of Alternative 1. However, implementation of mitigation measures MM4.8-1, MM4.8-2, and MM4.8-3 would reduce the decrease in service to acceptable levels, similar to the proposed project. As such, Alternative 1 would not result in significant traffic impacts at any of the study intersections, and a **less-than-significant** impact, similar to, but less than, the proposed project, would occur as the number of trips would be reduced compared to the proposed project under Alternative 1.

## Utilities/Service Systems

As Alternative 1 would be located on the same site as the proposed project and would result in a smaller amount and similar type of development as compared to the proposed project, impacts to utilities/service systems identified for the proposed project would also apply to Alternative 1. Accordingly, Alternative 1 would result in no impacts or less-than-significant impacts relating to utilities/service systems, consistent with the proposed project.

## ■ Attainment of Project Objectives

Alternative 1 would achieve most of the project objectives identified by the City, as it would promote residential buildings that convey high visual quality and character, enhance the community image of Costa Mesa, and enable new residents to live in proximity to jobs and transportation services. Alternative 1 would achieve most of the project objectives identified by the project applicant by providing luxury living alternatives; however, implementation of Alternative 1 would not maximize the value of the underutilized site at sufficient density to make the demolition and construction economically feasible.

This Alternative would not fulfill all of the project objectives identified for the project. While this Alternative may result in a slight reduction of most environmental impacts, it would not necessarily reduce the significance of the impacts below those of the proposed project.

### 6.2.2 Alternative 3: No Project Alternative

#### ■ Description

Section 15126.6(e) of the CEQA Guidelines requires the analysis of a “no project” alternative. The purpose of examining such an alternative is to help decision-makers compare the effects of approving the project with the effects of not approving the project. This “no project” analysis must discuss the existing conditions of the site, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not to be approved. For a development project (such as the proposed project), the analysis generally focuses on the property remaining in its existing state with the addition of no new development or improvements. The No Project Alternative represents the status quo; the project site would continue to remain developed with the unoccupied Imperial Avenue Elementary School and no improvements would be constructed at the site.

#### ■ Potential Impacts

In general, no new environmental effects would directly result from the selection of this alternative. Maintenance of the project site in its current state would allow existing uses to continue. The project site would not be developed with new uses, and no demolition, grading or building construction activities would occur, eliminating potential construction-related air quality, greenhouse gas, noise, and traffic impacts. No increase in traffic would occur above what currently exists at the site, as the No Project Alternative would not include additional uses or associated trips, eliminating potential traffic impacts during operation. The absence of new traffic trips would eliminate potential operational air quality, greenhouse gas, and noise impacts associated with the proposed project. The project site would remain as it is aesthetically, and no changes to the visual character of the project site would occur. As no new development would occur on the project site, including earth-moving activities, the potential to encounter geology and soil constraints or contaminated soils would be eliminated, in contrast to the proposed project. Further, as no new residential uses would be developed, increased demands associated with an increased residential population, including demands on utilities and public services, would not occur. There would be no impacts to the on-site baseball field, and it would likely continue to be used as it is today.

No significant and adverse environmental impacts would occur as a result of the No Project Alternative. Although implementation of the No Project Alternative would effectively eliminate all potential impacts associated with the proposed project, the No Project Alternative would fail to meet the objectives of the proposed project.

### ■ Attainment of Project Objectives

Alternative 2 would not achieve any of the stated project objectives as no new development would occur on the site. However, as described above, Alternative 3 would eliminate significant and unavoidable impacts that have been identified for the proposed project.

## 6.3 COMPARISON OF PROJECT ALTERNATIVES

Table 6-1 (Comparison of Alternatives to the Proposed Project) provides a summary of the comparison of alternatives to either Option of the proposed project.

<b>Table 6-1 Comparison of Alternatives to the Proposed Project</b>		
<b>Environmental Issue Area</b>	<b>Alternative 1: Reduced Density Alternative</b>	<b>Alternative 2: No Project Alternative</b>
Aesthetics	=	-
Air Quality	-	-
Greenhouse Gas Emissions	-	-
Hydrology/Water Quality	=	-
Noise (operation)	=	-
Population/Housing	-	-
Public Services	-	-
Transportation/Traffic	-	-
Utilities/Service Systems	-	-

(-): Impacts considered to be less when compared with the proposed project.

(+): Impacts considered to be greater when compared with the proposed project.

(=): Impacts considered to be equal or similar to the proposed project.

## 6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

An EIR is required to identify the environmentally superior alternative from among the reasonable range of potentially feasible alternatives that are evaluated. This would ideally be the alternative that results in fewer (or no) significant and unavoidable impacts. A comparison of the proposed project with the alternatives analyzed in this section provides the basis for determination of the environmentally superior alternative. Table 6-1 indicates that the No Project Alternative would result in the fewest number of impacts and would eliminate significant and unavoidable impacts identified for the proposed project; however, the No Project Alternative would not achieve any of the project objectives.

Additionally, CEQA Guidelines Section 15126.6(e)(2) requires that if the No Project/No Development Alternative is determined to be the environmentally superior alternative, an environmentally superior

alternative must be identified among the other alternatives. As such, the environmentally superior alternative would be Alternative 1. While Alternative 1 would achieve most of the stated project objectives, Alternative 1 would generate less vehicle trips compared to the proposed project. As a result, though the impact conclusions would be the same under both the proposed project and Alternative 1, Alternative 1 would reduce GHG impacts, air quality impacts during operation, and traffic impacts as a result of the reduced number of vehicle trips associated with operation of Alternative 1. Therefore, the Reduced Density Alternative 1 would be considered the environmentally superior alternative, as summarized above in Table 6-1.

## 6.5 REFERENCES

Costa Mesa, City of. 2002a. *City of Costa Mesa 2000 General Plan*. January.

———. 2002b. *City of Costa Mesa 2002 General Plan Environmental Impact Report*, January 22.

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# CHAPTER 7 Report Preparers

## 7.1 TABLE OF REPORT PREPARERS

This EIR was prepared by Atkins, under contract to the City of Costa Mesa. Assisting Atkins in this task was the City of Costa Mesa staff members, and other public service providers. The following agencies and persons were directly involved in the preparation of this EIR.

It is recognized that no one individual can be an expert in all of the environmental analysis presented in this EIR. Consequently, an interdisciplinary team, consisting of technicians and experts in various issue areas, was required to prepare and complete this EIR. Table 7-1 (Report Preparers) provides a list of EIR preparers.

<b>Table 7-1 Report Preparers</b>	
<i>Name</i>	<i>Role</i>
<b>LEAD AGENCY</b>	
<b>City of Costa Mesa</b>	
Claire Flynn	Claire Flynn, AICP, Assistant Development Services Director
Mel Lee	Senior Planner, AICP
<b>ATKINS CONSULTANT TEAM</b>	
<b>Atkins</b>	
Julian Capata	Project Manager, Project Description, Land Use/Planning, Alternatives
Heather Dubois	Section Writer: Air Quality, Greenhouse Gas Emissions
Sharon Toland	Section Writer: Noise, Transportation/Traffic
Tomoki Demers	Section Writer: Other CEQA, Population/Housing, Public Services
Tamseel Mir	Section Writer: Aesthetics, Utilities/Service Systems
Pete Vitar	Noise Technical Support
Debra Surrell	Word Processing
James Songco	Graphics
Joel Miller	Administrative Coordination, Word Processing, Document Production

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