County of Los Angeles

THE CANYON RESIDENCES PROJECT

Draft EIR

Volume I

Sections 1.0 – 5.8

Project No. R2008-00549
Case Nos. RENVT20080042,
RCUPT200800069, RPAT200800004
SCH No. 2008061035

Prepared for:

County of Los Angeles
Department of Regional Planning
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September 2010

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1.0 INTRODUCTION

PURPOSE

This introduction is included to provide the reader with an overview of (1) the purpose and standards for adequacy of a Draft Environmental Impact Report (EIR); (2) the scope and content of the environmental review process being conducted by the County of Los Angeles for the proposed Canyon Residences Project ("Project" or "Project site"); (3) Lead, Responsible, and Trustee Agencies involved; (4) the Draft EIR review process; and (5) the format and content of this Draft EIR. The intent of this section is to familiarize the reader with the purpose, content, and format of this Draft EIR and its relation to the County of Los Angeles's planning and environmental review process for the proposed Project.

EIR PURPOSE AND STANDARDS FOR ADEQUACY

This Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) and the State Guidelines for the implementation of CEQA. This EIR identifies and discusses potential project-specific and cumulative environmental impacts that may occur should this proposed Project be implemented. The intent of this EIR is to (1) be an information document which serves to inform public agency decision makers and the general public of the potential environmental impacts of the Project, (2) identify possible ways to minimize or avoid any potential significant impacts either through mitigation or the adoption of alternatives, and (3) disclose to the public required agency approvals.

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

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

DRAFT EIR SCOPE

The County of Los Angeles determined that an EIR should be prepared for the proposed Project. As a result, a Notice of Preparation (NOP) was prepared and circulated between June 6, 2008, and July 21, 2008, for the required 30-day review period, which was extended by the County, at the request of the

public, for an additional two weeks. The purpose of the NOP was to solicit early comments from members of the public and public agencies with expertise in subjects that will be discussed in the Draft EIR. The County also held a public scoping meeting on the proposed Project to solicit oral and written comments from the public and public agencies. The public scoping meeting was held on June 19, 2008. The NOP and all written responses to the NOP are included within **Appendix 1.0** of this Draft EIR.

Topics evaluated in this Draft EIR have been identified based upon responses to the NOP, comments received at the scoping meeting, and review of the Project by County staff. The County determined through this initial review process that impacts related to the following topics are potentially significant and require assessment in this Draft EIR:

- Geotechnical and Soil Resources
- Hydrology, Drainage, and Water Quality
- Noise
- Air Quality
- Climate Change
- Visual Quality
- Traffic, Parking, Circulation, and Access
- Sewage Disposal
- Education
- Public Services: Fire Services
- Public Services: Sheriff Services
- Water Service
- Utilities
- Solid Waste
- Parks and Recreation
- Library Service
- Population, Housing, Employment
- Land Use and Planning
- Environmental Safety

LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The County of Los Angeles, as the public agency with authority for approval of the proposed Project, is the "Lead Agency" for the EIR, as defined by CEQA. As such, the County is responsible for ensuring that the EIR satisfies the procedural and informational requirements of CEQA and for the consideration and certification of the adequacy of the EIR prior to making any decision regarding the Project.

"Responsible Agency" means a public agency that proposes to carry out or approve a Project for which a Lead Agency is preparing, or has prepared, an EIR or Negative Declaration. For the purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency having discretionary approval over the Project. During the NOP review period, no other public agency identified

itself as a Responsible Agency with jurisdiction over resources potentially affected by the proposed Project.

"Trustee Agency" means a state agency having jurisdiction by law over natural resources affected by a Project which are held in trust for the people of the State of California. During the NOP review period, no state agency identified itself as a Trustee Agency with jurisdiction over resources potentially affected by the proposed Project.

EIR REVIEW PROCESS

This EIR is being circulated for a 45-day public review period. During this public review period, written comments concerning the adequacy of the document may be submitted by any interested person and/or affected agency to:

Mr. Anthony Curzi
County of Los Angeles Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012-3225
Telephone: (213) 974-6461
Fax: (213) 626-0434
Email: acurzi@planning.lacounty.gov

Following the public review period, written responses will be prepared for comments submitted either in writing during the public review period or orally at a public hearing held during the public review period for the purpose of soliciting comments on environmental issues in the Draft EIR, provided that such comments raise environmental issues. At least 10 days prior to a hearing to certify the Final EIR, proposed responses to comments from public agencies on the Draft EIR will be sent to those agencies. The Final EIR will be submitted to County staff, the Planning Commission and the Board of Supervisors, which will determine whether to certify the document as reflecting the County's independent judgment and having been properly prepared in accordance with CEQA. No aspect of the proposed Project will be approved until after the Final EIR is certified.

DRAFT EIR ORGANIZATION AND CONTENTS

A principle objective of CEQA is that the environmental review process informs and involves the public. In meeting this objective, the Draft EIR must inform members of the general public, decision makers, and technically oriented reviewers of the physical impacts associated with a proposed Project. To this end, specific features have been incorporated into this Draft EIR to make it more understandable for non-technically oriented reviewers, yet provide the technical information necessary for County personnel and other technical reviewers.

An overview of the organization of this Draft EIR and the contents of each section is provided below to assist the reader in using this document as a source of information about the proposed Project. Sections of the Draft EIR following this introduction are organized as follows:

Section 2.0, Executive Summary, provides a concise summary of the environmental information, conclusions, and analysis presented in this EIR.

Section 3.0, Project Description, presents a detailed description of the proposed Project, including identification of all discretionary approvals required to allow implementation of the proposed Project.

Section 4.0, Cumulative Projects, presents a list of past, present and reasonably foreseeable future projects located within the vicinity of the Project site.

Section 5.0, Environmental Impact Analysis, contains the analysis of each of the environmental topics identified above.

Section 6.0, Project Alternatives, evaluates alternatives to the proposed Project to provide additional information on ways to avoid or lessen the impacts of the proposed Project. The alternatives evaluated include the following: Alternative 1: No Project – Existing Facilities Re-Occupied with School and Church; Alternative 2: Single-Family Residences; Alternative 3: Reduced Density – 537 Residential Units; and Alternative 4: Mixed Use: Residential and Commercial.

Section 7.0, Effects Found Not to be Significant, briefly discusses those environmental topics for which the County has determined the proposed Project would not result in a significant impact.

Section 8.0, Significant Irreversible Environmental Changes, provides an analysis of the significant irreversible changes in the environment that would result from implementation of the proposed Project.

Section 9.0, Growth-Inducing Impacts, contains a discussion of the potential for the proposed Project to remove impediments to growth, foster economic growth, result in a precedent-setting action, and develop or encroach upon an isolated open space.

Section 10.0, List of Preparers of the EIR, lists all references consulted during preparation of this Draft EIR, including persons contacted, principle documents, reports, maps, websites, and other information sources viewed or referenced in the preparation of this Draft EIR.

Section 11.0, References, lists persons involved in the preparation of the Draft EIR.

Appendices to this Draft EIR include technical information and other materials used in the preparation of this EIR.

2.0 EXECUTIVE SUMMARY

PURPOSE

It is the intent of the Executive Summary to provide the reader with a clear and simple summary of the proposed Project and its potential environmental impacts. Section 15123 of the *California Environmental Quality Act (CEQA) Guidelines* requires that the summary identify each significant effect, recommended mitigation measure(s), and alternatives that would minimize or avoid potential significant impacts. The summary is also required to identify areas of controversy known to the lead agency, including issues raised by agencies and the public, and issues to be resolved, including the choice among alternatives, and whether or how to mitigate significant effects. This section focuses on the major areas of the proposed Project that are important to decision makers and utilizes non-technical language to promote understanding.

PROJECT LOCATION

The 15.3-acre proposed Project site is located at 1920 Brea Canyon Cutoff Road in the southeastern portion of the unincorporated Los Angeles County community of Rowland Heights, approximately 0.75 mile south of the Pomona Freeway (SR-60). Regional access to the Project site is provided by the Pomona Freeway, while local access to the site is provided by Fairway Drive, Brea Canyon Cutoff Road, and Colima Road. The Project site is currently owned by Southlands Church International and is presently developed with Southlands Christian Schools, which span grades Pre-K through 12, and the Southlands Christian Church. Nine single-story buildings, two paved surface parking lots and an athletic field currently occupy the site. Approximately 70 percent (11 acres) of the Project site is currently developed with buildings or pavement, and approximately 30 percent (4.7 acres) is unpaved.

PROJECT DESCRIPTION

The proposed Project would replace the existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field with 775 for-lease residential units in multiple buildings, a recreational facility for residents, parking structures containing 1,544 parking spaces, and landscaping throughout the Project site. The floor area ratio (FAR) on the proposed Project site would be 1.35:1. Three types of residences would be developed on the site: Podium Building units; Townhome-Style Apartments; and Wrap-Around Building units. The Podium Building units would be located in the northern portion of the site and contained in two four-story buildings set above a landscaped courtyard and partial below-grade parking. In the central portion of the Project site, two clusters of three-story Townhome-Style Apartment buildings would be constructed. The two

Wrap-Around Buildings that step from three to four stories would be located at the southern end of the Project site around landscaped courtyards and a four-level above-grade parking structure. A recreation facility containing leasing offices, a social room, fitness center, and business center would be centrally located on the Project site. Pools, a spa, and BBQ area would be located outside of the recreation facility. Additional recreational amenities, such as a children's tot playground and courtyards, would be incorporated into the Podium, Townhome-Style Apartment, and Wrap-Around buildings. The Project design incorporates measures from the Build It Green checklist and rating program for conserving natural resources, using water and energy wisely, and improving indoor air quality.

A sitewide total of 1,544 parking spaces are proposed. Approximately 872 spaces parking spaces for Podium building residents and guests would be contained in a two-level, partially below-grade parking structure. A driveway along the south side of the Podium building would provide parking structure access from Brea Canyon Cutoff Road. Each townhome unit includes a two-car garage, which would provide the required parking for townhome residents. Additionally, there would be a total of 27 at-grade guest parking spaces. The garages would be attached to the Townhome Style apartments, at grade, and would be accessed via the internal Project site driveways. A four-level above-grade parking structure adjacent to the Wrap-Around building would contain approximately 429 spaces and provide the required parking for Wrap-Around building residents and guests. Access to the parking structure would be provided via an internal driveway accessed from Brea Canyon Cutoff Road.

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of the site for partially below-grade parking, and construction of the new buildings, parking areas, and related improvements. This process would occur over an approximately 36-month period and some of the phases may overlap with other phases.

A more complete description of the proposed Project characteristics is provided in **Section 3.0, Project Description.**

PROJECT OBJECTIVES

The Project Applicant, Canyons Apartments LLC, seeks to develop the Canyon Residences Project (Project) on the approximately 15.3-acre Project site in the northeastern portion of Rowland Heights. Key objectives of the proposed Project are as follows:

Key Residential Objectives

1. Assist Los Angeles County in meeting the housing needs of its residents by contributing to the fulfillment of Los Angeles County's SCAG Regional Housing Needs Assessment (RHNA) allocation for moderate-income and above-moderate-income units, which requires the County to accommodate

expected growth by ensuring the availability of residential sites at adequate densities and appropriate development standards in unincorporated areas, as stated in the Los Angeles County General Plan Housing Element.

2. Provide new multi-family rental housing in the unincorporated Los Angeles County Rowland Heights area that is presently underserved by lifestyle multi-family residential uses that include various leisure and recreational amenities for residents, and increase the diversity of housing options as recommended by the Housing Element of the Rowland Heights Community General Plan.

3. Provide high-quality multi-family housing options without displacing existing residential uses.

4. Provide a diverse multi-family residential unit mix to meet the needs of a variety of tenants.

5. Provide sufficient outdoor gathering spaces and recreational amenities on the Project site to meet the needs of Project residents and reduce demand for off-site park and recreational facilities.

Key Sustainability Objectives

1. Implement sustainable design features that incorporate the *California Build It Green MultiFamily GreenPoint Checklist* of sustainable, green design principles into site location, site design, building construction techniques, and building materials.

2. Locate multi-family housing on an urban infill site within an urban growth boundary and already served by existing infrastructure.

3. Provide multi-family housing in proximity to existing employment centers in the eastern San Gabriel Valley, including the City of Industry, the major employment center for the San Gabriel Valley, Diamond Bar, and Pomona.

4. Encourage pedestrian activity and minimize vehicle use by providing higher-density housing in proximity to existing neighborhood-serving retail and commercial uses.

5. Locate multi-family housing in an area well served by mass transit, including bus and rail, to reduce Project-related vehicle miles traveled.

6. Locate multi-family housing on a site well served by the local and regional roadway network.

Additional Project Objectives

1. Utilize existing topography to minimize the visual impact of proposed buildings.

2. Build housing that is physically compatible with adjacent land uses.

3. Provide streetscape improvements that enhance the visual environment of the neighborhood and encourage pedestrian activity within the Project site as well as between the site and nearby retail and commercial land uses.

4. Meet all Project-related parking demand on the Project site.

SUMMARY OF IMPACTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the *State CEQA Guidelines* requires that an environmental impact report (EIR) identify any project impacts determined not to be significant and therefore not evaluated in detail in the EIR. The County of Los Angeles determined during the scoping process, through preparation of an Initial Study, that the proposed Project would have a less than significant impact or no impact on certain environmental topics, and that these topics therefore did not warrant detailed further analysis in the EIR. These topics include agricultural resources; archaeological/historical/paleontological resources; biological resources; and mineral resources. These topics are discussed in **Section 7.0, Effects Found Not to be Significant**, of the Draft EIR. The Initial Study is provided in **Appendix 1.0** of this Draft EIR.

TOPICS OF CONCERN

Consistent with the requirements of CEQA, the County of Los Angeles prepared an Initial Study for the Project. Based on conclusions of the Initial Study, and issues raised during the public scoping process, this EIR addresses the following topics:

- Geotechnical and Soil Resources
- Hydrology and Drainage
- Noise
- Air Quality
- Climate Change
- Visual Quality
- Traffic, Parking, Circulation, and Access
- Sewage Disposal
- Education
- Fire Services
- Sheriff Services
- Water Service
- Utility Service
- Solid Waste Service
- Parks and Recreation
- Library Service
- Population, Housing, and Employment
- Land Use
- Environmental Safety

DISCREATIONARY ACTIONS

The County of Los Angeles Department of Regional Planning is acting as Lead Agency as defined by CEQA for the environmental review of this Project. A series of approvals from the County are necessary for implementation of the Project. Discretionary and other approvals for the Project would include, but are not limited to, the following:

- Zone Change: From Light Agriculture (A1) to Residential Planned Development 50U;
- Conditional Use Permit;
- General Plan Amendment: To amend the existing Rowland Heights Community General Plan designation for the Project site (U1 or Urban 1) to create a new site-specific land use designation, "U6" or Urban 6, that would allow a density of up to 50 units per acre;
- Oak Tree Permit for the removal of three oak trees;
- Certification of an Environmental Impact Report;
- Grading, excavation, foundation, and other building permits;
- Annexation to County Sanitation Districts, District 21 through the Local Agency Formation Commission (LAFCO) of Los Angeles;
- Los Angeles Regional Water Quality Control Board National Pollutant Discharge Elimination System (NPDES) permit for the discharge of surface runoff from the Project site during construction; and
- Other permits and approvals as deemed necessary.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This EIR has been prepared to assess each potentially significant impact to the environment that could result from implementation of the proposed Project. For a detailed discussion regarding potential impacts, refer to **Section 5.0, Environmental Impact Analysis**, of this EIR.

In accordance with the *State CEQA Guidelines*, summaries of the Project's impacts are provided in **Table 2.0-1, Summary Table of Potential Project Impacts and Mitigation Measures.** Also provided in **Table 2.0-1** is a list of the proposed mitigation measures that are recommended in response to the potential significant impacts identified in this EIR, and a determination of the level of significance of the potential impact after implementation of the recommended mitigation measures.

Table 2.0-1
Summary Table of Potential Project Impacts and Mitigation Measures

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
GEOTECHNICAL AND SOIL RESOURCES		
Groundwater Based on current groundwater levels measured as part of the Geotechnical Investigation, the seepage zone is very near and possibly above the finished floor elevations of the western Podium building and associated partially subterranean parking structure (located on the northwestern portion of the Project site, adjacent to Brea Canyon Cutoff Road), the Townhome-Style Apartments (located in the center of the Project site), and the Wrap-Around buildings (located on the southern portion of the Project site). As such, impacts associated with high groundwater levels are potentially significant. **Liquefaction** The Project site is underlain by Miocene sedimentary bedrock units and tight, well-consolidated fine-grained alluvium and colluvium soils, which are not susceptible to liquefaction. Neither the soil particle sizes underlying the Project site (ranging from fine silty sand to sandy silt to sandy clay) nor soil hardnesses (ranging from medium dense to stiff) are conducive to liquefaction. Therefore, the potential for liquefaction and associated ground deformations beneath the site is very low and is therefore considered less than significant.	**5.1-1** The proposed Project shall be designed and constructed in accordance with recommendations contained in the Geotechnical Investigation prepared by Geocon West, Inc. and in accordance with all applicable local, state, and federal regulations, including the Uniform Building Code (UBC) and Title 26 of the Los Angeles County Code to the satisfaction of the Los Angeles County Department of Public Works. These recommendations include the following: • A qualified dewatering consultant would be retained to assess flow rates during the design phase of the Project. Temporary dewatering consisting of perimeter wells with interior well points may not be effective due to the presence of fine grained soils and bedrock as well as the inability of a well to produce groundwater draw-down in its vicinity. If wells are ineffective, the water may be collected and controlled within the excavation through the use of gravel-filled trenches (French drains). The number and locations of the French drains would be adjusted during excavation activities as necessary to collect and control any encountered seepage. The French drains would then direct the collected seepage to a sump where it will be pumped out of the excavation. • If shoring piles are required, the design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles would be deepened to take into account any required excavations necessary to place an adjacent French drain system, or sub-slab drainage system.	Less than significant

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
GEOTECHNICAL AND SOIL RESOURCES (continued)		
Subsidence and Hydrocompaction Subsidence could occur on-site during or following construction dewatering or permanent dewatering, if deemed necessary. Building construction atop saturated soils could result in compaction of those soils, leading to settlement of the structural elements of the proposed Project. Therefore, subsidence and hydrocompaction impacts are potentially significant. **Differential Settlement** Excavations required to achieve finished floor elevations for many of the proposed structures may penetrate and remove the existing fill and alluvial soils, exposing weathered bedrock throughout portions of the excavation bottom. However, foundations transitioning across fill, alluvium, and bedrock are prone to differential settlements. As such, impacts to the Project from differential settlement are potentially significant. **Expansive Soils** The Project site is underlain by fine-grained silty sand, sandy silt, sandy clay, fine-grained clay and bedrock deposits. These soils are highly variable and exhibit a range from "low" to "high" expansion potential. Furthermore, groundwater was encountered during exploration of the Project site at depths of 11 to 19 feet beneath the ground surface. For these reasons, impacts associated with the presence of expansive soils are potentially significant.	• A permanent dewatering system would be required to relieve and mitigate the water pressure when a structure has a subterranean portion that is below the zone of potential seepage and is not designed for full hydrostatic pressure. A subdrainage system consisting of perforated pipe placed in gravel-filled trenches could be installed beneath the subterranean slab-on-grade to intercept and direct groundwater to a sump and pumping unit. **5.1-2** In order to provide more uniform support and minimize the potential for differential settlement, the existing earth materials underlying the structure shall be reengineered, which may require over-excavating exposed soil and bedrock in order to create a more uniform, competent fill blanket for foundation and floor slab support. Where supporting soils cannot be engineered and the potential for differential settlement is inherent, a more rigid structural foundation system (grade-beam system, mat foundation, piles) shall be implemented. Each structure shall be independently evaluated and designed based on the geologic conditions underlying each structure to the satisfaction of the Los Angeles County Department of Public Works. • Where excavations exceed 10 feet, soldier piles will likely require lateral bracing utilizing drilled tie-back anchors or raker braces; • For the design of rigid concrete or masonry retaining walls, triangular distribution of lateral earth pressure may be used; • Continuous lagging between soldier piles; • Tie-back friction anchors may be used to resist lateral loads; and • Raker bracing may be used to internally brace the soldier.	

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
GEOTECHNICAL AND SOIL RESOURCES (continued)		
Seismic Hazards The Project site is considered subject to moderate to severe shaking, comparable to the surrounding developed area, but is not considered subject to significant seismic hazards including fault rupture, seismic ground shaking, liquefaction, slope failure, and landslides with implementation of the recommended mitigation measures. The Project site is not located in an area subject to liquefaction, as discussed in detail in the Geotechnical Investigation prepared for the proposed Project. Residential uses are not considered sensitive to seismic hazards. Project implementation would not expose sensitive uses to significant geotechnical hazards. **Alteration of Topography and Slope Stability** Implementation of the Project, which includes grading and excavation of 100,000 cubic yards, would alter the existing topography of the Project site. While the Project site is not within an area identified as having a potential for slope instability, proposed excavation would result in penetration and removal of the existing fill and alluvial soils, thereby exposing weathered bedrock that may result in slope instability. Impacts associated with the alteration of topography and slope instability are potentially significant.		

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
GEOTECHNICAL AND SOIL RESOURCES (continued)		
The soils encountered at the Project site are highly variable and exhibit a range from "low" to "high" expansion potential, as defined by the Uniform Building Code (UBC), Table 18-I-B. Therefore, expansive soils are likely to impact the proposed structures. However, the existing earth materials underlying the structure would be reengineered during the construction process, which may require over-excavating exposed soil and bedrock in order to create a more uniform, competent fill blanket for foundation and floor slab support.		
Cumulative Impacts Geotechnical impacts tend to be site specific rather than cumulative in nature and any development occurring within the County of Los Angeles would be subject to, at a minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the region. As Project development and each related project would have to be consistent with recommendations contained in each project's geotechnical investigation report, or similar study, and be designed in accordance with the California Building Code (CBC), as well as proper engineering practices and the requirements of applicable portions of the County Code, cumulative impacts associated with known geologic conditions would be less than significant.	No mitigation measures are required.	Less than significant

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
HYDROLOGY, DRAINAGE AND WATER QUALITY		
Construction Impacts The removal of vegetation and other soil-stabilizing features during Project construction could accelerate wind and water driven erosion of soils that would increase sedimentation during storm events. During construction, dewatering would be achieved with perforated underground storage tanks that would allow for infiltration in the soil. The filtered water would then be disposed of into the County's storm drain system. The Applicant would obtain a National Pollutant Discharge Elimination System permit for demolition and construction. The Project Applicant would comply with all applicable requirements of the National Pollutant Discharge Elimination System program. The Applicant would also prepare a Stormwater Pollution Prevention Plan containing Best Management Practices, structural treatment and source control measures appropriate and applicable to the Project. Implementation of Best Management Practices would ensure that the Los Angeles Regional Water Quality Control Board water quality standards are met during construction activities and impacts related to development of the Project would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
HYDROLOGY, DRAINAGE AND WATER QUALITY (continued)		
Flooding The Project site contains no floodways and is not located within a floodplain. According to the Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency, the Project site is located within Zone X,[1] denoting a less than 0.2 percent chance of annual flooding. The Project site is not located within a 50- or 100-year flood area and direct inundation by storm events of this magnitude is considered unlikely.	No mitigation measures are required.	Less than significant.

1 Federal Emergency Management Agency. Flood Insurance Rate Maps. http://www.fema.gov/hazard/map /firm.shtm. 2008.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
HYDROLOGY, DRAINAGE AND WATER QUALITY (continued)		
Runoff Water Quality Activities reasonably expected to be conducted on site following Project buildout, such as the use and disposal of household cleaners, pool and spa chemicals, fertilizers and pesticides, and other common substances, could contribute pollutants to runoff. In compliance with Los Angeles Regional Water Quality Control Board requirements, the Applicant would be required to implement a Standard Urban Storm Water Mitigation Plan to ensure that potential stormwater pollution is addressed by Best Management Practices incorporated into Project design. Additionally, since discharge from the permanent dewatering system associated with the proposed Project could contribute suspended solids and organic material, dewatering would require a National Pollutant Discharge Elimination System Permit for Groundwater Discharge. With compliance with National Pollutant Discharge Elimination System and Standard Urban Stormwater Mitigation Plan requirements, potential water quality impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
HYDROLOGY, DRAINAGE AND WATER QUALITY (continued)		
Runoff Volume Implementation of the Project would decrease the amount of pervious surface area on the Project site by 15 percent or 2.35 acres. The Project site would be designed to detain the increased runoff volume following Project buildout through proposed natural drainage swales, retention basins, and storm drain storage facilities. Following filtration and/or detention, all runoff generated on the Project site would be gradually released into the existing 72-inch storm drain beneath the site, so that 50-year-storm event peak flows following Project buildout are the same as peak flows under existing conditions. Since peak flows would not increase over existing conditions and would remain within the receiving County's storm drain system capacity, impacts to the stormwater system would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
HYDROLOGY, DRAINAGE AND WATER QUALITY (continued)		
Cumulative Impacts Development of the proposed Project and related projects could result in the violation of water quality or waste discharge requirements during construction and operations. However, none of the related projects discharge to storm drains directly serving the proposed Project, and therefore would not result in any demand on the capacity of those storm drains. With respect to water quality, the proposed Project and all related projects would be required to comply with National Pollutant Discharge Elimination System permits and prepare a Stormwater Pollution Prevention Plan for construction activities. As with the proposed Project, the Stormwater Pollution Prevention Plans prepared for each related project would incorporate Best Management Practices by requiring controls of pollutant discharges that utilize best available technology to reduce pollutants. In addition, the proposed Project and related projects are required to submit and then implement a Standard Urban Stormwater Mitigation Plan containing design features and Best Management Practices appropriate and applicable to each project to reduce post-construction operational pollutants in stormwater discharges. Potential water quality impacts of related projects would be less than significant in light of compliance with National Pollutant Discharge Elimination System requirements, and the enforcement of these requirements by the County. As such, cumulative hydrology impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
NOISE		
Construction Noise During Project construction, the nearest residential uses would be intermittently exposed to noise levels exceeding 65 dB(A), the maximum noise exposure level for long-term construction activity. This would result in a potentially significant impact. The construction haul route utilizes only major traffic corridors, provides the most direct access to the Pomona Freeway, and minimizes the use of roadways adjacent to residential or other sensitive uses wherever possible. Therefore, temporary noise impacts associated with the haul route would be less than significant. Since it takes a doubling of average daily trips on roadways to increase noise by three dB(A) Community Noise Equivalent Level (CNEL) and since construction workers traveling to the Project site would not cause a doubling of average daily trips in the immediate area, the noise level increases along major arterials surrounding the Project site would be less than three dB(A). Therefore, noise impacts associated with the transportation of construction personnel would be less than significant.	**5.3-1** All construction equipment, fixed or mobile, that is utilized on the site for more than two working days shall be in proper operating condition and fitted with standard factory silencing features. To ensure that mobile and stationary equipment is properly maintained and meets all federal, state, and local standards, the Applicant shall maintain an equipment log. The log shall document the condition of equipment relative to factory specifications and identify the measures taken to ensure that all construction equipment is in proper tune and fitted with an adequate muffling device. The log shall be made available to the Los Angeles County Department of Public Works for review and approval on a quarterly basis. In areas where construction equipment (such as generators and air compressors) is left stationary and operating for more than one day within 100 feet of residential land uses, temporary portable noise structures shall be built. These barriers shall be located between the piece of equipment and sensitive land uses. **5.3-2** All exterior construction activity, including grading, transport of material or equipment and warming up of equipment, shall be limited to between the hours of 7:00 AM and 7:00 PM, except for concrete pours, and shall not occur on Sundays or legal holidays unless approved by the Los Angeles County Department of Public Works. The work schedule shall be posted at the construction site and modified as necessary to reflect deviations approved by the Los Angeles County Building and Safety Division. **5.3-3** The Project Applicant shall post a notice at the construction site and along the proposed truck haul route. The notice shall contain information on the type of Project and anticipated duration of construction activity, and shall provide a phone number where people can register questions and complaints. The Applicant shall keep a record of all complaints and take appropriate action to minimize noise generated by the offending activity where feasible to the satisfaction of the Los Angeles County Department of Public Health. A monthly log of noise complaints shall be maintained by the Applicant and made available to the County of Los Angeles Department of Public Health.	Short-term noise impacts during construction would remain significant and unavoidable.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
NOISE (continued)		
Construction Vibration The primary and most intensive vibration source associated with the development of the Project would be the use of bulldozers during construction. As a result, ground vibrations from Project construction activities are anticipated to exceed the County of Los Angeles groundborne vibration threshold of 0.01 Peak Particle Velocity (PPV) at or beyond the property boundary on private property. Impacts would be significant.	**5.3-4** All construction activity resulting in vibration that exceeds the County of Los Angeles groundborne vibration threshold of 0.01 PPV at or beyond the property boundary of an adjacent sensitive use shall be limited to Monday through Saturday, between the hours of 9:00 AM and 5:00 PM.	Short-term vibration impacts during construction would remain significant and unavoidable.
Roadway Noise Noise level increases attributable to traffic generated by the Project would range from 0.1 to 0.4 dB(A) CNEL. A noise level increase of less than three dB(A) is not typically noticed by the human ear. Since all roadway noise increases associated with the Project would be less than three dB(A) CNEL, such roadway noise increases would not be perceptible and thus no significant off-site noise impacts would occur as a result of Project operation.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
NOISE (continued)		
Stationary Noise Sources The Project would result in new stationary noise sources similar to those already occurring on the Project site, and the proposed buildings would be configured such that the Project components with the greatest potential for noise generation (e.g., parking areas) are located on the interior of the site and surrounded by structures that act as noise barriers. All stationary noise sources associated with the Project would be subject to Section 12.08 of the County Code, which sets standards limiting off-site noise level increases due to the operation of air conditioning and refrigeration equipment.	No mitigation measures are required.	Less than significant.
Interior Noise Assuming minimum attenuation of 23 dB(A) associated with compliance with California Code of Regulations Title 24 requirements, interior noise levels for proposed units along Brea Canyon Cutoff Road are estimated to be 45.4 dB(A) CNEL at buildout. Therefore, interior noise levels along this roadway could exceed the 45 dB(A) CNEL threshold for residential interior space established in California Code of Regulations Title 24 such that significant operational noise impacts could result.	**5.3-5** The Applicant shall incorporate building materials and techniques that reduce sound transmission through walls, windows, doors, ceilings, and floors of on-site residences in order to achieve interior noise levels that meet or are below the California Code of Regulations Title 24 standards for interior noise, which is 45 dB(A). Such building materials and techniques may include double-paned windows, staggered studs, or sound-absorbing blankets incorporated into building wall design, or outdoor noise barriers erected between noise sources and noise-sensitive areas, such as berms made of sloping mounds of earth, walls and fences constructed of a variety of materials, or combinations of these materials.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
NOISE (continued)		
Cumulative Impacts Noise level increases attributable to traffic generated by cumulative development would be less than three dB(A) CNEL for all roadway segments. A noise level increase of less than three dB(A) is not typically noticed by the human ear. Since all roadway noise increases associated with the cumulative traffic volumes would be less than three dB(A) CNEL, such roadway noise increases would not be perceptible and thus cumulative roadway noise impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures		Impact After Mitigation, if required
AIR QUALITY			
Construction Emissions (Daily Emissions Thresholds) The significance threshold for NOx during the grading phase of construction would be exceeded. The significance threshold for all other criteria pollutants would not be exceeded during any phase of construction for the proposed Project. Therefore, construction emissions would result in a significant impact with respect to NOx emissions in the region.	**5.4-1**	The Developer shall prepare a Construction Traffic Emission Management Plan to minimize emissions from vehicles including, but not limited to, scheduling truck deliveries to avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of 5 minutes.	Less than significant.
	5.4-2	The Contractor shall ensure that the use of all construction equipment is suspended during first-stage smog alerts.	
	5.4-3	The Contractor shall use electric or alternatively fueled mobile equipment for on-site uses instead of diesel equipment if suitable equipment is commercially available and the necessary power and refueling infrastructure can reasonably be installed on-site.	
	5.4-4	The Contractor shall maintain construction equipment by conducting regular tune-ups according to the manufacturers' recommendations.	
	5.4-5	The Contractor shall use electric welders to avoid emissions from gas or diesel welders if suitable equipment is commercially available and the necessary power infrastructure can reasonably be installed on site.	
	5.4-6	The Contractor shall use on-site electricity or alternative fuels rather than diesel-powered or gasoline-powered generators if suitable equipment is commercially available and the necessary power and refueling infrastructure can reasonably be installed on site.	
	5.4-7	The Project Applicant shall require on-site off-road construction equipment to meet EPA Tier 3 emissions standards (Model Year 2006 or later) at a minimum. This requirement will apply to any piece of equipment which is expected to operate on site more than 15 days.	

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
Construction Emissions (Daily Emissions Thresholds) (continued)	**5.4-8** For equipment not covered by **Mitigation Measure 5.4-7** above, the Project Applicant shall evaluate the potential for reducing exhaust emissions from on-road and off-road construction equipment, and implement such measures. Control technologies to be considered may include particulate traps, selective catalytic reduction, oxidation catalysts, air enhancement technologies, and the use of alternatively (non-diesel) fueled engines. Considerations will include commercial availability of appropriate California Air Resources Board verified technologies. **5.4-9** General contractors shall implement a fugitive dust control program pursuant to the provisions of SCAQMD Rule 403.	

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
Construction Emissions (Localized Significance Thresholds) Construction of the Project would generate on-site emissions that would exceed the site-specific localized significance thresholds for PM_{10} and $PM_{2.5}$ for nearby residential receptors. These impacts would primarily result from earthmoving activities on the Project site. Construction of the Project would not generate on-site emissions in excess of the site-specific localized significance thresholds for NO_2 and CO for any residential receptor. The Project would also not exceed the localized significance thresholds for any pollutant for sensitive receptors. Therefore, the localized impacts during construction of the Project would be significant for PM_{10} and $PM_{2.5}$. The emissions do not account for all fugitive dust control measures required by the South Coast Air Quality Management District Rule 403 (Fugitive Dust) because the reductions are not specifically quantifiable. While the PM_{10} impact implies that the localized Project emissions of concern are fugitive dust emissions, implementation of the required fugitive dust control mitigation measures, as recommended by South Coast Air Quality Management District Rule 403 (Fugitive Dust), would reduce the localized impacts of $PM_{2.5}$ to less than significant. However, localized impacts of PM_{10} would remain potentially significant.	See **Mitigation Measure 5.4-9**, above.	Impacts during construction would remain significant and unavoidable (for PM_{10})

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
Operational Emissions Operational emissions would be generated by both stationary and mobile sources as a result of normal day-to-day activity on the Project site. Stationary emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment, and from the use of consumer products. Mobile emissions would be generated by motor vehicles traveling to and from the Project site. The Project at build out and in full operation would generate net emissions that exceed the South Coast Air Quality Management District threshold for VOCs and NOx during both summer and winter. Therefore, operational emissions of VOCs and NOx would result in a significant impact on air quality in the region.	**5.4-10** The Project shall provide short-term and long-term bicycle parking facilities to meet peak season maximum demand. **5.4-11** The Project shall provide route information to residents. **5.4-12** The Project shall provide designated parking spaces for carpools and vanpools. **5.4-13** The Project shall maintain an information center for residents providing public transit, "para-transit," carpooling, and other relevant transportation-related information. The information center shall be designated in a convenient and accessible indoor location within the development. This information center shall be maintained by building management. **5.4-14** The Project shall provide information to residents on low-VOC containing consumer products, such as low-VOC paint and low-VOC cleaning products. This information will be freely available and incorporated within the information center, as described in **Mitigation Measure 5.4-13**. **5.4-15** The Project shall use low-VOC containing paints for all exterior and interior applications, to the extent feasible. **5.4-16** The Project shall comply with the applicable provisions and requirements of the County of Los Angeles Green Building Ordinance and the Drought-Tolerant Landscaping Ordinance.	Significant and unavoidable (for VOC emissions)

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
AQMP Consistency Growth projections by Southern California Association of Government's form the basis of the land use and transportation control portions of the Air Quality Management Plan. The proposed Project is considered to be consistent with the future residential figures projected for the region. The increase in population due to the proposed Project is within Southern California Association of Government's projected population increase for the San Gabriel Valley region for 2012 and therefore, the Project would not increase population figures over those that have been planned for the area. Further, the Project would be consistent with the Air Quality Management Plan forecasts for this area, would be considered consistent with the air quality-related regional plans, and would not jeopardize attainment of state and federal ambient air quality standards.	No mitigation measures are required.	Less than significant.
CO Hotspots Traffic congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO "hotspots." No significant CO hotspot impacts would occur to sensitive receptors in the vicinity of these intersections as a result of the Project. As a result, no significant Project-related impacts would occur relative to future carbon monoxide concentrations.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
Odors and Toxic Emissions The residential land uses associated with the proposed Project are not expected to use hazardous materials in appreciable quantities, emit toxic air contaminants in appreciable quantities, or be a source of persistent odors. Refuse associated with operation of the proposed Project will be disposed of in accordance with all applicable regulations. Additionally, the adjacent land uses are such that the Project residents would not be subjected to substantial sources of objectionable odors from any surrounding land use. Consequently, no significant impacts from odors or toxic substances are anticipated.	No mitigation measures are required.	Less than significant.
Carcinogenic Risk The proposed Project is located in an area with an approximate carcinogenic risk range of 1,088 to 1,108 in 1,000,000. Accordingly, the impacts would not be any higher than those experienced by the general population. It is not anticipated that the Project would expose sensitive receptors to substantial increases in health risks and pollutant concentrations relative to the general population. No significant impacts with respect to this criteria are expected to occur.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
Cumulative Impacts Project impacts would have a cumulatively considerable contribution to cumulatively significant impacts when the average daily trips exceed the rate of growth in population defined in South Coast Air Quality Management District's Air Quality Management Plan. The average daily trip ratio is less than the population ratios at Project buildout in 2012. As such, cumulative impacts would be less than significant based on this criterion. Individual Projects that exceed the South Coast Air Quality Management District -recommended daily thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment. The Project's construction emissions would exceed the Project-level significance threshold for NO_x, however, these NO_x impacts would be reduced to a less than significant level upon implementation of **Mitigation Measure 5.4-7**.	See **Mitigation Measure 5.4-7**, above	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
AIR QUALITY (continued)		
Cumulative Impacts (continued) The Project's net operational emissions would exceed the Project-level significance thresholds for VOC and NOx. Therefore, the Project would result in regional emissions that are cumulatively considerable for VOC and would therefore result in significant cumulative impacts with respect to this criterion. However, the Project would result in regional emissions that are cumulatively considerable for NOx and would therefore result in significant cumulative impacts with respect to this criterion prior to implementation of mitigation **Measure 5.4-7**.		

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
CLIMATE CHANGE		
Project Impacts The Project would result in one-time emissions of greenhouse gasses (GHGs) during Project construction. These emissions, primarily CO_2, CH_4, and N_2O, are the result of fuel combustion from construction equipment and motor vehicles. At full buildout, the Project would result in direct annual emissions of CO_2, CH_4, and N_2O as the result of fuel combustion from building heating systems and motor vehicles. The Project would also result in indirect GHG emissions due to the Project's electricity demands, water demands, wastewater generation, and solid waste generation. The proposed Project would contribute approximately 0.0020 percent to the annual state GHG inventory. Additionally, the Project incorporates GHG reduction measures and strategies, and is generally consistent with the overall goals, strategies, and control measures established under AB 32, the Attorney General, Office of Planning and Research, 2006 Climate Action Team Report, and the Los Angeles County Green Building Ordinance and Drought-Tolerant Landscaping Ordinance. Given these measures, the Project would emit 39 percent less GHG emissions due to energy consumption than the average California housing stock. For these reasons, the Project's impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
CLIMATE CHANGE (continued)		
Cumulative Impacts The proposed Project is generally consistent with the overall goals, strategies, and control measures established under AB 32, and with applicable Attorney General, Office of Planning and Research, and 2006 Climate Action Team Report recommended measures for the reduction of GHGs. Compared to the estimated GHG for all sources in California, the Project's contribution to global climate would be imperceptible. No quantitative emission thresholds or similar criteria have been established to evaluate the cumulative impact of a single project on global climate. The Project incorporates objectives and GHG reduction measures consistent with the County of Los Angeles Green Building Ordinance and the Drought-Tolerant Landscaping Ordinance that would reduce the contribution to cumulative GHG emissions. Further, the Project is generally consistent with the overall goals, strategies, and control measures established under AB 32, Office of Planning and Research Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Ordinance and the Drought-Tolerant Landscaping Ordinance. Therefore, with incorporation of such Project design features as mitigation, the Project would have a less than significant cumulative impact on global climate change.	**5.5-1** The Project shall comply with the applicable provisions and requirements of the County of Los Angeles Green Building Ordinance and the Drought-Tolerant Landscaping Ordinance. **5.5-2** The Project shall comply with the applicable measures generally consistent with CARB's AB 32 Scoping Plan, the Attorney General's "project-level" measures, OPR's recommended measures, and the 2006 Climate Action Team Report, as listed in **Table 5.5-10**, **Table 5.5-11**, **Table 5.5-12, and Table 5.5-13**, respectively, of the EIR.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
VISUAL QUALITY		
Visual Character - Construction Impacts Construction of the Project would periodically subject the site and neighboring land uses to the presence of construction equipment, incomplete structures, stockpiled cut soil material, and areas in landscaping transition. Construction of the Project is anticipated to occur over an approximately 36-month period and could result in temporary adverse impacts on the visual character of the Project site and surroundings during this time. However, construction activity would be temporary and impacts on visual character are therefore considered less than significant. Nonetheless, **Mitigation Measure 5.6-1** is recommended to further ensure less than significant impacts.	**5.6-1** The Project construction site, including equipment and supplies staged on-site, shall be screened from street-level view throughout construction with appropriate fencing and barriers. The Project Applicant shall ensure, through appropriate postings and periodic visual inspections, that no unauthorized materials are posted on any temporary barriers, fencing, screens, or pedestrian walkways during construction.	Less than significant.
Light and Glare – Construction Impacts During construction, nighttime lighting would be maintained on the construction site for security purposes. Such lighting on or near the site boundary could generate light spillover onto adjacent residential properties, resulting in a significant impact.	**5.6-2** The use of security lighting during Project construction shall be limited to only those locations on the construction site requiring illumination. **5.6-3** All security lights shall be properly shielded and projected downwards during construction such that light is directed only onto the work site.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
VISUAL QUALITY (continued)		
Scenic Vistas The Project site is not visible from any state-designated scenic highways, but is visible from Brea Canyon Cutoff Road, which is designated as a rural corridor by the Rowland Heights Community General Plan. However, the Brea Canyon Cutoff corridor has been heavily urbanized since the designation was issued. Furthermore, the Project site is adjacent to Colima Road, which is a major highway and heavily developed commercial corridor. Views of the Project site from other vantage points are limited due to intervening residential tracts, vegetation, and topographical relief in the hillsides. Therefore, impacts to scenic vistas would be less than significant.	No mitigation measures are required.	Less than significant.
Visual Character– Operational Impacts Due to the elevation differential across the Project site, building heights of all proposed structures would be generally consistent with the residential uses to the south and east. However, portions of the Project would be visually inconsistent with the generally smaller building footprints associated with the adjacent multi-family residences to the east and south and the single-family residences to the west across Brea Canyon Cutoff Road. Although the Project includes several features intended to ease the transition between the Project site and surrounding land uses, the proposed Project would not be visually consistent with surrounding uses. Impacts would be significant.	No feasible mitigation is available.	Significant and unavoidable.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
VISUAL QUALITY (continued)		
Light and Glare – Operational Impacts Proposed lighting would be used to create a safe, adequately illuminated nighttime environment on the Project site by highlighting building entrances and illuminating public places where people are expected to congregate. No sources of substantial glare would be used. The potential exists for intermittent gaps in intervening buildings and landscaping to permit light spillover off the Project site, resulting in a significant impact.	**5.6-4** All outdoor lighting shall consist of low-intensity downlights or be equipped with louvers, shields, hoods or other screening devices. **5.6-5** All outdoor lighting shall be projected downwards to illuminate the intended surface and minimize light spillover and glare generation.	Less than significant.
Shade and Shadow– Operational Impacts The Project is anticipated to temporarily shade portions of off-site residences to the east, especially during and in the days surrounding the Winter Solstice when shadows are longest. Additionally, the proposed Podium Buildings would cast shadows over the balconies of the senior housing complex to the north for a period likely exceeding 3 hours under extreme shading conditions. Therefore, impacts would be significant.	No feasible mitigation is available.	Significant and unavoidable.
Cumulative Impacts No pending projects in Rowland Heights, other than the proposed Project, would contribute to a cumulative increase in building height and density that is incompatible with surrounding uses. Furthermore, while the proposed Project would result in significant impacts associated with visual incompatibility and shading, these impacts would be localized and would only affect adjacent uses. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS		
Construction Impacts Project construction would occur over approximately 36 months. All construction equipment and trucks would be staged on the on Brea Canyon Cutoff Road or on the Project site. All construction worker parking would be accommodated on the Project site. For construction trucks hauling demolition and earth material from the Project site, the haul route would proceed north on Brea Canyon Cutoff Road, which becomes Fairway Drive, and then onto Highway 60. During construction activities, the Project Applicant shall develop and implement a Construction Management Plan satisfactory to the Department of Public Works to minimize potential conflicts between construction activity and through traffic. Further information regarding the requirements for the Construction Management Plan are contained in **Mitigation Measure 5.7-1**. With implementation of mitigation, traffic impacts associated with construction of the proposed Project would be reduced to less than significant.	**5.7-1** The Project Applicant and Construction Contractor shall prepare a Construction Management Plan to minimize traffic flow interference from construction activities. The Final Construction Management Plan shall be submitted to the County Department of Public Works and may include, but not be limited to, the following measures: • Maintain existing access for land uses in the proximity of the Project site during Project construction; • Schedule deliveries and pick-ups of construction materials for non-peak travel periods, to the maximum extent feasible; • Coordinate haul trucks, deliveries and pick-ups to reduce the potential for trucks waiting to load or unload for protracted periods of time; • Construction equipment traffic from the contractors shall be controlled by flagman in order to minimize circulation conflicts and obstruction of through-traffic lanes specifically along Brea Canyon Cutoff Road; • Designated transport routes for heavy trucks and haul trucks to be used over the duration of the proposed Project; • Schedule vehicle movements to ensure that there are no vehicles waiting off site and impeding public traffic flow on the surrounding streets;	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Construction Impacts (continued) Construction may occur between the hours of 7:00 AM and 7:00 PM, except on Sundays and legal holidays. As such, the majority of the construction workers would arrive to and depart from the Project site during off-peak hours. Consequently, the impact associated with construction worker traffic on peak hour traffic in the vicinity of the site would be negligible. In addition, the maximum number of construction-related Project trips would be less than existing uses. As such, worker trips occurring during Project construction would have a less than significant traffic impact.	• Establish requirements for loading/unloading and storage of materials on the Project site where parking spaces would be encumbered, traffic travel lanes be encumbered, or sidewalk closings or pedestrian diversions could occur to ensure the safety of the pedestrian and access to local businesses; • Coordinate with adjacent businesses, land uses, and emergency service providers to ensure adequate access exists to the Project site and neighboring land uses; and • Prohibit parking for construction workers except on the Project site, unless approval is obtained from the County of Los Angeles. • The Final Construction Management Plan shall be submitted and approved by the County no later 30 days prior to commencement of construction.	

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Operational Impacts Ambient traffic growth in and around the study area would increase traffic at all of the 19 study intersections by the year 2012. However, most of the intersections would continue to exhibit the same levels of service as presently exist, with 16 of the 19 study intersections operating at LOS D or better conditions during both of the weekday peak hours for the "Existing Plus Ambient Growth" traffic condition. Net Project traffic is expected to increase the volume to capacity ratio values at some of the 19 study intersections during the weekday peak hour periods. The addition of Project traffic would not exceed the County's significance threshold criteria except at the following three intersections: Brea Canyon Cutoff Road/Fairway Drive at Colima Road during the AM and PM peak hours; Colima Road at Nogales Street during the PM peak hour; and Fairway Drive at Valley Boulevard during the PM peak hour. Implementation of **Mitigation Measures 5.7-2** through **5.7-4** would reduce impacts to less than significant. The addition of net Project traffic to Caltrans maintained intersections and the one unsignalized intersection is expected to incrementally increase intersection delay during the weekday AM and PM peak hours at some intersections. However, the LOS would remain at acceptable levels at all of the intersections. Therefore, the addition of Project traffic would not result in a significant impact to the Caltrans maintained intersections or the one unsignalized intersection.	**5.7-2** Prior to issuance of the final certificate of occupancy, the Project Applicant shall construct an additional southbound through lane at the intersection of Brea Canyon Cutoff Road and Colima Road, as shown in **Figure 5.7-15, Mitigation Improvements at Brea Canyon Cutoff Road and Colima Road**. This improvement can be accomplished by striping changes and minor median modifications. **5.7-3** Prior to issuance of the final certificate of occupancy, the Project Applicant shall construct a separate northbound right-turn lane at the intersection of Colima Road and Nogales Street as shown in **Figure 5.7-16, Mitigation Improvements at Colima Road and Nogales Street**. This improvement can be accomplished by striping changes within the existing right-of-way, but may require reconstructing a portion of the existing raised median by 2 feet or reducing the width by 2 feet for land widths greater than 11 feet. **5.7-4** Prior to issuance of the final certificate of occupancy, the Project Applicant shall construct a separate southbound through lane at the intersection of Fairway Drive and Valley Boulevard, as shown in **Figure 5.7-17, Mitigation Improvements at Fairway Drive and Valley Boulevard**. This improvement can be accomplished by striping changes to the north leg and the installation of traffic loops in the in each lane within the 40-foot curb-to-curb width of the street, but may require 2 to 4 feet of roadway widening within the existing 60-foot right of way to accommodate lane widths greater than 10 feet.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Operational Impacts (continued) The V/C ratio for each study roadway segment is expected to increase over existing values with the addition of net Project traffic to the existing plus ambient traffic condition. However, the LOS is projected to remain at acceptable levels of service, LOS D or better, at all study area roadway segments. Therefore, the addition of Project traffic would not result in a significant impact to any of the study area roadway segments.	No mitigation measures are required.	Less than significant.
Operational Impacts **Trip Generation** The proposed Project would add less than 50 trips during both peak hours to the two CMP intersections. Therefore, traffic generated by the proposed Project would result in a less than significant impact on CMP monitoring intersections. The proposed Project would add less than 150 trips during both peak hours to the CMP mainline freeway segment. Therefore, net traffic generated by the proposed Project would result in a less than significant impact on CMP mainline freeway segments.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Operational Impacts **Access** With Project implementation, the main Project driveway on Brea Canyon Cutoff Road would be located opposite existing Reedview Drive, creating a new four-legged intersection. If this intersection is controlled by stop signs only on the minor legs (i.e., Reedview Drive and the main driveway to the Project), the LOS is projected to deteriorate from "B" to "D" during the PM peak hour with the addition of Project-generated traffic. Based solely on Caltrans Estimated Average Daily Traffic (EADT) Warrants volumes forecasted for buildout year 2012 at the intersection of Brea Canyon Cutoff Road and the main Project driveway, the intersection of Brea Canyon Cutoff Road and the main Project driveway is not anticipated to require traffic signalization as a result of Project traffic. However, the Project driveway will be signalized prior to Project buildout, as required by **Mitigation Measures 5.7-5**. Left-turn movements into and out of the secondary driveways on the Project site could result in traffic hazards, which is a potentially significant impact. With implementation of Mitigation **Measures 5.7-6**, the two secondary Project driveways located along Brea Canyon Cutoff Road would be restricted to right-turn ingress and egress, which would eliminate traffic hazards for these driveways associated with the Project. Implementation of this mitigation measure would reduce these potential traffic impacts to a less than significant level.	**5.7-5** Prior to issuance of the final certificate of occupancy, the Project Applicant shall install a traffic signal at the main Project driveway on Brea Canyon Cutoff Road at Reedview Drive to allow safe and convenient left turn movements into and out of the Project site. **5.7-6** The two secondary Project driveways located along Brea Canyon Cutoff Road shall be restricted to right-turn ingress and egress only.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Parking The proposed Project would provide a total of approximately 1,544 parking spaces, which is in conformance with the Los Angeles County Code parking requirements for multifamily residential units, which are established to ensure that an adequate number of spaces are available to accommodate anticipated parking demand in order to address traffic congestion and potential adverse impacts on surrounding properties from parking. Therefore, Project parking impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Alternative Transportation The nearest bus stops to the Project site are provided along Foothill Routes 482 and 493. Given the location of the nearest bus stops to the Project site, which occur at the intersection of Colima Road at Brea Canyon Cutoff and Colima Road at Nogales Street, implementation of the proposed Project would not disrupt existing transit service or facilities. In addition, bicycle racks would be provided on the Project site for residences and an alternative transportation information kiosk would be located in the leasing and recreation center. Additionally, the Metrolink Riverside Line (a commuter rail) City of Industry Station is located near the intersection of Brea Canyon Road and Washington Drive, approximately 2.5 miles northeast of the Project site. The Project is consistent with adopted policies, plans, or programs supporting alternative transportation. Accordingly, the Project would result in a less than significant impact on alternative transportation.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Cumulative Impacts **Construction Impacts:** The closest related project to the proposed Project would be a cafe/retail project, which is located approximately 200 feet to the north of the Project site near the intersection of Brea Canyon Cutoff Road and Colima Road. If construction phases of the proposed Project and the closest related project were to overlap, cumulative construction-related traffic impacts could occur. The remaining related projects are located further from the Project site and therefore would not contribute to cumulative construction impacts. All construction activities in the unincorporated County would be subject to the requirements of the Section 12.08.440 of the County of Los Angeles Code, which limits construction activities between the hours of 7:00 AM and 7:00 PM, with no construction allowed on Sundays and legal holidays. The Project's compliance with the ordinance, as well as the incorporation of mitigation recommended as part of each individual project's environmental review, would reduce the Project's contribution to any cumulative construction-related traffic impacts to less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
TRAFFIC, PARKING, CIRCULATION AND ACCESS (continued)		
Cumulative Impacts **Operational Impacts:** The following intersections would meet or exceed the County significance threshold criteria during the "Future 2012 With Project" traffic conditions due to the addition traffic generated by the proposed Project to cumulative traffic conditions: Brea Canyon Cutoff Road/Fairway Drive at Colima Road (during the AM and PM peak hours), Brea Canyon Cutoff Road at Pathfinder Road (during the PM peak hour), Colima Road at Fullerton Rd (during the PM peak hour), Colima Road at Nogales Street (during the PM peak hour), and Fairway Drive at Valley Boulevard (during the PM peak hour). Therefore, the addition of Project traffic would result in a considerable contribution to cumulative impacts. However, with implementation of previously identified **Mitigation Measures 5.7-2** through **5.7-4** and **Mitigation Measures 5.7-7** through **5.7-9**, the Project's contribution to cumulative impacts at the five study intersections would be reduced to less than significant. The addition of net Project traffic to the "Future 2012 Without Project" traffic condition at the Caltrans-monitored intersection is expected to incrementally increase intersection delay during the weekday peak hour periods. However, intersections would remain at acceptable levels of service, LOS D or better. Therefore, the addition of Project traffic would not result in a significant cumulative impact to the Caltrans maintained intersections or the one unsignalized intersection.	**5.7-7** Prior to issuance of the final certificate of occupancy, the Project Applicant shall contribute the Project's fair-share cost toward the re-striping of the north leg at the intersection of Brea Canyon Cutoff Road and Pathfinder Road in order to provide a second southbound through lane within the existing right-of-way, as shown in **Figure 5.7-22, Mitigation Improvements at Brea Canyon Cutoff Road and Pathfinder Road**. **5.7-8** Prior to issuance of the final certificate of occupancy, the Project Applicant shall contribute the Project's fair-share cost toward the construction of separate right-turn lane on the northbound approach at the intersection of Colima Road and Fullerton Road, as shown in **Figure 5.7-23, Mitigation Improvements at Colima Road and Fullerton Road**. **5.7-9** Prior to issuance of the final certificate of occupancy, the Project Applicant shall contribute the Project's fair-share cost toward the construction of a second northbound left-turn lane at the intersection of Colima Road and Nogales Street, as shown in **Figure 5.7-24, Mitigation Improvements at Colima Road and Nogales Street**. This improvement shall be accomplished within the existing right-of-way by shifting all northbound approach lanes to the west to provide for dual left-turn lanes.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SEWAGE DISPOSAL		
Construction Impacts Grading associated with Project development would not disrupt sewer services to adjacent uses, since the lines would be disconnected and diversions implemented prior to grading. Construction contractors would provide portable on-site sanitation facilities for worker use during demolition and construction, and these would be serviced at approved disposal facilities and/or treatment plants. For these reasons, the amount of construction-related wastewater generated during Project construction would have a less than significant impact on wastewater disposal and treatment facilities.	No mitigation measures are required.	Less than significant.
Operational Impacts The Project civil engineer evaluated the capacity of sewer main lines for two possible scenarios for connection of Project site sewer laterals to off-site main lines. One scenario proposed for the Project's sewer laterals to be connected only to the 8-inch main line within Brea Canyon Cutoff Road. The other scenario proposed for the sewer laterals for 103 units on the Project site to connect to the existing 8-inch main line within Sand Spring Drive, west of the Project site, while the remaining 674 units would connect to the 8-inch main line within Brea Canyon Cutoff Road at Reedview Drive as under the first scenario. Under both these scenarios, main sewer line capacity would be exceeded.	**5.8-1** Prior to issuance of the final certificate of occupancy, the Project Applicant shall obtain approval from LACDPW's Sewer Maintenance Division of the Sewer Area Study, flow monitoring, and gauging of sewer pipes potentially exceeding design capacity, in order to demonstrate sufficient wastewater capacity for the proposed Project and facilitate annexation of the Project site into Consolidated Sewer Maintenance District 21. **5.8-2** Prior to issuance of a sewerage connection permit, the Project Applicant shall pay annexation and connection fees to Sanitation District 21. **5.8-3** The Project Applicant shall pay for its fair share of the cost of any necessary upgrades to main sewer lines related to the proposed Project.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SEWAGE DISPOSAL (continued)		
Existing and Project-related wastewater flow calculations are based on formula calculations and not actual flow measurements. In order to confirm actual flow measurements, **Mitigation Measure 5.8-1** requires that, prior to replacement of the sewer pipe segments, flow monitoring would be conducted. Measurement of the pipe segments predicted to exceed capacity would also be conducted to ensure optimal pipe conditions. Sewer main line replacements would only be conducted as directed by the Los Angeles County Department of Public Works. Project implementation may necessitate minor upsizing or modification of some downstream sewer pipe sections (north of Colima Road) by LACDPW. With compliance with the connection fee requirement and payment of the project's fair share of the costs associated with any required upgrades, proposed Project impacts related to the provision of wastewater services to the Project site would be less than significant. Additionally, the Los Angeles County Department of Public Works (LACDPW) Consolidated Sewer Maintenance District 21 requires the applicant to submit a Sewer Area Study for approval and obtain a will-serve letter and agreement to annex the northern portion of the Project site, which does not currently generate wastewater, into District 21. With compliance with these policies, which are incorporated as mitigation, impacts would be less than significant.		

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SEWAGE DISPOSAL (continued)		
Ultimately, wastewater generated on the Project site would be conveyed to the San Jose Creek Water Reclamation Plant (WRP) for treatment. Since the Project would total only 1 percent of the available capacity at the San Jose WRP, impacts related to wastewater treatment facility capacity would be less than significant.	No mitigation measures are required.	Less than significant.
Cumulative Impacts The proposed Project plus related projects would result in a net increase of approximately 3.21 cubic feet per second (cfs) of wastewater. However, because of distance from the Project site, none of the related projects are in sub-areas that contribute wastewater to the same sewer line segments that serve the Project site. Therefore, when considered together with related projects, the Project's contribution to cumulatively significant impacts on wastewater infrastructure would be less than cumulatively considerable. The addition of the wastewater projected to be generated by the proposed Project in combination with the related projects would not exceed the treatment plant's available capacity. Adequate capacity exists to treat wastewater generated by the Project and related projects. As with the proposed Project, each related project would be required to pay the connection fee upon connection to the sewer system, which contributes to maintenance and any necessary expansions. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
EDUCATION		
District Capacity The approximately 775 units proposed under the Project would directly generate approximately 543 students in the Rowland Unified School District (RUSD). Additionally, with the closure of the Southland Christian Schools, the Project may indirectly contribute the addition of approximately 288 students (60 percent of the maximum student enrollment at the Southland Christian Schools) to RUSD schools. Enrollment within the RUSD currently exceeds the district's classroom capacity by 4,485 students. The additional students indirectly and directly generated by the Project would increase the deficit that exists throughout the RUSD, such that impacts to schools would be potentially significant.	**5.9-1** As authorized by Senate Bill 50, the Project Applicant shall pay school impact fees to the Rowland Unified School District (RUSD) prior to the issuance of building permits, subject to the current fee schedule for residential development in place at the time of issuance of the building permit.	Less than significant.
School Capacity Three schools currently serve the Project site: Ybarra Academy of the Arts and Technology (K–8), Alvarado Intermediate School (7–8), and Rowland High School (9–12). These three schools are currently operating above design capacity and are using portable classrooms to accommodate the student population. The additional students indirectly and directed by the Project would increase the permanent capacity conditions that exists throughout the RUSD at these schools, such that impacts to schools would be potentially significant.	See **Mitigation Measure 5.9-1** above.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
EDUCATION (continued)		
Student Transportation Because the Project site is located within 0.75 mile of Ybarra Academy, students would be expected to walk to school.[2] Bus service would be provided to the Project site for students attending Alvarado Intermediate School and Rowland High School, although both are also within walking distance. Additionally, public transit (bus service) is available along Colima Road. Therefore, impacts to student transportation would be less than significant	No mitigation measures are required.	Less than significant.
Cumulative Impacts An increase in student enrollment within the RUSD is anticipated with cumulative development in Rowland Heights. This increase could result in a cumulatively significant impact to schools within the RUSD attendance area. According to Government Code Section 65995, the payment of school impact fees authorized by Senate Bill 50, and the fees required for residential and commercial development by the RUSD for each project, as with the proposed Project, would mitigate the impact of the proposed Project as well as the related projects to local schools from cumulative development. Therefore, with payment of these fees, the cumulative impact of the proposed Project in combination with the identified related projects would be reduced to a less than significant level.	No mitigation measures are required.	Less than significant.

2 Communication with Keith Moore, Sr., Director of Transportation, Rowland Unified School District, September 23, 2008.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
FIRE SERVICES		
Construction Impacts During construction, wood framing and other flammable construction materials would be present on the Project site. Construction of the proposed Project would be subject to County codes and inspection by County personnel prior to installation of drywall. Given the temporary nature of construction-related traffic and Project design features designed to aid emergency vehicle response, such as the use of flagmen, traffic detour plans, haul routes, hours of operation, protective devices, warning signs and access to abutting properties during construction, fire hazard impacts during construction would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
FIRE SERVICES (continued)		
Response Time The estimated 3.3-minute response time for the first arriving unit to the Project site would not exceed the threshold for response times nor would it have any impact on emergency operations. Additionally, the Project would comply with all Los Angeles County Code regulations regarding access requirements for residential areas and design standards for fire prevention (e.g., emergency plans and evacuation routes). After implementation of the required traffic mitigation measures, the local roadway network would continue to operate at levels consistent with County Department of Public Works standards and the proposed Project would not substantially impact emergency response times to the Project site or throughout the area served by the Fire Department. Therefore, impacts on response time would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
FIRE SERVICES (continued)		
Funding/Fiscal Impact The Project would add approximately 2,139 new residents to Rowland Heights and therefore would likely increase the frequency of calls for Fire Department services. The Fire Department has indicated that the proposed Project is not expected to create a need for additional staffing or resources. Revenues collected through property taxes and special tax revenues would adequately fund any required land acquisitions, facility improvements, and/or new equipment that is needed in Rowland Heights. The Project would also be required to meet County Code standards related to providing adequate fire protection services to the Project site during both the construction and operational stages of the Project. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.
Fire Hazard Zone According to the County Fire Department, the proposed Project would not introduce new or unique types of fire protection requirements that, in turn, would cause special on- or off-site fire protection or enforcement problems. Although the Project site is located within a designated Very High Fire Hazard Severity Zone, the site is surrounded on three sides by established developed land and residential uses to the south and west, with the Royal Vista Golf Course to the east, and does not directly border undeveloped wildlands.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
FIRE SERVICES (continued)		
Fire Flow If the Project requires upgrades to the surrounding water pipes to meet fire flow requirements, the Walnut Valley Water District would design and make the necessary upgrades at the Applicant's expense. As the Applicant would comply with the requirements of the Fire Department and would pay for any necessary water system upgrades, impacts would be less than significant.	No mitigation measures are required.	Less than significant.
Cumulative Impacts Implementation of the proposed Project and other related projects would result in greater demands on existing Fire Department resources. As with the proposed Project, each project within the County would be subject to County requirements relative to water availability and accessibility to fire fighting equipment and would be required to comply with all applicable code and ordinance requirements for access, water mains, fire flows, fire sprinkler systems, and fire hydrants. However, increased demands from cumulative development would be met by increases in staffing and equipment, which would be funded by property tax, sales tax, and special tax revenues paid by new development. As such, cumulative development demands and associated impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SHERIFF SERVICES		
Construction Impacts Cases of trespass, theft and/or vandalism on construction sites would require services from the County Sheriff's Department, but do not typically place undue demands on law enforcement services due to their limited occurrence. The builder and contractor would use private security at the construction site, use flagmen, practice general safekeeping of construction equipment, and implement other standard construction practices. The builder and contractor would also coordinate with the County Sheriff's Department to ensure that emergency access is maintained to the Project site and that traffic flow is maintained on local streets. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SHERIFF SERVICES (continued)		
Operational Impacts The proposed Project would introduce approximately 2,139 residents to the Project site. This would result in a 1.4 percent increase in the existing population of Reporting District 2938, which encompasses the Project site. The County Sheriff's Department determined that the population increase associated with Project implementation would be expected to increase the number of calls for service within the reporting district; however, the County Sheriff's Department further stated that it had no specific concerns about the Project's impacts on staffing or other Sheriff's Department resources. In addition, occupancy of the Project would generate revenues from property and sales taxes that would be deposited in the County's General Fund and the State Treasury. A portion of these revenues would then be allocated to maintain or increase staffing and equipment levels for the Walnut/Diamond Bar Sheriff's Station in response to any increases related to proposed Project-related demands. Mitigation provided in Section 5.7, Traffic, Parking, Circulation, and Access, of this EIR would maintain traffic flow and access such that response times are not adversely affected. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SHERIFF SERVICES (continued)		
Cumulative Impacts Related projects in and surrounding Rowland Heights would increase the demand for services from the Walnut/Diamond Bar Sheriff's Station. However, with increased revenues from ground lease rentals, property tax and special tax revenue from the related projects, an allotted portion of the General Fund could be used for increases in staffing and equipment. Furthermore, all projects are required to submit to the County Sheriff's Department project site designs during the planning and building plan-check process. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
WATER SERVICE		
Construction Impacts Water would be used during grading activities, primarily to reduce fugitive dust and to aid in earth compaction. Water consumption rates for construction-related activities have been developed from historical usage reports, and are estimated to be approximately 0.89 acre-foot per acre for dry grading techniques. Grading activity would occur across the entire Project Site, which is approximately 15.3 acres. Based on this information, construction watering would require a total of approximately 13.97 acre-feet of water spread over approximately three months of grading and excavation. Since construction is a relatively short-term activity, and given that the Walnut Valley Water District (Water District) has adequate supply to accommodate the anticipated water demand during construction, the impact of the Project construction on water services would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
WATER SERVICE (continued)		
Operational Impacts The proposed Project's water infrastructure improvements would be determined by the Applicant's engineer based on the County of Los Angeles Department of Building and Safety and applicable building code requirements. Project implementation would result in a net increase of approximately 165.04 acre-feet per year (afy) over existing conditions. The Water District projects an increased water demand of 4,972 afy between 2010 and 2030 under normal conditions. The Project's anticipated net potable water demand falls within the Water District's projected demand increase, constituting 3.3 percent of the projected demand. Therefore, the Water District has sufficient supplies available to meet this projected demand increase. Additionally, the Project's anticipated net potable water demand falls well within the Water District's projected demand increase under single-dry and multiple-dry year conditions as stated in the Water Supply Assessment for the Project,[3] and the Water District has sufficient supplies available to meet the projected demand increase under both scenarios. Project impacts on domestic potable water supply and water facilities would be less than significant.	No mitigation measures are required.	Less than significant.

3 Walnut Valley Water District, "Water Supply Assessment – The Canyon Residences," 2009.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
WATER SERVICE (continued)		
Operational Impacts (continued) The increase in annual recycled water demand associated with Project implementation, 11.61 afy, would represent less than 1 percent of the Water District's projected recycled water supply for 2010, the closet year to buildout for which data is available. Accordingly, Project-related demand for recycled water would be accommodated within the projected increase in recycled water supply by the time of Project buildout. Project impacts on recycled water supplies and recycled water facilities would be less than significant. The on-site and off-site fire-flow demands would be determined by the County of Los Angeles Fire Department based on the applicable building code requirements after review of the final Project plans. Once a determination of the proposed Project's domestic and fire demands has been made, the Water District would assess the need for additional facilities such as fire hydrants and connections to the municipal water system and would determine if upgrades to the facilities (such as infrastructure serving the Project site) would be necessary to meet the required pressure.		

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
WATER SERVICE (continued)		
Cumulative Impacts Buildout of the proposed Project and other related projects within the Water District's service area would consume an estimated 2,902 afy of water. The Water District has sufficient supplies to accommodate this increased demand when buildout of the proposed Project and related projects is expected. Water demand for the proposed Project plus related projects within the Water District's service area would represent approximately 57 percent of the Water District's projected increase in demand for water by 2030. Therefore, the water demand of the proposed Project and related projects are accounted for within the current planning period, which projects use through the year 2030. Accordingly, cumulative impacts on water service would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
UTILITIES		
Electricity Southern California Edison (SCE) will have an available supply of approximately 123,675,000 megawatts hours (MWh) of power in 2018 to meet a projected statewide demand of 27,112 megawatt-hours (MWh). The Project would require less than 0.01 percent of the total 2018 supply. Additionally, the Project would comply with the energy efficiency standards of the County of Los Angeles' Green Building Ordinance, which require exceedance of standards from Title 24 (2005) of the California Code of Regulations by 15 percent. Since current projections forecast that electricity generation would meet statewide demand throughout the current planning horizon, the Project is not anticipated to result in a substantial increase in electricity demand relative to the available supply. The Project could require the installation of new facilities and equipment, such as transformers, on the Project site, and also could require minor alterations to off-site electrical transmission and distribution infrastructure in order to serve the Project. Therefore, the impact related to electricity supply infrastructure is potentially significant.	**5.12-1** Prior to submittal of final plans for approval by the County Department of Building and Safety, the Applicant shall incorporate modifications to the electricity transmission/distribution system as needed to serve the Project site, to the specifications of Southern California Edison (SCE). Upon finalizing these specifications, the Applicant shall fund its fair share of the cost of infrastructure installation resulting from Project-related impact(s), as applicable.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
UTILITIES (continued)		
Natural Gas The Gas Company has sufficient gas supplies planned to accommodate the increase in gas demand by all of its market sectors, including residential, commercial, industrial, electric generation, and natural gas vehicle uses, through the current projection period (2008 to 2030). Project demand would result in an additional 35.8 million cubic feet (mcf) per year, which represents less than 0.00003 percent of the Gas Company's supply from interstate pipelines for 2030. Therefore, the Gas Company has adequate supply to serve the Project in addition to its existing commitments. Minor capacity-enhancing alterations to local natural gas transmission and distribution infrastructure may be necessary to serve the Project. Therefore, the impact related to natural gas supply infrastructure is potentially significant.	**5.12-2** Prior to submittal of final plans for approval by the County Department of Building and Safety, the Applicant shall incorporate modifications to the natural gas conveyance system as needed to serve the Project site, to the specifications of the Gas Company. Upon finalizing these specifications, the Applicant shall fund its fair share of the cost of infrastructure installation resulting from Project-related impact(s), as applicable.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
UTILITIES (continued)		
Cumulative Impacts As with the proposed Project, each related project would be required to comply with energy efficiency standards under Title 24 of the California Code of Regulations. Additionally, County of Los Angeles projects that would obtain a building permit on or after January 1, 2009 would be required to comply with the Green Building Ordinance and therefore would be designed to consume at least 15 percent less Time Dependent Valuation than the energy usage permitted by the 2005 California Energy Efficiency Standards. Based on projections by SCE and the Gas Company, sufficient electricity and natural gas supplies are available to meet the demands of the proposed Project and each of the identified related projects. Therefore, the cumulative impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SOLID WASTE SERVICE		
Construction Impacts Approximately 55,000 cubic yards of demolition debris and earth would be transported off of the Project site due to proposed Project construction. Construction activities would also generate approximately 5,000 cubic yards of debris. The Project Applicant would prepare a Waste Management Plan to recycle, at a minimum, 65 percent of the construction and demolition debris and contain methods to promote recycling and re-use of materials, as well as safe disposal. Waste generated during demolition and construction that is not recycled would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities generally within Los Angeles County. Trash and wood would be delivered to the Puente Hills Recovery Facility, which has the capacity to accommodate the approximately 3,250 tons of recyclable demolition and construction debris that would be delivered. Earth material and the remaining construction and demolition debris would be disposed of at the Puente Hills Landfill, which has the capacity to accommodate the 55,000 cubic yards of earth material and the 1,750 tons of non-recycled construction demolition and debris that would be delivered. As such, construction impacts, including disposal of construction, demolition, and earth materials, would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SOLID WASTE SERVICE (continued)		
Operational Impacts The Project, beginning in 2012, would generate a net increase of approximately 484 tons per year in solid waste. However, the proposed Project would recycle a minimum of 50 percent until 2015, when the Project would recycle a minimum of 60 percent, in accordance with current state law and in compliance with the County Waste Management Plan. The Project would include a solid waste diversion program (e.g., adequate areas for collecting and loading recyclables, as required by the California Solid Waste Reuse and Recycling Access Act of 1991) and would result in the Project meeting at least the minimum recycling level established by Los Angeles County in accordance with AB 939. Solid waste from the Project site would be transported to the Puente Hills Landfill and, eventually, the Mesquite Regional Landfill. Project generated waste would result in a 0.006 percent increase in total disposal to Puente Hills Landfill. As such, this increase in outflow is not considered substantial and impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
SOLID WASTE SERVICE (continued)		
Cumulative Impacts The proposed Project combined with other related projects, would generate an increase in solid waste of approximately 10,524.20 tons per year. Based on the County's 2004 solid waste diversion rate of 53 percent, approximately 5,577.83 tons of solid waste would be diverted annually leaving approximately 4,946.37 tons of solid waste to be disposed. County landfills have the capacity to accommodate solid waste projections through 2015 under business as usual. The County would meet future disposal capacity requirements by successfully permitting and developing all in-County landfill expansions, utilizing available or planned out-of-County disposal capacity, developing the necessary infrastructure to facilitate exportation of waste to out-of-County landfills, and developing conversion/alternative technology facilities. As such, cumulative impacts to solid waste services would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
PARKS AND RECREATION		
Construction Impacts Construction activities, including demolition, associated with the Project would result in the removal of the existing Southlands Christian Church and Southlands Christian School. The existing private recreational facilities located on the Project site, including a gymnasium and athletic field, would be removed. Impacts associated with the loss of privately held recreational land through construction activities would be less than significant, however, since no public local or regional parkland or recreational facilities are being removed as a result of Project construction.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
PARKS AND RECREATION (continued)		
Operational Impacts Project implementation would slightly increase the local recreational parkland deficit by 5.3 percent to 168.6 acres and would slightly increase the regional parkland deficit by 13 acres, or 0.04 percent to 30,705 acres. The increase in the local and regional parkland deficit is considered negligible. Furthermore, the demand for recreational opportunities by residents of the proposed Project would be partially offset by the planned construction of on-site recreational amenities. The value of the Project's proposed on-site amenities was determined to be approximately $3.2 million, which considerably exceeds the Parkland Dedication Ordinance fee for 4.14 acres, which is the proposed Project's unmet local park space obligation. Therefore, on-site amenities were determined by the County Department of Parks and Recreation to further offset Project demand for recreational facilities. However, proposed Project-related population increase still would result in residual, potentially significant impacts related to the need for new or expanded recreational facilities in local parks to serve Project residents, and still would increase the existing local parkland deficit in the Rowland Heights Community General Plan Area. With implementation of mitigation measure **5.14-1**, these impacts would be reduced to a less than significant level.	**5.14-1** The Applicant shall either provide funds for, or implement improvements within, the Rowland Heights Park Baseball Field in the amount of $28,000 to the satisfaction of the County Department of Parks and Recreation. If the Applicant implements the improvements, no permissions or permits shall be required beyond the approval of the County Department of Parks and Recreation. Funds or improvements shall be directed towards the Baseball Field since these amenities are not proposed as part of the Project. Funds shall be provided or improvements implemented prior to issuance of a certificate of occupancy for the Project, as follows: • Dugouts (4) shading structures or covers: $4,000; • Batting cages (2): $16,000; and • To be spent as directed by County: $8,000.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
PARKS AND RECREATION (continued)		
Cumulative Impacts Cumulative growth in Rowland Heights would increase the local recreational parkland deficit by 5.3 percent to 168.8 acres, and would decrease the regional parkland surplus by 0.4 percent to 30,705 acres. As such, the Project's contribution to cumulatively significant impacts on the established standard for local parkland would be less than considerable. Residential subdivisions proposed within Rowland Heights would be required to meet County and Quimby Act local parkland standards through dedication of land, fees in lieu of the dedicated parkland, construction of amenities on dedicated parkland, or a combination of the three. Application of this ordinance to subdivision projects within Rowland Heights and other local and County standards to non-subdivision projects would ensure that the demand for parks and recreational facilities are met as new subdivisions are constructed. Therefore, cumulative impacts to park and recreational facilities would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
LIBRARY SERVICE		
Operational Impacts Rowland Heights Library currently does not meet the standard of 0.50 gross square feet of library space per resident. With the projected population increase associated with Project implementation, there would not be a sufficient number of items (books, magazines, periodicals, etc.) in the library's collection to satisfy the additional demand generated by new Rowland Heights residents. Therefore, with the additional demand for library resources created by Project residents, impacts to the Rowland Heights Library would be significant.	**5.15-1** The Project Applicant shall pay the library mitigation impact fee in effect at the time building permits are issued for the Project ($788 per residential unit as of July 1, 2008). Fees are paid to Los Angeles County to offset the demand for library items, building square footage, and computers generated by the proposed Project.	Less than significant.
Cumulative Impacts The demand for library services, including library square footage, library items, and library computers, from the proposed Project and related projects would not be satisfied by the current holdings at the Rowland Heights library under current planning guidelines. However, given that the proposed Project's contribution to cumulative impacts would be mitigated to a less than significant level with implementation of **Mitigation Measure 5.15-1**, and given that other related projects would similarly be required to contribute funds to offset library impacts, the Project would not contribute to a significant cumulative impact.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
POPULATION, HOUSING, AND EMPLOYMENT		
Population Growth Based on an average household size of 2.76 persons per unit, the Project would provide housing for approximately 2,139 residents. Therefore, the population increase from the Project would account for approximately 8 percent of the expected increase from 2005 to 2010 (the data for the closest year to Project buildout) in the unincorporated San Gabriel Valley Council of Governments (SGVCOG) subregion population. In addition, the housing increase from the Project would account for approximately 11.7 percent of the expected increase from 2005 to 2010 in households. Both increases are within the 2010 unincorporated SGVCOG subregion projections of 389,267 residents and 105,914 households. Therefore, the Project is consistent with growth projections and impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
POPULATION, HOUSING, AND EMPLOYMENT (continued)		
Growth Inducement The maximum residential density currently permitted within Rowland Heights is 35 dwelling units per gross acre, as allowed under the "U5" Urban 5 designation. The Project Applicant is requesting a site-specific General Plan Amendment, to the Community Plan to apply the U6 designation to the site to permit up to 50 dwelling units per gross acre on the Project site. The proposed new category would only apply to the Project site based on compliance with specific criteria related to property size and location. As a result, no other property owners in Rowland Heights would be able to obtain density beyond the maximum currently allowed in the Rowland Heights Community General Plan (35 units per acre), and any changes in plan designations or zoning for other properties would require a discretionary process. Since the Project site is located within an urban area and is served by existing circulation and utility infrastructure, no major extension of infrastructure is required as part of the Project. Additionally, no expansion to the existing service area of a public service provider is required. Therefore, development of the Project site would not indirectly induce population growth and impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
POPULATION, HOUSING, AND EMPLOYMENT (continued)		
Jobs/Housing Balance Although the addition of housing would contribute to the existing jobs/housing imbalance in Rowland Heights, this impact is not considered adverse since Rowland Heights is intended to be a residential community, as stated in the Community General Plan. Development of multi-family residential housing on the Project site would also be consistent with Program No. 44 of the Los Angeles County General Plan Housing Element, which states that sites for multi-family housing are needed within unincorporated Los Angeles County to meet its Regional Housing Needs Assessment allocation. Additionally, the Project would provide housing near existing commercial and employment centers, which would contribute to minimizing overall vehicle miles travelled by Project residents or households. Impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
POPULATION, HOUSING, AND EMPLOYMENT (continued)		
Cumulative Impacts The proposed Project plus related projects would increase the population and housing supplies in unincorporated Rowland Heights as well as within the cities of Diamond Bar and Industry. In order to clearly define impacts, cumulative impacts are analyzed with respect to population and housing projections for the unincorporated portions of the subregion alone, as well as with respect to projections that encompass unincorporated areas plus the cities of Diamond Bar and Industry. Increases in population, dwelling units, and employment resulting from the proposed Project plus related projects would be within 2020 projections. Therefore, the Project and related projects are consistent with growth projections and would not directly induce population growth that is substantially higher than expected population growth in the area. Therefore, impacts would be less than significant.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
POPULATION, HOUSING, AND EMPLOYMENT (continued)		
Cumulative Impacts (continued) Implementation of the proposed Project and related projects encompassing the unincorporated portions of the San Gabriel Valley Council of Governments subregion plus the Cities of Diamond Bar and Industry would result in a job/housing ratio of 1.63:1 in 2012, which is considered a job-saturated jobs/housing ratio. When considering the proposed Project together with only the related projects within the unincorporated San Gabriel Valley Council of Governments subregion, the resulting job/housing ratio would be 0.98:1 in 2012. As the proposed Project and related projects within the unincorporated subregion would result in a nearly balanced jobs/housing ratio, the cumulative impact of the proposed Project and related projects would be less than significant. Since the proposed Project would create few permanent jobs (such as those related with upkeep, maintenance and security), it would not result in a cumulatively considerable contribution to this cumulative impact. Additionally, the related projects and the proposed Project would account for approximately 2.8 percent of the year 2030s expected increase in vehicle miles traveled within the Southern California Association of Governments' six-county region. Therefore, impacts would be less than cumulatively considerable.		

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
LAND USE		
Land Use Designation Consistency Currently, the maximum residential density permitted within Rowland Heights is 35 dwelling units per gross acre, as allowed under the "U5" Urban 5 designation. In order to address this inconsistency, the Project Applicant is requesting a General Plan Amendment to the Community Plan to apply the U6 designation to the site to permit up to 50 dwelling units per gross acre. The proposed new category would only apply to the Project site. Since the Project is not consistent with the current plan designation for the Project site and since a new designation would be required to accommodate the proposed density of 50 dwelling units per gross acre, land use impacts with regard to consistency with the land use designation would be significant. Additionally, the proposed Project, which would develop multi-family housing on the Project site, is not a permitted or conditional use under Zone A-1, Light Agriculture, the current zoning designation. Therefore, the Project Applicant is requesting a Zone Change to Residential Planned Development (RPD). With approval of the Zone Change, the Project would be consistent with the County Zoning Ordinance. However, since the Project is not consistent with the current zoning designation for the Project site, impacts would be significant.	No feasible mitigation is available.	Significant and unavoidable.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
LAND USE (continued)		
Land Use Designation Consistency (continued) The Project is generally consistent with the applicable policies of the County General Plan and the Rowland Heights Community General Plan, including but not limited to design guidelines for multi-family residential development, green building, fire hazard safety, noise reduction, alternative transportation options, promoting pedestrian activity, ensuring that the location of high density housing has access to jobs, providing a mix of land uses, restricting development in areas subject to significant natural hazards, and performance of soils and groundwater investigations. However, the Project is not consistent with the policy which restricts multiple-family or attached housing to the U3, U4 and U5 categories due to the proposed new site's specific land use category U6.		
SCAG Policy Consistency The Project is consistent with the applicable policies of SCAG's Regional Comprehensive Plan and Guide, Regional Transportation Plan, and Growth Visioning Principles. These policies include encouraging patterns of urban development and land use that reduce costs on infrastructure construction, make better use of existing facilities and reduce vehicle trip generation.		

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
LAND USE (continued)		
Community Scale The scale of the Project is not consistent with surrounding residential uses due to the proposed building heights and density. The building heights of the Project would exceed the heights of the surrounding uses, which are generally two stories, while the proposed density of the Project (50 dwelling units per gross acre) exceeds the maximum density permitted by the existing land use designations set forth in the Community Plan. The Project would implement several design features to be complementary to the surrounding community. For instance, the Project would incorporate open space areas and setbacks to minimize impacts from increased density. The Project would also be designed to step back from adjacent development to minimize perceived height impacts, and the Project would utilize the existing topography of the Project site to minimize visual impacts to surrounding properties. Impacts would be significant.	No feasible mitigation is available.	Significant and unavoidable.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
LAND USE (continued)		
Cumulative Impacts Related projects in Rowland Heights include a 14-acre commercial development located at 18880 Railroad Street north of the Pomona Freeway, an 11-unit multi-family residential project at 19280 Colima Road, and several smaller projects. All projects proposed within Rowland Heights would be required to comply with the Rowland Heights Community General Plan, Los Angeles County General Plan, and County Zoning Ordinance, or approval of a General Plan Amendment, Zone Change or variance would be required. Moreover, the Project proposes a land use designation for the Project site that would not be applicable to other properties. Considered together with the related projects, the Project's contribution to cumulatively significant land use impacts would be less than cumulatively considerable.	No mitigation measures are required.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
ENVIRONMENTAL SAFETY		
Construction Impacts Volatile organic compounds (VOCs) are not present above the laboratory detection limit, with the exception of very low concentrations of toluene and m,p-xylene. The concentration of toluene is below the California Department of Health Services maximum contaminant levels and the xylene concentration is below the California Human Health Screening Level for residential use. The potential for encountering residual subsurface pesticides is considered low. These contaminants are not considered an environmental concern during earth excavation. However, the earliest structures on the Project site contain asbestos (ACMs and ACCMs) and lead-based paint, which pose a potentially significant impact during demolition.	**5.18-1** Any ACMs and ACCMs identified at the Project Site, which may be disturbed during renovation/demolition activities, shall be removed by a licensed asbestos abatement contractor utilizing state-of-the-art work procedures and in accordance with all federal, state, and local regulations. **5.18-2** Any suspect lead-based paint shall be sampled prior to any renovations or demolition activities. Any identified lead based paint located within buildings scheduled for renovation or demolition, or noted to be damaged, shall be abated by a licensed lead based paint abatement contractor, and disposed of according to all state and local regulations. **5.18-3** The sampling of all suspect ACMs such as roofing, wall finishes and non-friable floor finishes, shall be conducted prior to demolition. If the suspect ACMs are confirmed to contain asbestos, their removal in accordance with applicable regulations shall be necessary prior to impact by renovation or demolition activities. **5.18-4** Construction activities shall comply with SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities. This rule is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of ACMs generated or handled during these activities. The rule requires that SCAQMD be notified before demolition or renovation activity occurs. This notification includes a description of structures and methods utilized to determine the presence or absence of asbestos. All ACMs found on the site shall be removed prior to demolition or renovation in accordance with the requirements of Rule 1403.	Less than significant.

Project Impacts	Mitigation Measures	Impact After Mitigation, if required
ENVIRONMENTAL SAFETY (continued)		
Operational Impacts The occasional handling of hazardous materials generally associated with residential units and maintenance of residential amenities includes the use and disposal of hazardous materials such as unused paint, aerosol cans, cleaning agents (solvents), landscaping related chemicals, and automotive supplies (by products). These materials are generally disposed of at non-hazardous Class II and III landfills. Compliance with County regulations for the use, storage, and disposal of hazardous materials would result in less than significant impacts.	No mitigation measures are required.	Less than significant.
Cumulative Impacts Environmental safety impacts associated with a proposed project tend to occur on a project-by-project basis, rather than in a cumulative nature. Project implementation would comply with regulatory controls to abate the site-specific hazards prior to demolition activities such that the Project would not contribute to any cumulative release of harmful substances. Therefore, cumulative impacts would be less than significant.	No mitigation measures are required.	Less than significant.

ALTERNATIVES

The following four alternatives were defined to avoid or substantially lessen the potentially significant impacts identified throughout the environmental analysis conducted in **Section 5.0, Environmental Impact Analysis**, of this EIR. An analysis of each alternative and selection of the environmentally superior alternative is provided in **Section 6.0, Project Alternatives**, of this EIR.

- Alternative 1: No Project;
- Alternative 2: Single-Family Residences;
- Alternative 3: Reduced Density; and
- Alternative 4: Mixed-Use.

Alternative 1: No Project: Existing Facilities Re-Occupied with School and Church

Section 15126.6(e) of the *State CEQA Guidelines* requires that a No Project Alternative be evaluated. As described in the *State CEQA Guidelines*, the purpose of describing and analyzing the No Project Alternative is to allow decision makers to compare the impacts of approving the proposed Project with the impacts of not approving the proposed Project. As described in Section 15126.6(d)(2), the No Project Alternative shall discuss existing conditions at the time the Notice of Preparation is published as well as what would reasonably be expected to occur in the foreseeable future if the project was not approved based on current plans and consistent with available infrastructure and community services.

Under Alternative 1, the Project site would remain occupied for educational and religious institutional uses. According to conditions established under the current Conditional Use Permit and most recent Revised Exhibit A Site Plan approvals, building square footage on the property could increase by as much as 136,929 square feet to a maximum of 200,155 square feet at full buildout. Maximum school enrollment could increase by 420 students to a maximum of 900 students and a 3,500 seat church assembly building could be constructed all without any further discretionary entitlements. Alternative 1 was selected to evaluate impacts associated with school and church operations on the Project site, allowed under existing approvals, in the absence of the proposed Project approval.

Implementation of this Alternative would avoid the significant and unavoidable operational visual character and views, shade and shadow, and land use and planning impacts. Additionally, since Alternative 1 would involve substantially less construction, would not be operational 24 hours a day, and would not include residences, this Alternative would have fewer impacts with regard to geotechnical and soil impacts; hydrology, drainage, and water quality; operational air quality; climate change; visual quality (construction-related views, and light and glare impacts); traffic, parking, circulation, and access;

traffic impacts (PM Peak Hour impacts); sewage disposal; education; fire and police services; water service; utility services; solid waste; parks and recreation; library service; population, housing, and employment; and environmental safety. However, while construction-related noise and ground-borne vibration impacts, and construction-related air quality (PM_{10}) impacts would be fewer than the Project, they would remain significant and unavoidable. Implementation of this Alternative would also result in greater impacts with regard to operational noise, and traffic impacts (AM Peak Hour impacts).

Because no residential uses of any kind (i.e., neither multi- nor single-family) would be developed on the site, none of the five Key Residential Objectives would be achieved. Alternative 1 also would not achieve Key Sustainability Objectives 2 through 6. Because it is assumed that several existing buildings on the site would be retained under Alternative 1, the green building techniques identified by the County of Los Angeles Green Building Ordinance for the construction of new buildings would not be incorporated to the same extent as under the proposed Project. These are intended to conserve water, energy, and natural resources; divert waste from landfills; minimize impacts to existing infrastructure; and promote a healthier environment. Therefore, Alternative 1 would not achieve Key Sustainability Objective 1 to the same extent as the proposed Project. Since no housing would be developed and Alternative 1 would not be compatible with adjacent land uses, Additional Project Objective 2 also would not be achieved. It is assumed that the streetscape improvements proposed by the Project would not be implemented under Alternative 1. Therefore, Additional Project Objective 3 would not be achieved.

Overall, this Alternative would not meet any of the five Key Residential Objectives; would only partially achieve one of the Sustainability Objectives and would not meet the remaining five Sustainability Objectives at all; and would fully achieve one Additional Project Objective and not achieve two of the Additional Project Objective at all.

Alternative 2: Single-Family Residences

The Project site is currently zoned A-1, Light Agriculture, which allows development of single-family residences. This designation allows the following by-right permitted uses: light agricultural uses, adult residential facilities, crops, family childcare homes, foster family homes, group homes, single-family residences, second units, and small family homes for children. The Rowland Heights Community General Plan land use designation for the Project site is "U1" Urban 1, which permits very low density (hillside) residential, large-lot residential and single-family detached units, between 1.1 and 3.2 dwelling units per gross acre, and a minimum lot size of 10,000 square feet. Lot sizes under the U1 designation are typically between 10,000 and 30,000 square feet. Since the Project site currently consists of only two lots, a residential subdivision application to divide the land would be requested to develop Alternative 2.

Alternative 2 assumes redevelopment of the Project site with 50 single-family residences, the maximum permitted under the current zoning and land use designations. Alternative 2 was selected for its potential to avoid or reduce significant and unavoidable Land Use impacts, as well as Noise, Air Quality, and Visual Quality impacts associated with the proposed Project.

Implementation of this Alternative would avoid the significant and unavoidable construction-related air quality, operational visual character and views, shade and shadow, and land use and planning impacts. Additionally, since Alternative 2 would involve substantially less construction and would have fewer residences, this Alternative would have fewer impacts with regard to geotechnical and soil impacts; hydrology, drainage, and water quality; operational noise; operational air quality; climate change; visual quality (construction-related views, and light and glare impacts); traffic, parking, circulation, and access; sewage disposal; education; fire and police services; water service; utility services; solid waste; parks and recreation; library service; population, housing, and employment; and operational environmental safety. However, while construction-related noise and ground-borne vibration impacts, and construction-related air quality (PM_{10}) impacts would be fewer than the Project, they would remain significant and unavoidable. Implementation of this Alternative would result in similar impacts with regard to construction-related environmental safety given that this Alternative would require the demolition of the existing buildings.

Under Alternative 2, the proposed Project would not be implemented. The majority of available housing opportunities in Rowland Heights are for-sale single-family residences. Therefore, many prospective residents seeking rental housing near the major employment centers of the City of Industry and other East San Gabriel Valley communities lack a diverse mix of housing opportunities if they wish to live in Rowland Heights. While the development of single-family residences would provide housing in the area, it would not add to the diversity of options, and would not meet the needs of a diverse mix of residents. Further, it would not contribute to meeting the housing shortage noted by the RHNA to the same extent as the proposed Project and would result in the underutilization of a large parcel of land (15.3 acres) in close proximity to commercial and retail uses that is a prime parcel for higher density residential uses. For these reasons, implementation of Alternative 2 would not meet Key Residential Objectives 1 through 4, since no multi-family housing would be developed on the Project site. Because it would dramatically reduce the number of dwelling units, and therefore development density, on the Project site, Alternative 2 would not meet any of the Key Sustainability Objectives; since it represents low-density development of the Project site, Alternative 2 would only meet Additional Project Objectives 1, 2 and 4. Alternative 2 would only partially meet the Additional Project Objective 3, since single-family residential development is likely to discourage, rather than encourage, pedestrian activity within the Project site as well as between the Project site and nearby commercial land uses.

Overall, the majority of the basic Project Objectives would not be attained under Alternative 2, since it would not attain any of the five Key Residential Objectives or any of the Key Sustainability Objectives; and would only fully attain three of the four Additional Project Objectives.

Alternative 3: Reduced Density: 537 Residential Units

Under Alternative 3, the Project site would be redeveloped with multi-family residential uses and amenities comparable in quality to those proposed under the proposed Project. However, the number of proposed residential units would be reduced by more than 30 percent from 775 units to 537 units. The developed square footage sitewide also would be reduced accordingly by more than 30 percent. This development density would be slightly less than the maximum number of residential units permitted under the Community Plan's "U5" Urban 5 land use designation (35 units per gross acre x 15.7 gross acres = 549 units). The total developed square footage sitewide would be reduced under Alternative 3 to approximately 610,468 gross square feet. This would result in a reduced FAR of 0.88:1 (610,468/685,014 square feet), compared to 1.35:1 under the proposed Project. Alternative 3 would provide housing for approximately 1,482 residents (537 units x 2.76 residents per unit),[4] compared to approximately 2,139 residents under the proposed Project. Overall building height, massing, and scale would be reduced under Alternative 3 compared to the proposed Project. Building heights immediately adjacent to the senior housing complex north of the Project site would be reduced from 56.5 feet above adjacent grade under the proposed Project to 41.5 feet above adjacent grade under Alternative 3 (the height of the Townhome-style Apartment buildings), and between 42 and 51.5 feet above adjacent grade along the northwestern and north-central Project site boundary (the height of the Garden Apartments) under Alternative 3. Townhome-style Apartment buildings and Townhome Flats buildings in the southern and on the eastern portions of the Project site, adjacent to the Royal Vista Golf Course and Ostia Way would be approximately 41 feet above adjacent grade under Alternative 3, compared to approximately 47 feet for the Wrap-Around building under the proposed Project.

Alternative 3 was selected for its potential to avoid or reduce significant and unavoidable Land Use impacts, as well as Noise, Air Quality, and Visual Quality impacts associated with the proposed Project.

Implementation of Alternative 3 would avoid the significant and unavoidable construction air quality impacts. While Alternative 3 would not avoid the significant and unavoidable construction noise, operational visual character and views, operational shade and shadow, and land use planning impacts, these impacts would be reduced under Alternative 3. Additionally, since Alternative 3 would involve less construction and would have fewer residences, this Alternative would have fewer impacts with regard to

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4 US Census Bureau, "2000 Census, Quick Tables - American Fact Finder for Census Tract 4033.04, Los Angeles County, California," http://factfinder.census.gov. 2008.

geotechnical and soil impacts; hydrology, drainage, and water quality; operational noise; operational air quality; climate change; visual quality (construction-related views, and light and glare impacts); traffic, parking, circulation, and access; sewage disposal; education; fire and police services; water service; utility services; solid waste; parks and recreation; library service; population, housing, and employment; and operational environmental safety. However, implementation of Alternative 3 would result in similar impacts with regard to land use and planning, since Alternative 3 would still require a General Plan Amendment and Zone Change. Alternative 3 proposes multi-family residential units at a density of approximately 35 dwelling units per gross acre; this density would not be consistent with the existing U1 designation, but would be consistent with the Community General Plan "U5" Urban 5 designation, which permits multi-family uses at a density of 35 dwelling units per gross acre. As a result, Alternative 3 would require a General Plan Amendment. In contrast to the proposed Project, Alternative 3 would not require the creation of a new site-specific land use designation to accommodate the proposed development density. Nonetheless, the inconsistency of Alternative 3 with the property's existing zoning and Community General Plan designations constitute significant and unavoidable land use impacts, as is the case for the proposed Project. However, because Alternative 3 would provide the same benefits as the proposed Project with a density that is more compatible with nearby uses, potential impacts related to land use would be less than those impacts under the proposed Project. Implementation of Alternative 3 would also result in similar impacts with regard to construction-related environmental safety, given that this Alternative would require the demolition of the existing buildings. The oldest buildings on the Project site contain asbestos (ACMs and ACCMs) and lead-based paint, which would result in a potentially significant impact during demolition. However, all asbestos-containing materials and lead-based paints would be removed prior to demolition in accordance with SCAQMD and mitigation measures similar to those of the proposed Project.

Alternative 3 would be similar to the proposed Project in terms of land use (multi-family housing) and amenities, with the primary difference being a more than 30 percent reduction in the number of dwelling units, and therefore development density, compared to the proposed Project. For these reasons, Alternative 3 would meet all of the Key Residential Objectives, Key Sustainability Goals, and Additional Project Objectives. In summary, Alternative 3 would attain all of the proposed Project Objectives, while resulting in less impact than the proposed Project.

Alternative 4: Mixed Use: Residential and Commercial

Under Alternative 4, the Project site would be redeveloped with a mix of residential uses and general commercial uses similar to those on nearby Colima Road, instead of solely with residential uses as under the proposed Project. The southernmost portion of the northern parcel and the entire southern parcel, totaling approximately 60 percent of the Project site, would be developed with Townhome-Style

Apartments and a Wrap-Around building, identical to the proposed Project. However, the two Podium buildings proposed for the northern parcel under the proposed Project would not be constructed, and that portion of the site would instead be developed with commercial uses. Development of a 4.2-acre parking lot would also occur under Alternative 4. Under Alternative 4, the Project site would be redeveloped with a mix of residential and commercial uses. Alternative 4 would include approximately 325 residential units, 140,000 square feet of neighborhood-serving commercial uses, and a 4.2-acre parking lot. Mixes of residential and commercial uses are not permitted under the current Community Plan designation or the current zoning for the property. Thus, similar to the proposed Project, a Zone Change, General Plan Amendment, and other necessary entitlements would also be required for Alternative 4. Alternative 4 was selected for its potential to avoid or reduce significant and unavoidable Visual Character, Shade and Shadow, and Land Use impacts associated with the proposed Project.

Since Alternative 4 would not involve excavation and would have fewer residences, this Alternative would have fewer impacts with regard to geotechnical and soil impacts; hydrology, drainage, and water quality; operational noise; climate change; visual quality (construction-related views and light and glare impacts); construction-related traffic, parking, circulation, and access; sewage disposal; education; fire and police services; water service; utility services; solid waste; parks and recreation; library service; population, housing, and employment; and operational environmental safety. However, implementation of Alternative 4 would result in similar impacts with regard to operational light and glare, given that this Alternative would not introduce any substantial light sources or highly reflective materials, and construction-related environmental safety, given that this Alternative would require the demolition of the existing buildings. Alternative 4 would result in greater construction-related noise, construction-related air quality, operational visual character and views, shade and shadow, and land use planning impacts, all of which are considered significant and unavoidable impacts under the proposed Project. Additionally, given the increase in trip generation, Alternative 4 would result in greater operational noise, and operational traffic, parking, circulation, and access impacts. Alternative 4 would also result in significant and unavoidable operational air quality impacts, unlike the proposed Project.

Because Alternative 4 would result in the implementation of multi-family housing and amenities, notwithstanding an approximately 58 percent reduction in dwelling units compared to the proposed Project, it would meet Key Residential Objectives 2 through 5. Because of the reduction in the number of residences to be built compared to the proposed Project, Alternative 4 would meet Key Residential Objective 1, but not to the same extent as the proposed Project. Alternative 4 would attain all of the Key Sustainability Goals and all of the Additional Project Objectives.

Overall, Alternative 4 would attain the majority of the Project Objectives, with only the substantial reduction in the number of proposed units, compared to the proposed Project, preventing full attainment

of the key Residential Objective concerning alleviation of the housing shortage in the Project area and region. However, no Project objectives address commercial uses, which are proposed under Alternative 4. The Project site is already well served by nearby neighborhood-serving commercial uses, and therefore this is not a desirable use of the Project site. Moreover, a number of impacts would be greater than those of the proposed Project, including land use and operational air quality, noise, hydrology, and traffic impacts.

3.0 PROJECT DESCRIPTION

INTRODUCTION

The purpose of the Project Description is to describe the Project in a way that will be meaningful to the public, reviewing agencies, and decision-makers. The Project Description serves as the basis for the technical analysis contained in this document. The *California Environmental Quality Act (CEQA) Guidelines* state that a Project Description need not be exhaustive but should provide the level of detail needed for the evaluation and review of potential significant environmental impacts. Section 15146 of the *State CEQA Guidelines* states that the degree of specificity required in an Environmental Impact Report (EIR) shall correspond to the degree of specificity involved in the underlying activity described in the EIR. As described in Section 15124 of the *State CEQA Guidelines*, a complete Project Description must contain the following information: (1) a statement of Project objectives; (2) the precise location and boundaries of the proposed Project; (3) a general description of the Project's technical, economic, and environmental characteristics; and (4) a statement describing the intended uses of the EIR.

PROJECT OBJECTIVES

The Project Applicant, Canyons Apartments LLC, seeks to develop the Canyon Residences Project (Project) on the approximately 15.7-acre Project site in the northeastern portion of Rowland Heights. Key objectives of the proposed Project are as follows:

Key Residential Objectives

1. Assist Los Angeles County in meeting the housing needs of its residents by contributing to the fulfillment of Los Angeles County's Southern California Association of Governments (SCAG) Regional Housing Needs Assessment (RHNA) allocation for moderate-income and above-moderate-income units, which requires the County to accommodate expected growth by ensuring the availability of residential sites at adequate densities and appropriate development standards in unincorporated areas, as stated in the Los Angeles County General Plan Housing Element.

2. Provide new multi-family rental housing in the unincorporated Los Angeles County Rowland Heights area that is presently underserved by lifestyle multi-family residential uses that include various leisure and recreational amenities for residents, and increase the diversity of housing options as recommended by the Housing Element of the Rowland Heights Community General Plan.

3. Provide high-quality multi-family housing options without displacing existing residential uses.

4. Provide a diverse multi-family residential unit mix to meet the needs of a variety of tenants.

5. Provide sufficient outdoor gathering spaces and recreational amenities on the Project site to meet the needs of Project residents and reduce demand for off-site park and recreational facilities.

Key Sustainability Objectives

1. Implement sustainable design features that incorporate the *California Build It Green MultiFamily GreenPoint Checklist* of sustainable, green design principles into site location, site design, building construction techniques, and building materials.

2. Locate multi-family housing on an urban infill site within an urban growth boundary and already served by existing infrastructure.

3. Provide multi-family housing in proximity to existing employment centers in the eastern San Gabriel Valley, including the City of Industry, the major employment center for the San Gabriel Valley, Diamond Bar, and Pomona.

4. Encourage pedestrian activity and minimize vehicle use by providing higher-density housing in proximity to existing neighborhood-serving retail and commercial uses.

5. Locate multi-family housing in an area well served by mass transit, including bus and rail, to reduce Project-related vehicle miles traveled.

6. Locate multi-family housing on a site well served by the local and regional roadway network.

Additional Project Objectives

1. Utilize existing topography to minimize the visual impact of proposed buildings.

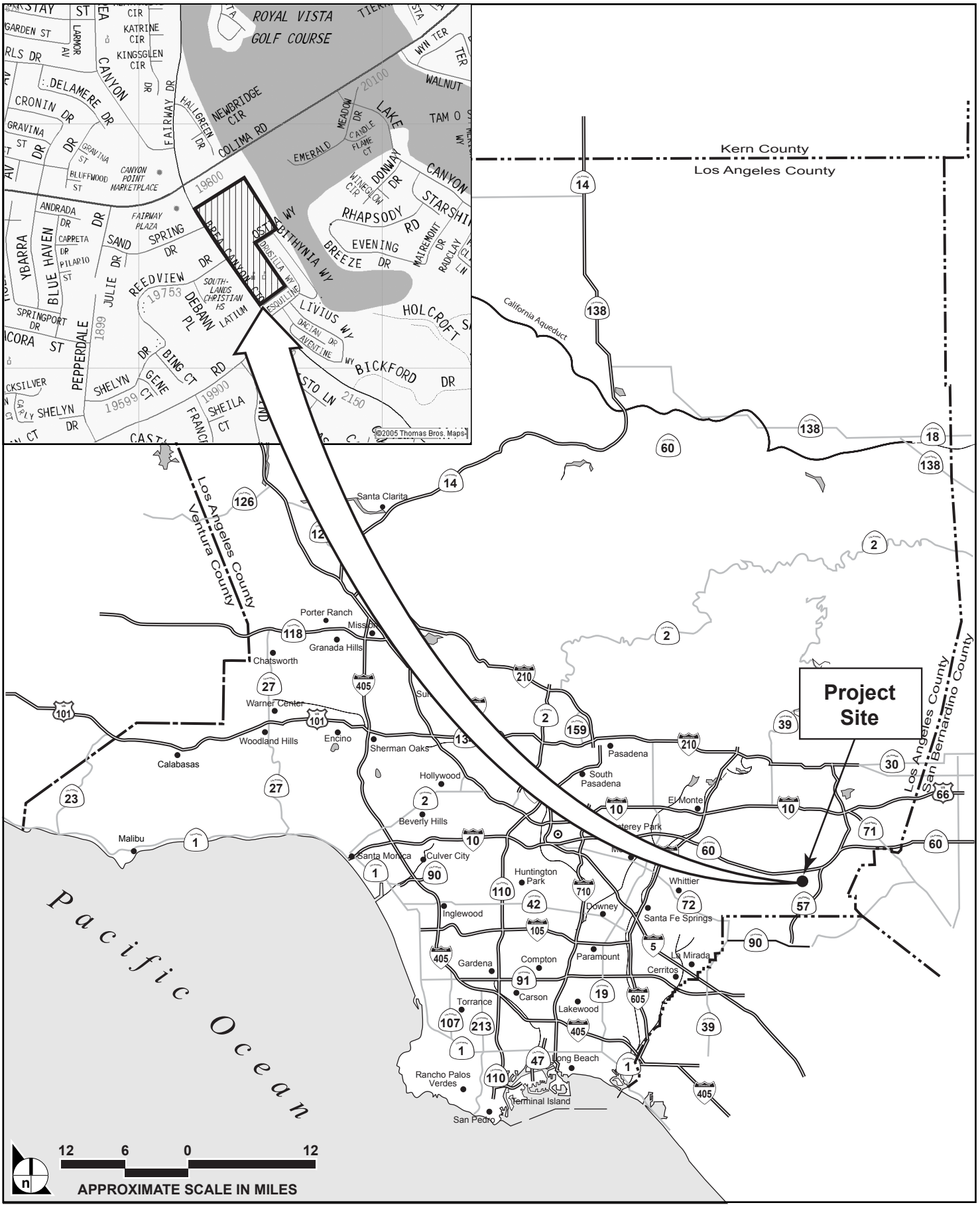
2. Build housing that is physically compatible with adjacent land uses.

3. Provide streetscape improvements that enhance the visual environment of the neighborhood and encourage pedestrian activity within the Project site as well as between the site and nearby retail and commercial land uses.

4. Meet all Project-related parking demand on the Project site.

PROJECT LOCATION

The proposed Project would develop 775 multi-family residential rental units on an approximately 15.7-acre site located at 1920 Brea Canyon Cutoff Road. The Project site is located in the northeastern portion of the unincorporated Los Angeles County community of Rowland Heights, approximately 0.75 mile south of the Pomona Freeway (State Route [SR]-60). Regional access to the Project site is provided by the Pomona Freeway, while local access to the Project site is provided by Fairway Drive, Brea Canyon Cutoff Road, and Colima Road. **Figure 3.0-1, Regional Location Map,** and **Figure 3.0-2, Vicinity Map**, show the Project site and surrounding roadways.

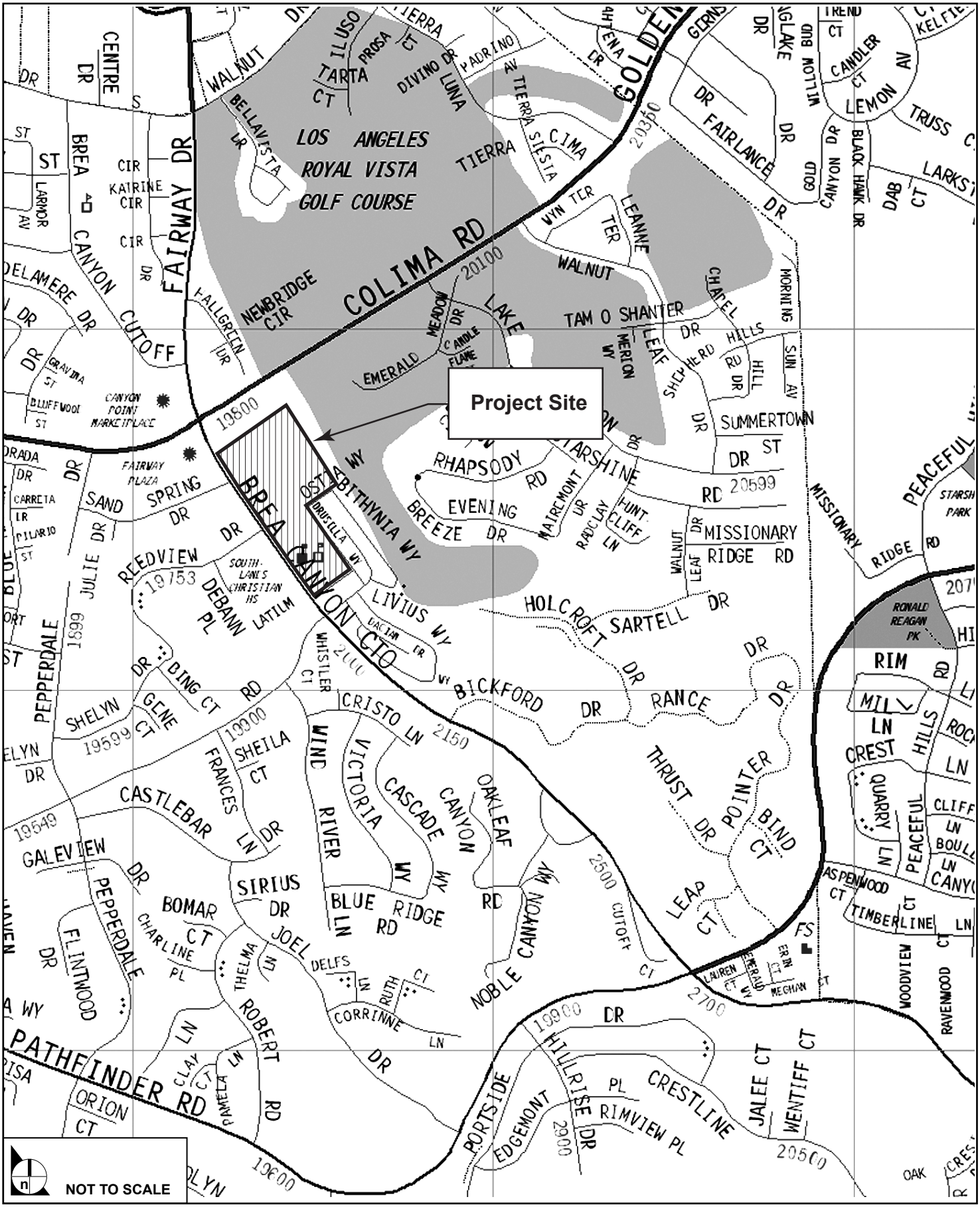


SOURCE: Thomas Bros. - 2005, Impact Sciences, Inc. – March 2008

FIGURE **3.0-1**

Regional Location Map

291-006•06/08



SOURCE: Thomas Bros. - 2005, Impact Sciences, Inc. – December 2007

FIGURE **3.0-2**

Vicinity Map

The Project site is bounded by a senior housing complex and three commercial buildings along Colima Road on the north, the Royal Vista Golf Course and multi-family residences along Drusilla Way, Esquiline Avenue and Bithynia Way on the east, multi-family residences along Ostia Way and Latium Way on the south, and Brea Canyon Cutoff Road and single family residences on the west. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road/Colima Road intersection. Land uses in the Project site area south of the Pomona Freeway are primarily residential and resident-serving commercial uses, while uses immediately north of the freeway are generally light manufacturing and industrial.

PROJECT BACKGROUND

The Project site is currently owned by Southlands Church International; however, the Project Applicant would purchase and develop the Project site. Until approximately 1970, when the church was first constructed, the site was used for agricultural cultivation, but otherwise undeveloped. Additional school buildings and facilities have been constructed on site since 1970, and Southlands Christian Schools has been operating on site since 1979.

Land use in Rowland Heights is governed by the County of Los Angeles Zoning Ordinance as well as the Rowland Heights Community General Plan and the County of Los Angeles General Plan. The Rowland Heights Community General Plan land use designation for the Project site is Low Density Residential, or Urban 1 (U-1). The zoning designation for the site is A-1 (Light Agriculture). This designation allows for single-family residences, crops, greenhouses, and raising of cattle. The U-1 designation permits 1.1 to 3.2 dwelling units per gross acre; 10,000 to 39,999-square-foot typical lot sizes; urban very low density (hillside residential); large lot residential; and single-family detached dwellings.

The Project site is also subject to the Rowland Heights Community Standards District (CSD), which implements the Community General Plan and establishes standards for new development.

EXISTING CONDITIONS

As illustrated in **Figure 3.0-3, Existing Site Layout/ALTA Survey**, and **Figure 3.0-4, Existing Aerial Photo**, the Project site currently comprises two parcels (Parcel 1 and Parcel 2) and is developed with the Southlands Christian Church and Southlands Christian Schools, which span grades Pre-K through 12. Nine single-story buildings, two paved surface parking lots, and an athletic field currently occupy the site. Approximately 70 percent (11 acres) of the Project site is currently developed with buildings or paved, and 30 percent (4.7 acres) is athletic fields or landscaped area. The current church and school buildings were constructed during the period between 1970 and 2002; prior to their construction, the Project site was used for agricultural cultivation. **Table 3.0-1, Summary of Existing On-Site Uses**, summarizes the existing church and school buildings and the associated square footages, on the Project site.

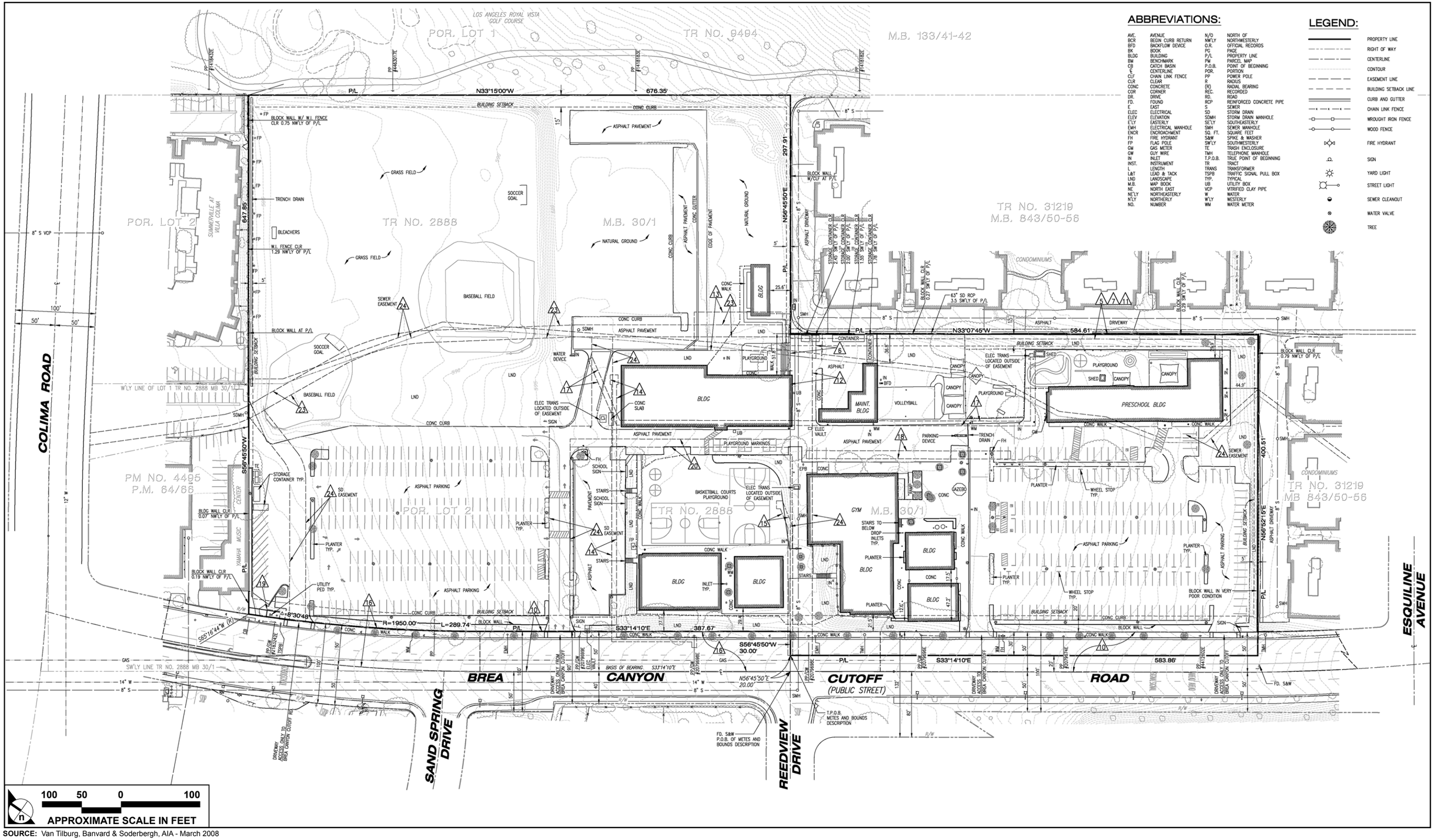
Table 3.0-1
Summary of Existing On-Site Uses

Existing Buildings and Uses	Square Footage
Bungalow	1,551
Administrative/Educational	15,112
Educational	7,229
Educational	3,893
Maintenance	2,651
Gymnasium and Educational/Offices	15785
Educational	2,979
Educational	2,838
Pre-K	11,188
Total Building Square Footage	**63,226***

* *Existing on-site buildings include shared church, administrative, and educational uses.*

As shown in **Figure 3.0-3**, the Project site generally slopes downward to the northwest. Cut slopes have been created along the eastern and southern edges of the slightly sunken athletic field and along the property lines adjacent to Ostia Way and the Royal Vista Golf Course; no other notable topographic features are present on site. Total topographic relief across the Project site is estimated at 56 feet, ranging in elevation from the low point of 575 feet above mean sea level at the northwestern corner of the site to 631 feet above mean sea level at the southeastern corner. Multi-family residences on Ostia Way, Drusilla Way, and Latium Way, south and southeast of the Project site, sit at higher elevations relative to the site; retaining walls up to 8 feet in height separate the lower-lying Project site from these uses. Along the northern boundary of the Project site near the northeastern corner, a retaining wall between 2 and 8 feet in height retains soils from the on-site athletic fields, since off-site land uses to the north sit at a slightly lower elevation than the site.

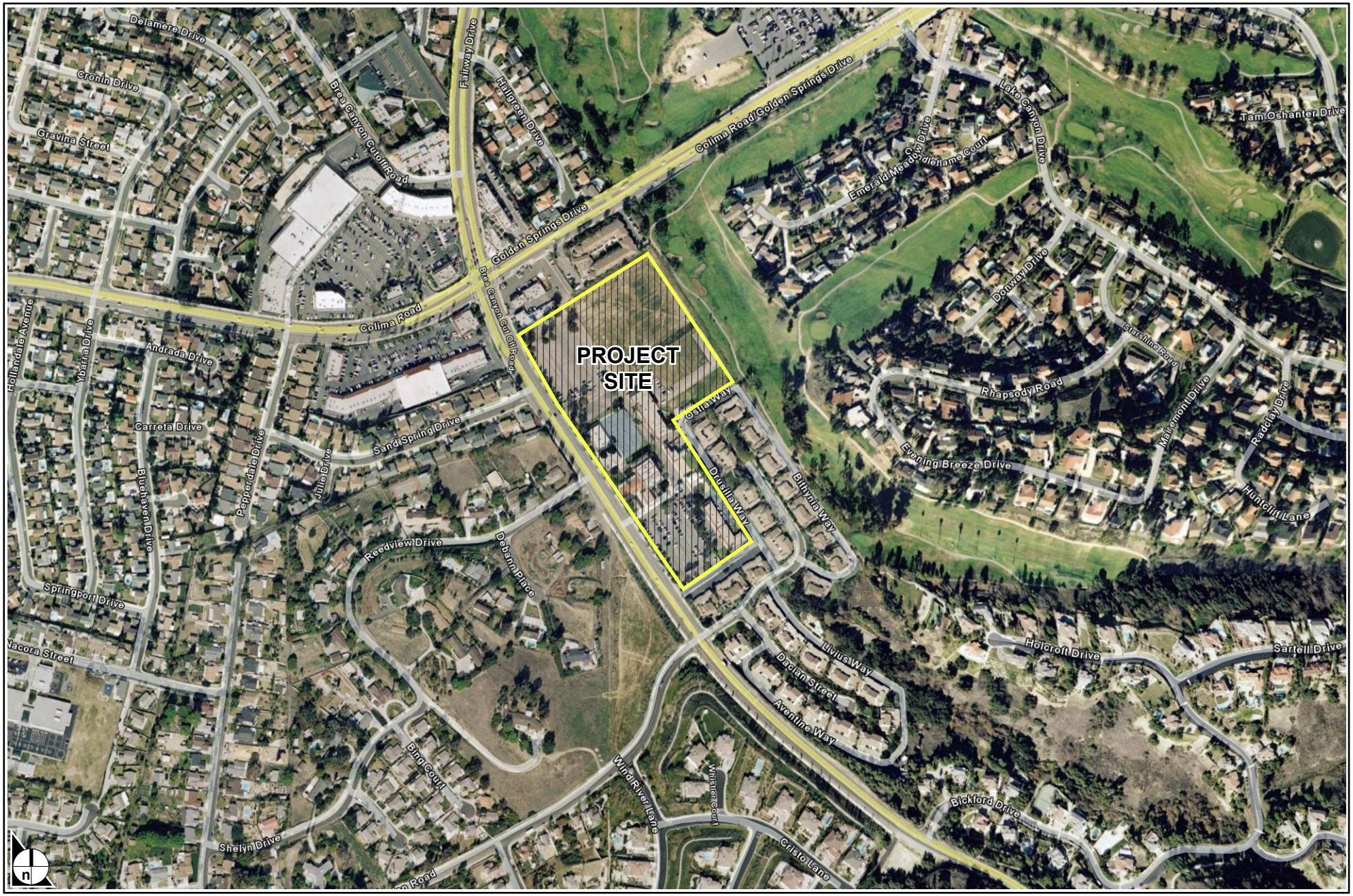
A Los Angeles County Flood Control District easement traverses the Project site from north to south, as indicated in **Figure 3.0-3**.



SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-3**

Existing Site Layout / ALTA Survey



SOURCE: Google Earth - 2008, Impact Sciences, Inc. – March 2008

FIGURE **3.0-4**

Existing Aerial Photo

PROJECT CHARACTERISTICS

Overview of the Concept Plan

The proposed Project would redevelop the approximately 15.7-acre property at 1920 Brea Canyon Cutoff Road. The existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, a central recreational clubhouse and pool for residents plus recreational amenities in each building, parking structures and at-grade surface parking containing approximately 1,544 parking spaces, and landscaping throughout the Project site. Space for apartment leasing offices would be provided in the residential buildings. The floor area ratio (FAR) on the proposed Project site would be 1.35:1.

A conceptual site plan is illustrated in **Figure 3.0-5, Conceptual Site Plan**. Site plans for each of the three types of apartment residences are shown in **Figure 3.0-6, Site Plan – Podium Building**; **Figure 3.0-7, Podium Building Parking – Upper Level**; **Figure 3.0-8, Podium Building Parking – Lower Level**; **Figure 3.0-9, Townhome-Style Apartment Buildings for the Canyon Residences Project**; and **Figure 3.0-10, Site Plan – Wrap-Around Buildings**. Elevations of the proposed residences are shown in **Figure 3.0-11, Conceptual Elevations – Podium Building**; **Figure 3.0-12, Townhome-Style Apartment Buildings for the Canyon Residences Project**; **Figure 3.0-13 Conceptual Elevations – Wrap-Around Building (West)**; and **Figure 3.0-14, Conceptual Elevations – Wrap-Around Building (South)**. A summary of all major Project characteristics is provided in **Table 3.0-2, Summary of Project Characteristics**.

Table 3.0-2
Summary of Project Characteristics

Unit Type	One Bedroom Units	Two Bedroom Units	Three Bedroom Units	Total No. of Units	Height (feet)	# of Stories	Gross Floor Area [a]
Podium Buildings	282	168	0	450	56 to 69	4	499,500
Townhome-Style Apartments	0	78	30	108	39.5	3	150,900
Wrap-Around Buildings	119	82	16	217	44 to 60	3 & 4	266,000
Recreational Facility *(includes Social/Community Room, Business Center, and Leasing Office)*					39	2	7,850
Total	**401**	**328**	**46**	**775**	--	--	**924,250**

[a] *Gross floor area encompasses leasable building space plus "accessory" nonleasable space including mechanical/electrical/maintenance rooms, corridors, stairwells, elevators, storage, etc., but excludes parking. The FAR (floor area ratio), a measure of the proposed Project's density, is the ratio of gross floor area to total lot gross square footage: 924,250/685,014=1.35).*

Source: Van Tilburg, Banvard & Soderbergh, AIA, March 2008

Podium Building Units

The northern end of the Project site would be developed with two buildings atop partially subterranean, enclosed parking, referred to as the Podium buildings. Each Podium building would contain four stories of residential units above a podium, or base, containing two levels of enclosed parking. As shown in **Figures 3.0-5** and **3.0-6**, the two buildings would each surround internal courtyards containing swimming pools, spas, and landscaping. A total of 450 Podium building residential units are proposed, with a unit mix of approximately 282 one-bedroom units and 168 two-bedroom units. Units would range in size from approximately 620 square feet for one-bedroom units to approximately 905 square feet for two-bedroom units. Collectively, the two Podium buildings would total approximately 499,500 square feet.

Podium building heights above finished grade would vary because of the approximately 12-foot elevation differential across the portion of the site where they would be constructed. As shown in **Figure 3.0-11**, building heights along the Project site's sloping western perimeter, fronting Brea Canyon Cutoff Road, would range from approximately 56 to 69 feet above finished grade. The maximum Podium building height along the Project site's southern elevation, facing the interior driveway, would be approximately 57 feet above finished grade.[1] Because of the site's slope, the parking structure would be entirely subterranean at the southern end of the Podium buildings (beneath ground-floor residences), and rise to 12 feet above grade (while remaining partially subterranean) at the northern end of the Project site. The parking structure would be entirely enclosed along all elevations, and would be screened from view from Brea Canyon Cutoff Road by a stepped wall and landscaped planters, as shown in **Figure 3.0-11,** previously referenced.

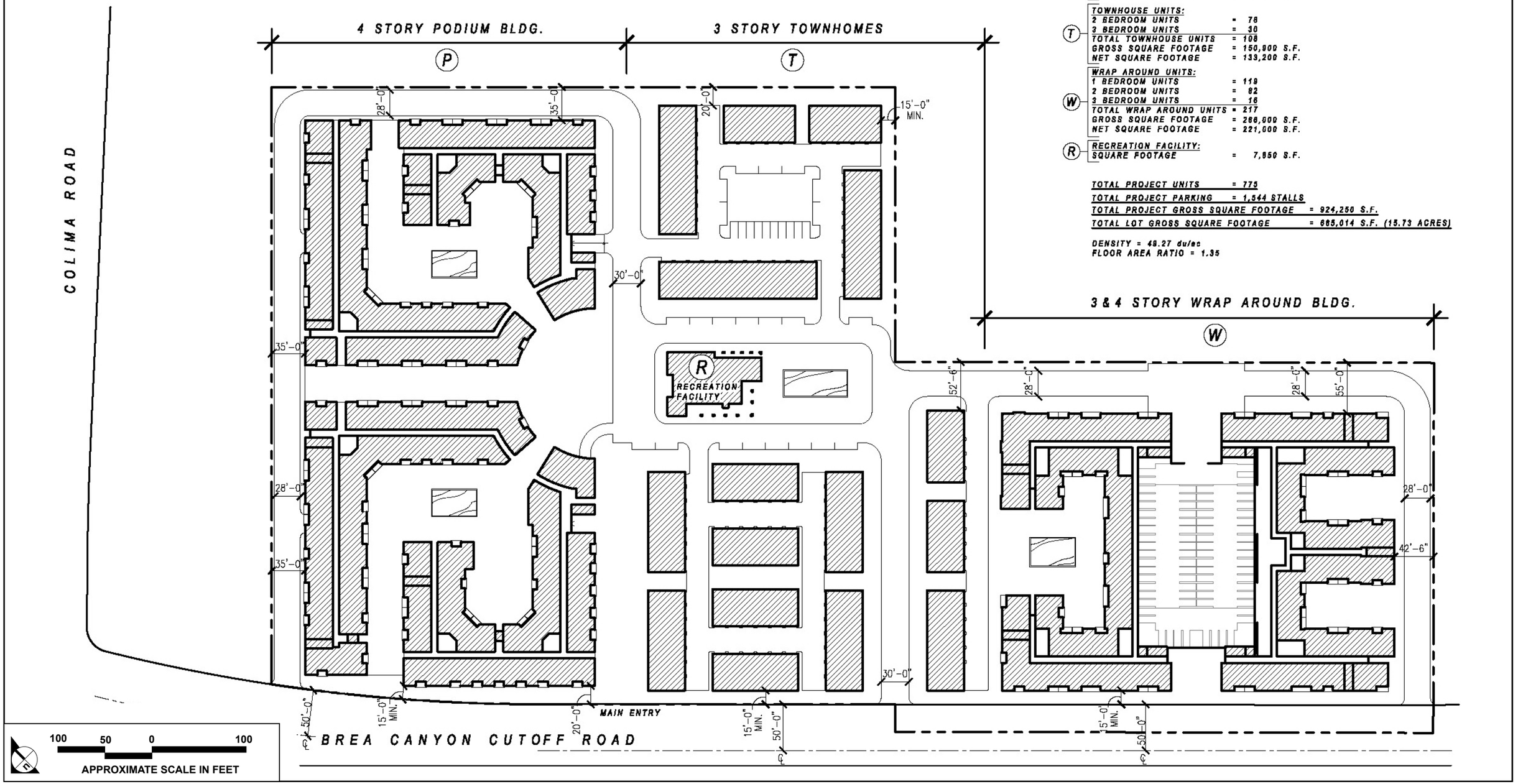
1 Building heights are measured from adjacent finished grade to the top of the roofline, excluding stairwell, elevator, and mechanical equipment enclosures.

Project Summary:

	PODIUM UNITS:	
	1 BEDROOM UNITS	= 282
	2 BEDROOM UNITS	= 168
(P)	TOTAL PODIUM UNITS	= 450
	GROSS SQUARE FOOTAGE	= 499,500 S.F.
	NET SQUARE FOOTAGE	= 414,585 S.F.
	TOWNHOUSE UNITS:	
	2 BEDROOM UNITS	= 78
	3 BEDROOM UNITS	= 30
(T)	TOTAL TOWNHOUSE UNITS	= 108
	GROSS SQUARE FOOTAGE	= 150,900 S.F.
	NET SQUARE FOOTAGE	= 133,200 S.F.
	WRAP AROUND UNITS:	
	1 BEDROOM UNITS	= 119
	2 BEDROOM UNITS	= 82
(W)	3 BEDROOM UNITS	= 16
	TOTAL WRAP AROUND UNITS	= 217
	GROSS SQUARE FOOTAGE	= 268,000 S.F.
	NET SQUARE FOOTAGE	= 221,000 S.F.
(R)	**RECREATION FACILITY:**	
	SQUARE FOOTAGE	= 7,850 S.F.

TOTAL PROJECT UNITS = 775
TOTAL PROJECT PARKING = 1,544 STALLS
TOTAL PROJECT GROSS SQUARE FOOTAGE = 924,250 S.F.
TOTAL LOT GROSS SQUARE FOOTAGE = 685,014 S.F. (15.73 ACRES)

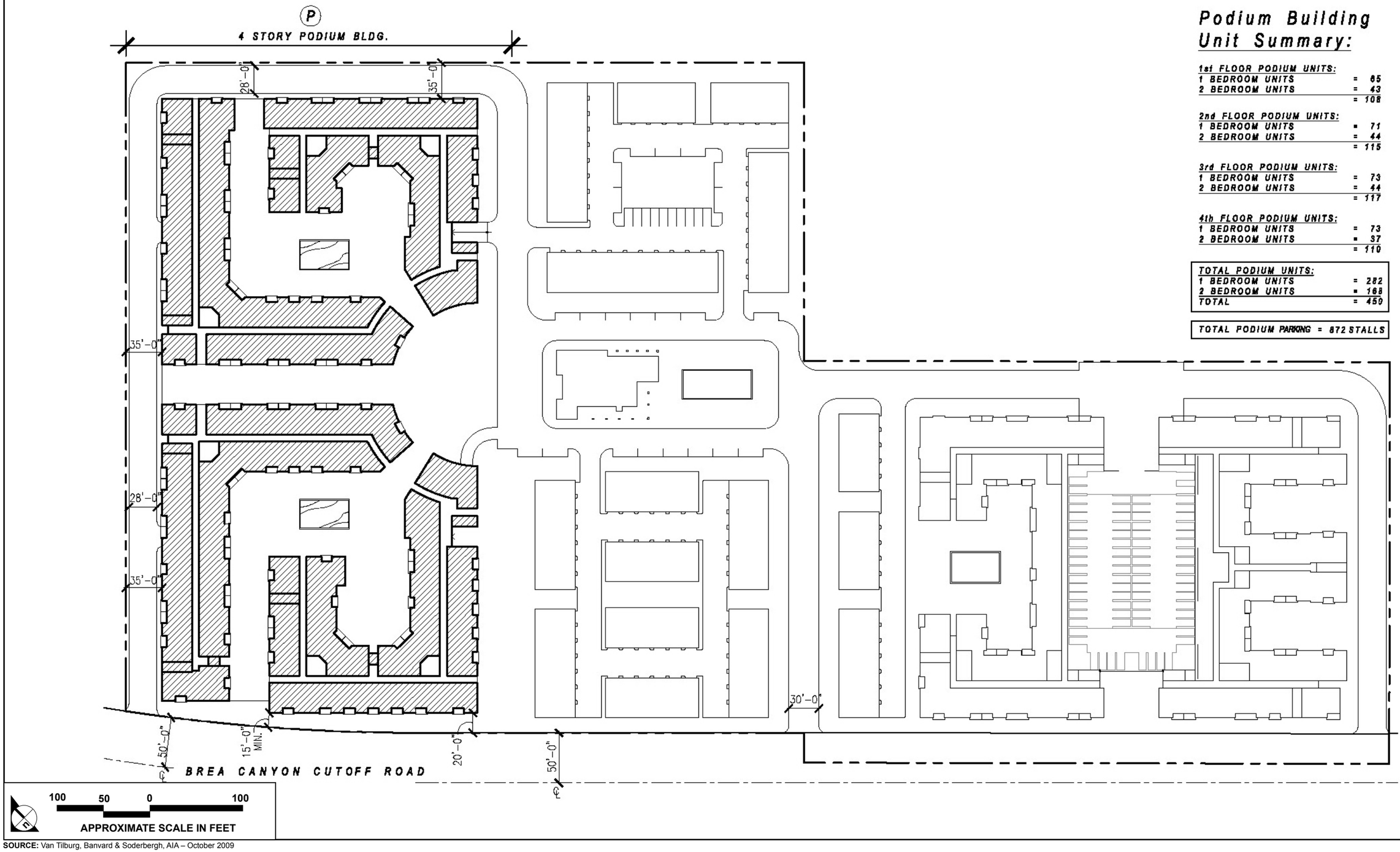
DENSITY = 49.27 du/ac
FLOOR AREA RATIO = 1.35



SOURCE: Van Tilburg, Banvard & Soderbergh, AIA – October 2009

FIGURE **3.0-5**

Conceptual Site Plan



Podium Building Unit Summary:

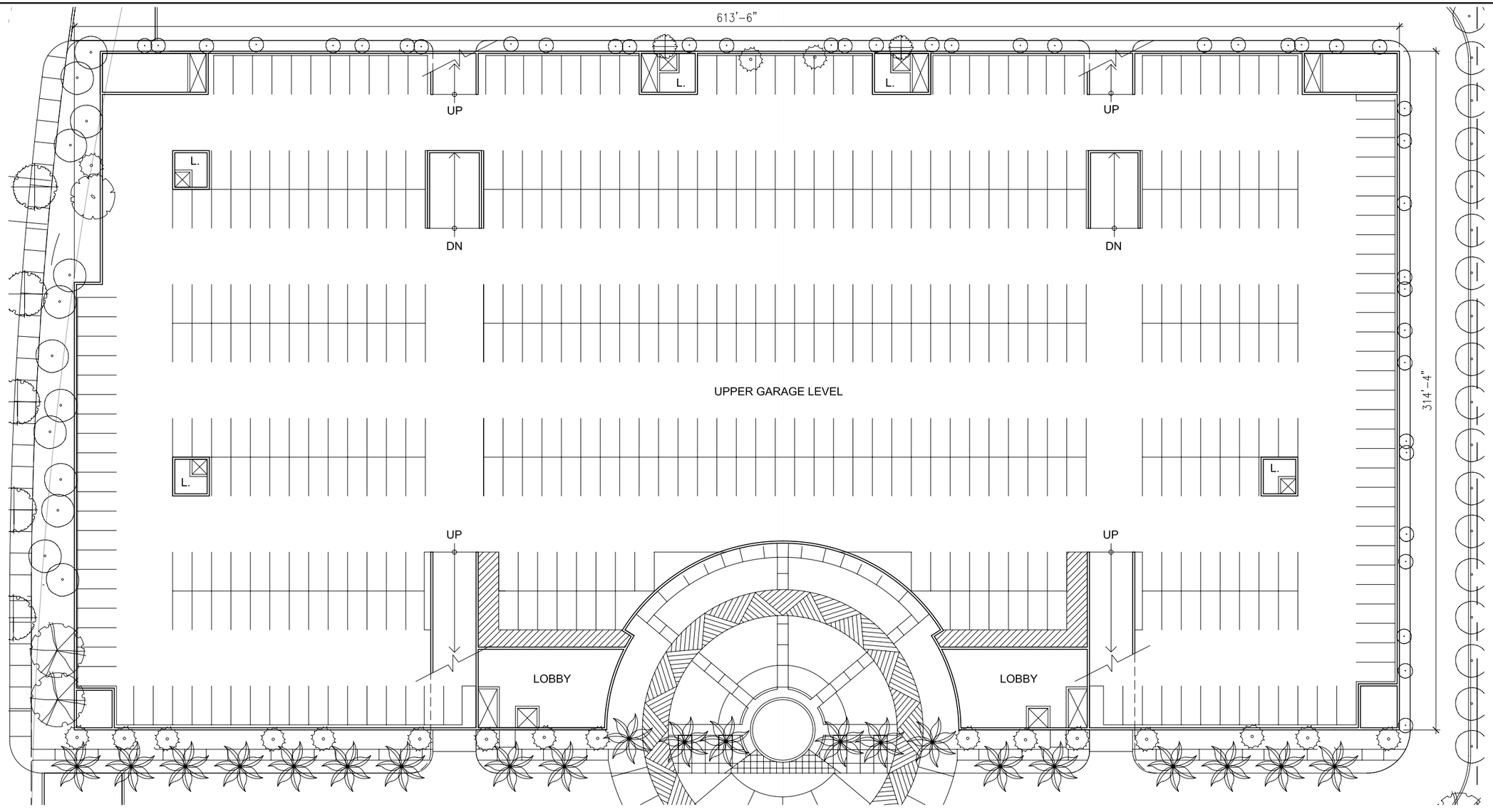
1st FLOOR PODIUM UNITS:	
1 BEDROOM UNITS	= 65
2 BEDROOM UNITS	= 43
	= 108
2nd FLOOR PODIUM UNITS:	
1 BEDROOM UNITS	= 71
2 BEDROOM UNITS	= 44
	= 115
3rd FLOOR PODIUM UNITS:	
1 BEDROOM UNITS	= 73
2 BEDROOM UNITS	= 44
	= 117
4th FLOOR PODIUM UNITS:	
1 BEDROOM UNITS	= 73
2 BEDROOM UNITS	= 37
	= 110
TOTAL PODIUM UNITS:	
1 BEDROOM UNITS	= 282
2 BEDROOM UNITS	= 168
TOTAL	= 450

TOTAL PODIUM PARKING = 872 STALLS

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA – October 2009

FIGURE **3.0-6**

Site Plan - Podium Building



Total Podium Building Parking Summary:

1 BEDROOM UNITS
@ 1.5 STALLS/UNIT (282 x 1.5) = 423 STALLS

2 BEDROOM UNITS
@ 2.0 STALLS/UNIT (168 x 2.0) = 336 STALLS

GUEST STALLS
@ 0.25 STALLS/UNIT (450 x 0.25) = 113 STALLS

TOTAL PODIUM PARKING = 872 STALLS

(NOTE: ALL PARKING STALLS = 8'-6" x 18'-0")

CANYON RESIDENCES - PODIUM BUILDING - UPPER GARAGE PLAN

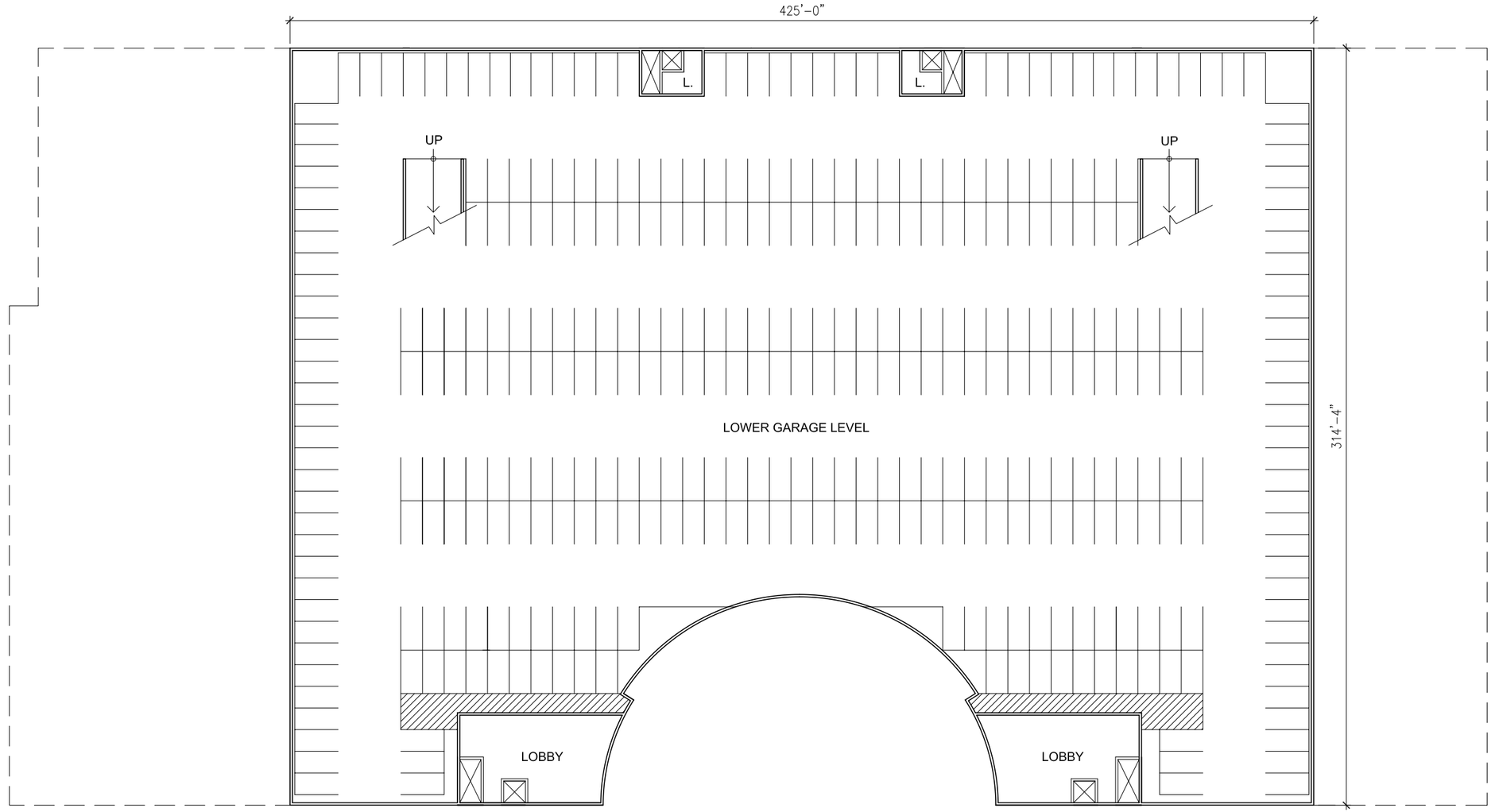
1920 BREA CANYON CUTOFF ROAD
ROWLAND HEIGHTS, CA 91748

80 40 0 80
APPROXIMATE SCALE IN FEET

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-7**

Podium Building Parking - Upper Level



CANYON RESIDENCES - PODIUM BUILDING - LOWER GARAGE PLAN

1920 BREA CANYON CUTOFF ROAD
ROWLAND HEIGHTS, CA 91748

80 40 0 80

APPROXIMATE SCALE IN FEET

Total Podium Building Parking Summary:

1 BEDROOM UNITS
@ 1.5 STALLS/UNIT (282 x 1.5) = 423 STALLS

2 BEDROOM UNITS
@ 2.0 STALLS/UNIT (168 x 2.0) = 336 STALLS

GUEST STALLS
@ 0.25 STALLS/UNIT (450 x 0.25) = 113 STALLS

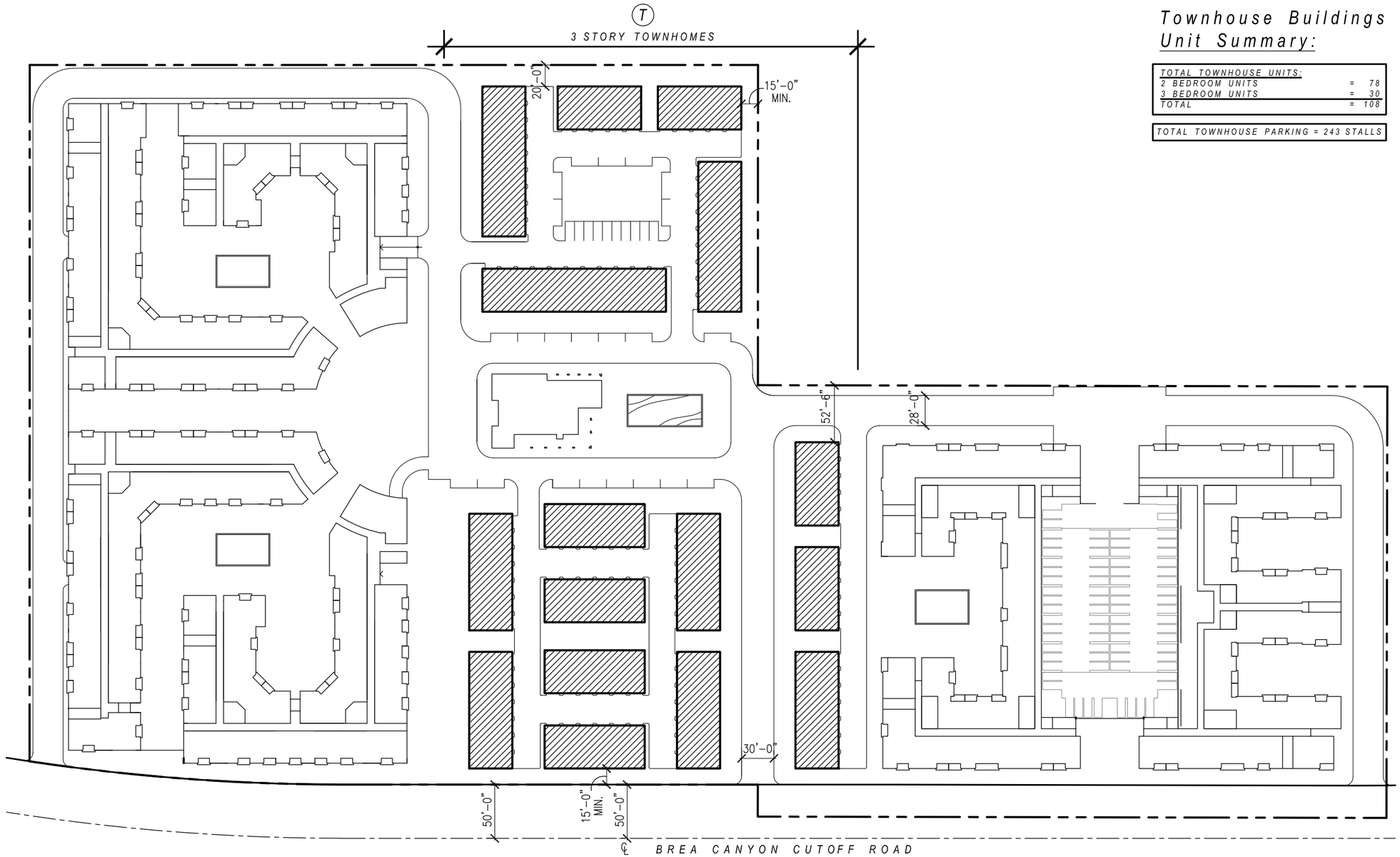
TOTAL PODIUM PARKING = 872 STALLS

(NOTE: ALL PARKING STALLS = 8'-6" x 18'-0")

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-8**

Podium Building Parking - Lower Level



Townhouse Buildings Unit Summary:

TOTAL TOWNHOUSE UNITS:	
2 BEDROOM UNITS	= 78
3 BEDROOM UNITS	= 30
TOTAL	= 108

TOTAL TOWNHOUSE PARKING = 243 STALLS

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA – October 2009

FIGURE **3.0-9**

Townhome-Style Apartment Buildings for the Canyon Residences Project

Wrap Around Building Unit Summary:

1st FLOOR WRAP AROUND UNITS:

1 BEDROOM UNITS	= 34
2 BEDROOM UNITS	= 20
3 BEDROOM UNITS	= 4
	= 58

2nd FLOOR WRAP AROUND UNITS:

1 BEDROOM UNITS	= 31
2 BEDROOM UNITS	= 22
3 BEDROOM UNITS	= 4
	= 57

3rd FLOOR WRAP AROUND UNITS:

1 BEDROOM UNITS	= 31
2 BEDROOM UNITS	= 22
3 BEDROOM UNITS	= 4
	= 57

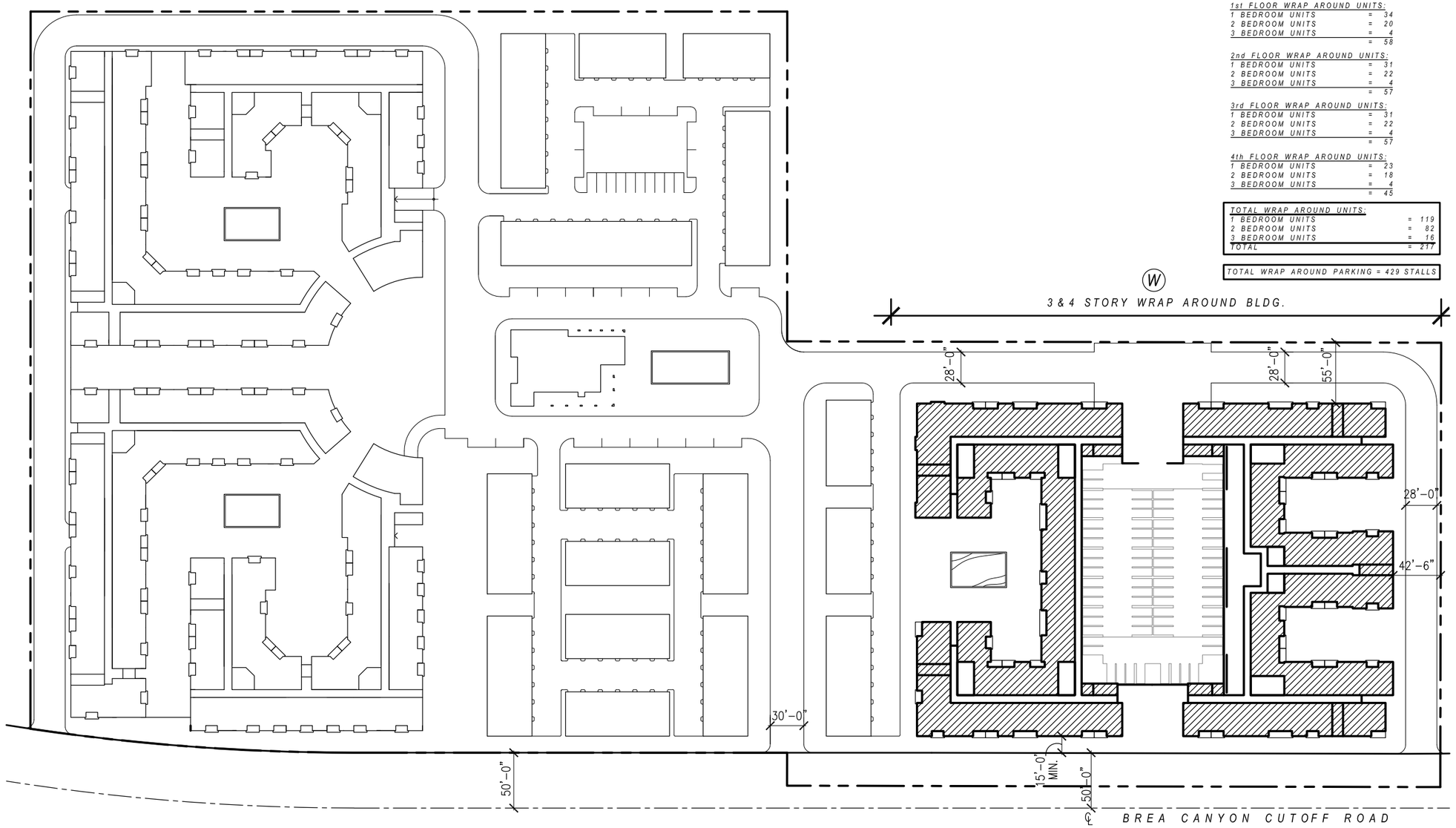
4th FLOOR WRAP AROUND UNITS:

1 BEDROOM UNITS	= 23
2 BEDROOM UNITS	= 18
3 BEDROOM UNITS	= 4
	= 45

TOTAL WRAP AROUND UNITS:

1 BEDROOM UNITS	= 119
2 BEDROOM UNITS	= 82
3 BEDROOM UNITS	= 16
TOTAL	= 217

TOTAL WRAP AROUND PARKING = 429 STALLS



100 50 0 100

APPROXIMATE SCALE IN FEET

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA – October 2009

FIGURE **3.0-10**

Site Plan - Wrap-Around Buildings

WEST ELEVATION

SOUTH ELEVATION

CANYON RESIDENCES - PODIUM BUILDING - CONCEPTUAL ELEVATIONS

1920 BREA CANYON CUTOFF ROAD
ROWLAND HEIGHTS, CA 91748

40 20 0 40

APPROXIMATE SCALE IN FEET

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-11**

Conceptual Elevations - Podium Building

291-006•06/08

SIDE ELEVATION

7 UNIT FRONT ELEVATION

CANYON RESIDENCES - TOWNHOME BUILDINGS - CONCEPTUAL ELEVATIONS

1920 BREA CANYON CUTOFF ROAD
ROWLAND HEIGHTS, CA 91748

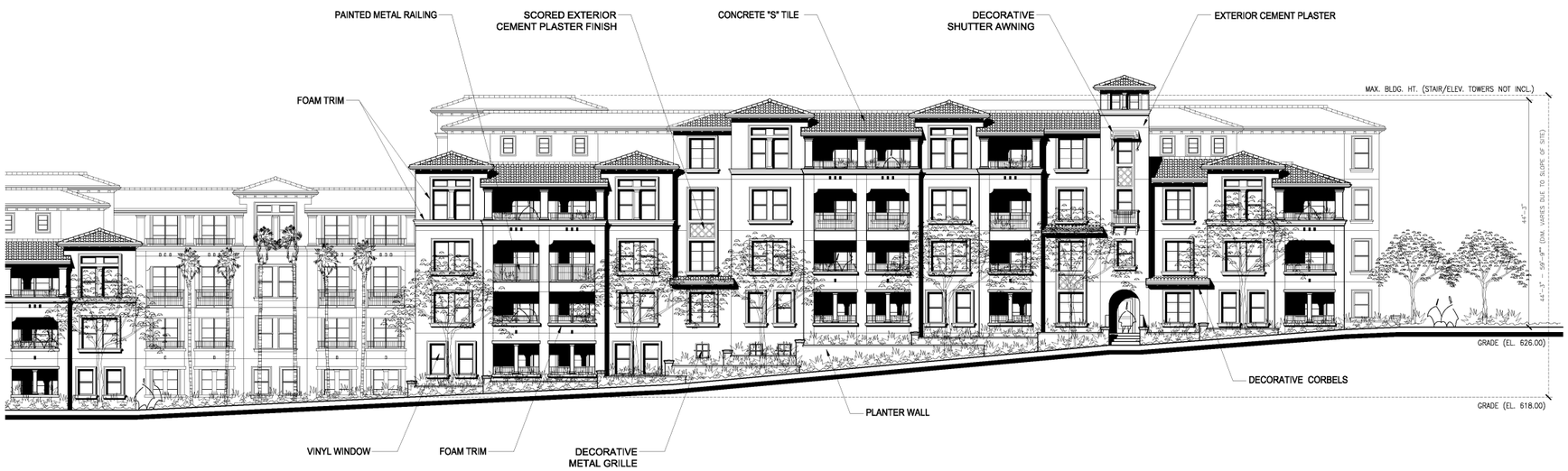
12 6 0 12

APPROXIMATE SCALE IN FEET

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-12**

Townhome-Style Apartment Buildings for the Canyon Residences Project



BREA CANYON CUTOFF ROAD ELEVATION (ENLARGED PORTION)

CANYON RESIDENCES - WRAP AROUND BUILDING - CONCEPTUAL ELEVATIONS

1920 BREA CANYON CUTOFF ROAD
ROWLAND HEIGHTS, CA 91748

32 16 0 32

APPROXIMATE SCALE IN FEET

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-13**

Conceptual Elevations - Wrap-Around Building (West)

RESIDENTIAL DRIVEWAY ELEVATION

CANYON RESIDENCES - WRAP AROUND BUILDING - CONCEPTUAL ELEVATIONS

1920 BREA CANYON CUTOFF ROAD
ROWLAND HEIGHTS, CA 91748

32 16 0 32

APPROXIMATE SCALE IN FEET

SOURCE: Van Tilburg, Banvard & Soderbergh, AIA - March 2008

FIGURE **3.0-14**

Conceptual Elevations - Wrap-Around Building (South)

291-006•06/08

Townhome-Style Apartments

The central portion of the Project site would be developed with 15 three-story Townhome-style apartment buildings. The buildings would be arranged in two clusters, with the eastern cluster surrounding a landscaped quadrangle (East Quad) and barbeque area and the western cluster surrounding a smaller landscaped quadrangle (West Quad) and bordered by landscaped areas and a playground area to the north. A total of approximately 108 Townhome-style apartments is proposed, with the proposed unit mix including approximately 78 two-bedroom units and 30 three-bedroom units. Townhome-style apartments would range in size from approximately 1,150 square feet to 1,450 square feet, and collectively would total approximately 150,900 square feet. The location of the proposed Townhome-style apartments is shown in **Figure 3.0-9**.

The Townhome-style apartment buildings would be three stories and approximately 39.5 feet in height above finished grade, as shown in the elevations in **Figure 3.0-12.**

Wrap-Around Buildings

The southern end of the Project site would be developed with two groups of interconnected Wrap-Around buildings, arranged, or "wrapped" around a single, central, above-grade parking structure. Buildings would step up in height from three stories at each outer corner to four stories adjoining the four-level parking structure. The design of the Wrap-Around buildings would screen views of the parking structure from on and off site, while allowing building residents to park in the parking structure level corresponding to the level of their residence in the adjoining Wrap-Around building. Collectively, the buildings would contain approximately 217 units, with the proposed unit mix including approximately 119 one-bedroom units, 82 two-bedroom units and 16 three-bedroom units. Unit size would range from approximately 628 square feet for one-bedroom units to approximately 1,216 square feet for three-bedroom units. The Wrap-Around buildings would total approximately 266,000 square feet. The Wrap-Around building location and arrangement is shown in **Figure 3.0-10**.

As shown in **Figures 3.0-13** and **3.0-14**, the western elevation of the three- and four-story Wrap-Around buildings would range from approximately 44 feet to 60 feet above finished grade, depending on the number of stories and the slope of the site at that location. The maximum height above finished grade of the southern elevation (along the Project site's internal driveway) would be approximately 47 feet. The parking structure would be comparable in height to the four-story residential buildings and would likewise vary in height above finished grade because of the varying levels of the slope of the site.

Recreational Facilities and Amenities

As shown in **Figure 3.0-5,** a recreational clubhouse that would serve all Project residents would be centrally located on the Project site. The two-story, centrally located recreational clubhouse would include such facilities as a "great room" or community room, yoga/multipurpose room, media room, fitness center, sports lounge, library/multipurpose room, conference room, and business center, as well as space for leasing offices. Second-story terraces would provide outdoor seating. An outdoor swimming pool and spa, as well as a barbeque area, would be collocated with the recreational clubhouse.

Additional indoor and outdoor recreational facilities would be incorporated into the Podium buildings, Townhome-style apartment building clusters, and Wrap-Around buildings, as shown in **Figure 5.14-2** in **Section 5.14, Parks and Recreation**, of this Draft EIR.

The two courtyards within the Podium buildings, the East Podium Pool Court and the West Podium Pool Court, would each contain a swimming pool, spa, and landscaped terraces. Both Podium buildings would also contain indoor recreational facilities for residents of the buildings. A landscaped plaza incorporated into the podium building would face the central recreational clubhouse.

The eastern Townhome-style apartment building cluster would surround a landscaped quadrangle containing a barbeque area (East Quad). The western cluster would surround a smaller landscaped quadrangle (West Quad) and would be bordered by landscaped areas, including a playground area to the north.

A swimming pool and spa serving residents of both Wrap-Around buildings would be located in a courtyard (Wrap Building Pool Court) within the northern Wrap-Around building. The northern Wrap-Around building would also contain an indoor recreational facility for residents of both buildings. Two landscaped courtyards, the East Court and the West Court, would be located within the southern Wrap-Around building.

Landscaping

The Podium and Wrap-Around buildings would be arranged around landscaped courtyards, and the Townhome-Style apartment buildings would both surround landscaped quadrangles and would be bordered by landscaped areas**.** The proposed Project would also include landscaping throughout the Project site; the proposed landscaping program would comply with the County's Drought-Tolerant Landscaping Ordinance and includes such elements as shade trees, flowers, landscaping lighting, landscaped building setbacks, and streetscape amenities such as planter walls and decorative metal grilles and corbels at the street level.

Street trees would enhance the streetscape along Brea Canyon Cutoff Road, as well as provide a buffer between the sidewalk and traffic. In the interior of the Project site, courtyards, lawns, water features, trees, paved walkways, a playground area, and pools would be accessible to Project residents and guests. Plantings within the interior landscaped grounds would comply with the Drought-Tolerant Landscape Guidelines required by the County of Los Angeles Green Building Ordinance, which requires 75 percent of the plants used on the Project site to be drought-tolerant.

Landscaped areas and open space would total approximately 4.96 acres sitewide, including landscape planters, landscaped quadrangles, and communal areas such as plazas, pool and landscaped courtyards, the playground area, and internal pedestrian walkways.

Lighting

Lighting for the proposed Project would be used to create a safe, adequately illuminated nighttime environment on the Project site by highlighting building entrances and illuminating public places where people are expected to congregate. Lighting within courtyards, pool areas, other recreational spaces, and the above grade parking structure enclosed within the Wrap-Around buildings would be shielded from off-site vantage points by surrounding structures and landscaping. Additionally, pole-mounted lighting would be used to illuminate the interior access driveways. Decorative lighting would be limited to highlighting architectural accents and landscaping, and would be of low-intensity. Exterior lighting would incorporate low-intensity downlights, louvers, shields, hoods or other screening devices and all proposed light sources would be directed downward to limit light spillover and glare generation onto the adjacent light-sensitive land uses such as the neighboring single- and multi-family residences. Energy-efficient, long-life lighting sources would be used where possible to manage the Project's energy consumption. Control systems for lighting would be used to extend lamp life and reduce power usage.

Infrastructure Improvements

As part of the proposed Project, on-site infrastructure improvements, including new water supply, fire flow, and wastewater infrastructure, would be necessary. Circulation and access improvements have also been incorporated into the design of the Project, as shown in **Figure 3.0-5**.

Water Service

Water service for the Project site is provided by the Walnut Valley Water District (WVWD). An on-site water distribution network would be constructed to the standards of the County of Los Angeles Department of Public Works. This system would connect to the existing 14-inch water line located west of the Project site along Brea Canyon Cutoff Road. Please see **Section 5.11, Water Service**, of this Draft EIR, for a more detailed discussion regarding on-site water service and distribution systems.

Sewer Service

The sewer system serving the Project site is provided and maintained by the County of Los Angeles Department of Public Works and the Los Angeles County Sanitation Districts. Wastewater generated by the Project would be conveyed through an existing 8-inch sewer line, which cuts through the Project site in an east-west–oriented easement. The 8-inch sewer line may require upsizing as a result of the implementation of the Project, in which case the Project applicant would be required to pay a connection fee plus the Project's fair share of the costs associated with any required upgrades to the County Sanitation Division. Additionally, portions of the Project site are outside of the jurisdictional boundaries of the Sanitation Districts and would require annexation into District 21 before complete sewerage service can be provided. Wastewater generated at the Project site would be conveyed from local sewer lines to a 30-inch trunk line. Please see **Section 5.8, Sewage Disposal**, of this Draft EIR, for more detailed discussion regarding on-site sewer service and conveyance systems.

Solid Waste Disposal

Solid waste collection facilities for the Project site would be provided on the Project site itself. Trash collection areas would be located within the partially subterranean parking structure for the Podium building, and within the above ground parking structure for the Wrap-Around buildings. The Townhome-style apartments would have individual trash bins that residents would place outside their garages for weekly pick-up. Recycling canisters would be also provided at each solid waste collection location. The collection of solid waste at the Project site is currently, and would continue to be, provided through a franchise with the County. Please see **Section 5.13, Solid Waste**, of this Draft EIR, for more detailed discussion of solid waste disposal.

Drainage

The stormwater drainage system for the Project is managed by the County of Los Angeles Department of Public Works and the Los Angeles County Flood Control District. An on-site drainage system would be constructed to carry stormwater runoff generated on the Project site into existing drainage easements located within the rights of way of all surrounding streets. A major reinforced concrete pipe storm drain currently exists and runs north-south through the Project site. Prior to leaving the Project site, all stormwater would be treated by active or passive filtration devices. Additionally, as required by the Los Angeles Regional Water Quality Control Board, the Project would be subject to Standard Urban Stormwater Mitigation Plan requirements to ensure that stormwater pollution is addressed in the Project design and operation. Please see **Section 5.2, Hydrology, Drainage, and Water Quality**, of this Draft EIR, for a more detailed discussion regarding on-site drainage systems.

Electrical and Natural Gas

The Southern California Edison Company provides electrical energy to the Project site, and the Southern California Gas Company provides natural gas to the Project site. Existing gas lines currently serve the Project site and surrounding area. Currently, there is a 6-inch medium pressure natural gas main in Brea Canyon Cutoff Road. Southern California Edison and The Gas Company have not indicated that specific changes to existing off-site infrastructure or distribution systems would be required to meet the proposed Project's needs. Both have indicated that future distribution system connection, infrastructure, and alteration details would be determined upon final plan submission. The County of Los Angeles Department of Public Works may also indicate the need for off-site infrastructure improvements (i.e., at points of connection to the Project site). Please see **Section 5.12, Utilities**, of this Draft EIR for a more detailed discussion regarding on-site electrical and natural gas systems.

Access and Circulation

The Project site would be accessed by three driveways off Brea Canyon Cutoff Road, which runs along the western side of the Project site. The three driveways include a primary driveway accessing the center of the Project site and two secondary driveways at the northern and southern ends of the Project site. At-grade internal driveway widths would be at a minimum of 28 feet to allow access to the site for fire trucks and emergency vehicles. Smaller emergency vehicles, such as police cars and ambulances, would be able to access the subterranean parking structure as necessary. The final placement and design of the proposed buildings, along with specifications of the Los Angeles County Fire Department, will likewise determine the final design of the internal circulation system. Please see **Section 5.7, Traffic, Parking, Circulation, and Access**, of this Draft EIR, for a more detailed discussion regarding access and circulation.

Parking

The proposed Project would be developed as a Residential Planned Development under County Zoning Ordinance Section 20.20.460. Residential planned developments are required to provide parking "in an amount adequate to prevent traffic congestion and excessive street parking" and in no event less than one covered parking space per dwelling unit. A sitewide total of approximately 1,544 parking spaces are proposed, which is nearly double the minimum requirement for an Residential Planned Development and which meets the stated County Code parking requirements in Section 22.52.1000, which are established to ensure that an adequate number of spaces are available to accommodate anticipated parking demand in order to address traffic congestion and potential adverse impacts on surrounding properties from parking. See County Code Section 22.52.1000. This total includes 872 spaces in the

parking structure serving the Podium building, 243 at-grade spaces to serve the Townhome-style apartments (i.e., 216 attached garage spaces and a minimum of 27 guest spaces located adjacent to the two quadrangles and surrounding the central recreational facility/swimming pool), and 429 spaces in the above-grade structure incorporated into the Wrap-Around buildings. **Table 3.0-3**, **Project Parking**, below, itemizes parking that would be provided by the proposed Project. The proposed parking supply meets or exceeds the County requirement for Residential Planned Development, as it will provide parking in an amount adequate to prevent traffic congestion and excessive street parking. Please see **Section 5.7, Traffic, Parking, Circulation, and Access**, of this Draft EIR, for a more detailed discussion regarding Project parking.

Table 3.0-3
Project Parking

Unit Type	No. of Units	Parking Ratio (stalls per unit)	No. of Stalls Provided
Podium Units			
One-bedroom	282	1.5	423
Two-bedroom	168	2.0	336
Guest stalls	450	0.25	113
Podium Building Subtotal	**450**		**872**
Townhomes-Style Apartment Buildings			
Two-bedroom	78	2.0	156
Three-bedroom	30	2.0	60
Guest stalls	108	0.25	27
Townhome-Style Apartments Subtotal	**108**		**243**
Wrap-Around Building			
One-bedroom	119	1.5	179
Two-bedroom	82	2.0	164
Three-bedroom	16	2.0	32
Guest stalls	217	0.25	54
Wrap-Around Building Subtotal	**217**		**429**
Recreational Facility	N/A		
Total	**775**		**1,544**

Source: Van Tilburg, Banvard & Soderbergh, AIA, March 2008

Podium Building. Parking for Podium building residents and guests would be contained in a two-level, partially below-grade parking structure beneath the residential buildings. A driveway along the south side of the Podium building would provide parking structure access from Brea Canyon Cutoff Road.

Townhome-Style Apartments. Each Townhome-style apartment unit includes a two-car garage, which would provide the required parking for Townhome-style apartment residents. The garages would be attached to the Townhome-style apartments, at grade, and would be accessed via the internal Project site driveways. Additionally, at least 27 surface parking stalls for guests of Townhome-style apartment residents would be provided adjacent to the Townhome-Style Apartment Buildings' central quadrangles and near the central Recreational Facility.

Wrap-Around Building. A four-level above-grade parking structure within the Wrap-Around building would provide the required parking for building residents and guests. Access to the parking structure would be provided via an internal driveway accessed from Brea Canyon Cutoff Road.

Build It Green Features

The Project design incorporates measures for conserving natural resources, using water and energy wisely, and improving indoor air quality. Among the key focuses of the GreenPoint checklist and rating program for multi-family homes are increased energy efficiency, improved indoor air quality, consideration for the community, and preservation of resources. The Project would meet or exceed state and local energy-saving requirements including exceeding California Energy Title 24 by a minimum of at least 15 percent by upgrading the envelope of the buildings with enhanced insulation and upgraded windows, and diverting a minimum 65 percent of all construction and demolition waste from landfills to recycling centers, as required by the Los Angeles County Green Building Program. Energy-saving design features of the development would also include: (1) reducing the amount of water usage by specifying drought tolerant California Native plants and installing high-efficiency irrigation systems, 2-gallon-per-minute shower heads for bathrooms, flow limiters on all faucets, and high efficiency toilets; and (2) reducing electrical demand by installing energy-efficient refrigerators and dishwashers, and garage ventilations fans that are controlled by carbon monoxide sensors. Additional measures fulfilled by, or to be incorporated into, the proposed Project include the following:

Planning and Design

- Infill Site
- The Project is located within an existing urban area and avoids development of an undeveloped environmentally sensitive area
- The Project proposes a housing density of 15 units per acre or more
- The Project is located in an area that has sewer lines and utilities in place
- The Project site has pedestrian access within one-quarter mile to a range of neighborhood services
- The Project is located within one-half mile of a major transit stop

- Social Gathering Places (an average of 50 square feet per unit or more; includes natural elements)
- Design for Safety and Vandalism Deterrence

Site

- Construction and Demolition Waste Management
- Performance of a two-week whole-building flushout of Volatile Organic Compounds (VOCs) prior to occupancy
- Recycled concrete and asphalt for use in new poured concrete
- "Cool Site" Techniques (Cool site techniques include: light-colored concrete and roofing materials).
- Drought-Tolerant Landscaping
- Light Pollution Reduction

Structure

- Acoustics: Noise and Vibration Control
- Recycled Materials (Slag or Flyash) Replace the Portland Cement Component of Concrete By a Minimum of 20 Percent
- High-Quality Insulation (01350 certified or contains no formaldehyde; recycled content of 75 percent or more)

Systems

- Water-Efficient Fixtures
- High Efficiency Toilets
- Air Conditioning with Non-HCFC Refrigerants
- Garage Ventilation
- Building Performance Exceeds Title 24

Finishes and Furnishings

- Low/No-VOC Paint and Other Coatings
- Low-VOC Adhesives and Sealants
- Low-Emitting Flooring

Operations and Maintenance

- Recycling and Waste Collection
- Operational and Maintenance Procedures
- Educational Signage

CONSTRUCTION PROGRAM AND PHASING

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of the site for below-grade parking, and construction of the new buildings, parking areas, and related improvements. These phases and the anticipated timeframes associated with each phase are provided in **Table 3.0-4, Project Construction Phasing**, below. This process would occur over an approximately 36-month period, although some phases may overlap with others.

Table 3.0-4
Project Construction Phasing

Construction Phase	Approximate Duration
Demolition	3 months
Earthwork and Excavation	3 months
Construction	30 months
Total Combined Construction Phases (assuming no overlap)	**36 months**

Source: Canyons Apartments LLC, March 2008

Truck Staging and Haul Routes. All truck staging would be confined to County-designated locations along the Brea Canyon Cutoff Road/Fairway Drive haul route or on the Project site itself. For construction trucks hauling demolition and earth material from the Project site, the haul route would proceed north on Brea Canyon Cutoff Road, which becomes Fairway Drive, and then onto Highway 60. Depending upon what facility receives the demolition and earth material, trucks would proceed either east or west on Highway 60.

Demolition. The volume of debris expected to be generated from the demolition of the existing school and church facilities and the associated asphalt parking lot has been estimated at approximately 5,000 cubic yards, including both hard and soft materials. After compaction by up to 20 percent, this volume of demolition debris translates to approximately 300 truckloads of debris. The demolition process would include separating debris and recycling or salvaging for reuse at least 65 percent of demolition materials, as required by the Los Angeles County Green Building Program. This demolition and recycling process would occur over a period of approximately 12 weeks and average between four and six truckloads per day at 15- to 30-minute intervals.

Earthwork and Excavation. Due to the slope of the Project site and the proposed below-grade parking structure, excavation (up to 20 feet in depth, for the partially subterranean Podium building parking structure) and recompaction activities will be conducted on the Project site. A total of 100,000 cubic yards of earth would be disturbed, with approximately 45,000 cubic yards of earth to be removed and recompacted and a total of 55,000 cubic yards of earth to be exported from the Project site. The volume of earth to be exported translates to approximately 3,930 truckloads of debris. Earthwork and excavation would occur over a period of approximately 12 weeks and average between 50 and 100 truckloads per day at 10- to 20-minute intervals.

Construction Staging and Construction Worker Parking. All construction equipment would be staged on the Project site. Additionally, the majority, if not all, construction worker parking would be accommodated on the Project site. If necessary, the construction contractor would arrange for off-site parking in close proximity to the Project site, although not in the residential neighborhoods.

INTENDED USES OF THE EIR

This EIR will serve as the primary source of environmental information for the actions and approvals associated with the development of the Project. In accordance with Section 21002.1 of the Public Resource Code, the purpose of this EIR is to provide the Lead Agency, in this case the County of Los Angeles, with information on the potentially significant environmental impacts that would result from implementation of the Project, alternatives to the Project, and mitigation measures that may reduce or avoid any significant effects. This EIR may also be used as an information document by other public agencies in connection with any approvals or permits necessary for construction and operation of the Project.

A series of approvals from the County are necessary for implementation of the Project. Discretionary and other approvals for the Project would include, but are not limited to, the following:

- Zone Change: From Light Agriculture (A1) to Residential Planned Development 50U
- Conditional Use Permit
- General Plan Amendment: To amend the existing Rowland Heights Community General Plan designation for the Project site (U1 or Urban 1) to create a new site-specific land use designation, "U6" or Urban 6 that would allow a density of up to 50 units per acre.
- Oak Tree Permit for the removal of three oak trees
- Certification of an Environmental Impact Report
- Grading, excavation, foundation, and other building permits
- Annexation to County Sanitation Districts, District 21 through the Local Agency Formation Commission (LAFCO) of Los Angeles
- Los Angeles Regional Water Quality Control Board National Pollutant Discharge Elimination System (NPDES) permit for the discharge of surface runoff from the Project site during construction
- Other permits and approvals as deemed necessary

This EIR is intended to serve as a Project EIR, as defined in Section 15161 of the *State CEQA Guidelines*, for use by the County and Responsible Agencies related to these proposed actions. The EIR therefore is, intended to apply to all the permits and approvals described above, as well as any others necessary to implement the Project.

4.0 CUMULATIVE PROJECTS

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or compound or increase other environmental impacts. As stated in Section 15355 of the *California Environmental Quality Act (CEQA) Guidelines*, the individual effects may be changes resulting from a single project or from a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

An Environmental Impact Report (EIR) is required to analyze cumulative impacts and propose feasible options for mitigating or avoiding the project's contribution to any significant cumulative impacts, if the project's contribution is "cumulatively considerable" (*State CEQA Guidelines* 15130). The discussion of cumulative impacts should reflect the severity of the impacts and their likelihood of occurrence. An adequate discussion of significant cumulative impacts may utilize a list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside of the control of the lead agency. Factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project, and its type (*State CEQA Guidelines* 15130). Alternatively, the lead agency may utilize a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified and which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

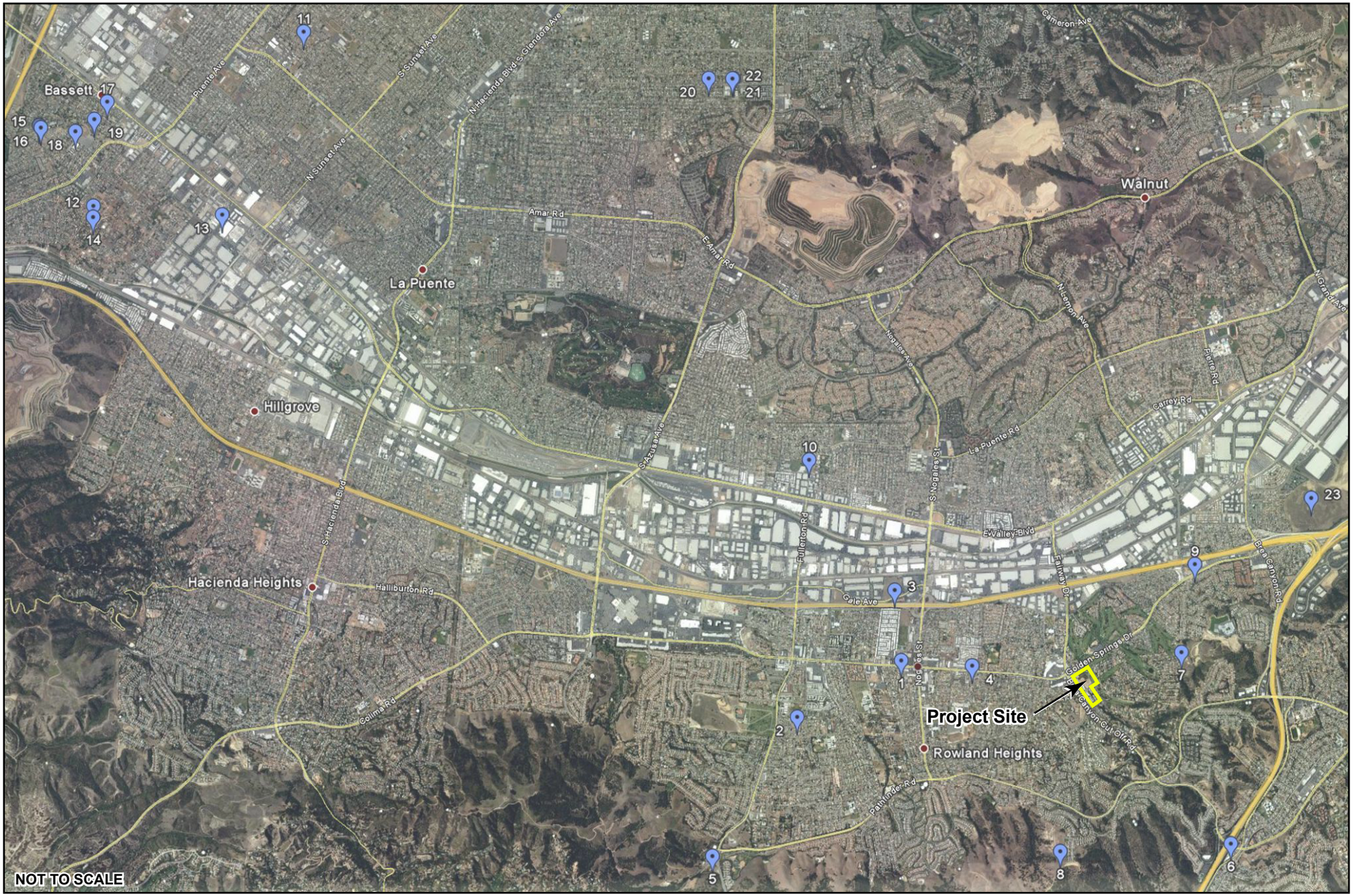
For this EIR, the selection of methodology for each environmental issue area is dependent on the appropriateness and availability of the data. When assessing cumulative impacts upon broad regional resources, such as air quality, the analysis takes into consideration projections of cumulative growth contained in adopted planning documents of the South Coast Air Quality Management District (SCAQMD), Southern California Association of Governments (SCAG) and other regional agencies. Conversely, the analysis of the cumulative effects of localized impacts focuses on a list of related projects in the Project site vicinity.

Reasonably foreseeable development projects in the vicinity of the Project site are listed in **Table 4.0-1, Related Projects**. Listings of potential related projects in the Project site area were obtained from the Los Angeles County Department of Regional Planning (DRP) and KHR Associates, who prepared the traffic impact analysis for the proposed Project. KHR Associates, in collaboration with the City of Diamond Bar,

City of Industry, and the DRP, compiled a list of projects within a 1.5-mile radius of the Project site. **Table 4.0-1** includes projects analyzed within the traffic study and the balance of unincorporated County projects identified by the DRP.

Development of the 23 projects listed in **Table 4.0-1** would result in additional commercial, residential, and industrial uses in Rowland Heights as well as other unincorporated Los Angeles County communities including South San Jose Hills, West Puente Valley, Avocado Heights, Bassett and Valinda, and the City of Diamond Bar and City of Industry. The location of each project relative to the Project site is shown in **Figure 4.0-1, Related Projects Location Map**. Related projects in conjunction with the proposed Project would result in the development of 4,058 dwelling units, 1,444,985 square feet of commercial uses (including retail, restaurant, office, and medical office), 68,800 square feet of industrial uses, and a 75,000-seat stadium.

Cumulative impacts are discussed in each technical section within **Section 5.0, Environmental Impact Analysis**. While **Table 4.0-1** lists 23 related projects within a multijurisdictional geographic region, some technical sections may focus on impacts within a more specific study area and therefore may not require consideration of all 23 projects in their cumulative impacts analyses. Where this is the case, the methodology used to determine the appropriate study area and related projects is presented in the technical section.



SOURCE: Google Earth - 2009, Impact Sciences, Inc. - May 2009

FIGURE **4.0-1**

Related Projects Location Map

Table 4.0-1
Related Projects

Map Number	Address	City or Community	Proposed Use(s)	Size
1	18900 Colima Road	Rowland Heights	Adult Day Care Facility	10,755 sf
2	2103 Batson Avenue	Rowland Heights	Single-Family Units	1 du
3	18800 Railroad Street	Rowland Heights	Retail	355,200 sf
			Restaurant	129,500 sf
			Cinema	52,100 sf
4	19280 Colima Road	Rowland Heights	Multi-Family Units	11 du
5	3021 South Fullerton Road	Rowland Heights	Office	4,230 sf
6	S/E of Brea Canyon Road and Brea Canyon Cutoff Road/Diamond Bar Boulevard intersection	Diamond Bar	Mixed-Use Residential Units	200 du
7	South of Larkstone Drive and East of Morning Sun Avenue	Diamond Bar	Residences	99 du
8	Aera Energy Planned Development	Diamond Bar	Single-Family Units	3,600 du
9	1035 1/2 Banning Way	Diamond Bar	Commercial	52,000 sf
10	471 Yorbita Road	South San Jose Hills	Condominium Units	3 du
11	1126 Willow Avenue	West Puente Valley	Single-Family Units	8 du
12	649 South Third Avenue	Avocado Heights	Single-Family Units	3 du
13	207 South Sixth Avenue	Avocado Heights	Office	11,200 sf
			Industrial	68,800 sf
14	13823 Lomitas Avenue	Avocado Heights	Condominium Units	2 du
15	N/W of Avocado Creek and Don Julian Road intersection	Bassett	Single-Family Units	3 du
16	13185 Don Julian Road	Bassett	Single-Family Units	2 du
17	139 South Orange Blossom Avenue	Bassett	Single-Family Units	2 du
18	269 Coberta Avenue	Bassett	Condominium Units	109 du
19	277 South Orange Blossom Avenue	Bassett	Single-Family Units	5 du
20	17019 East Francisquito Avenue	Valinda	Condominium Units	3 du
21	17203 East Francisquito Avenue	Valinda	Condominium Units	4 du
22	17213 East Francisquito Avenue	Valinda	Single-Family Units	3 du
23	Los Angeles Stadium Phase One	City of Industry	Stadium	75,000 seats
			Retail	400,000 sf
			Restaurant	50,000 sf
			Office	280,000 sf
			Medical Office	100,000 sf

Source: Los Angeles County Department of Regional Planning, 2008; KHR Associates, 2009.
sf =-square feet; du = dwelling unit

5.0 ENVIRONMENTAL IMPACT ANALYSIS

This section of the Draft Environmental Impact Report (EIR) addresses the potential impacts of the proposed Project on the following resources:

5.1 Geotechnical and Soil Resources

5.2 Hydrology, Drainage, and Water Quality

5.3 Noise

5.4 Air Quality

5.5 Climate Change

5.6 Visual Quality

5.7 Traffic, Parking, Circulation, and Access

5.8 Sewage Disposal

5.9 Education

5.10 Public Services

- 5.10.1 Fire Service
- 5.10.2 Sheriff Services

5.11 Water Service

5.12 Utilities

5.13 Solid Waste

5.14 Parks and Recreation

5.15 Library Services

5.16 Population, Housing, and Employment

5.17 Land Use and Planning

5.18 Environmental Safety

Each topical subsection of this **Section 5.0** includes an initial summary of findings, an introduction that describes the analytical methodology used, existing conditions, applicable regulatory framework, significance thresholds, Project impact analysis encompassing construction and operations, cumulative impact analysis, mitigation measures (where necessary), and identification of any adverse impacts remaining after implementation of mitigation measures.

Impacts determined not to be significant in the Initial Study prepared for the proposed Project are addressed in this Draft EIR under **Section 7.0, Effects Found Not to be Significant**, and have therefore been omitted from this **Section 5.0**. Those include the following:

- **Hazards**
  - Geotechnical and Soil Resources (Project site location in active fault zone, area containing a major landslide, or area designated as having high slope instability)
  - Flood (Presence on Project site of major drainage course, subject to high mudflow conditions, contributing/subject to high erosion or debris deposition via runoff; Project site location in an area with known water quality problems and proposes the use of water from individual water wells; Project requires private sewage disposal system; Project site is subject to dam failure)
  - Fire (Project site location in high fire hazard area and served by inadequate firefighting access; Project proposes more than 75 dwelling units with a single access route in a high fire hazard area; Project constitutes a potentially dangerous high fire hazard)
  - Noise (Project site proximity to high-decibel noise source)
- **Resources**
  - Air Quality (Project is a sensitive use and located near a freeway or industrial uses)
  - Biological Resources (Project will remove substantial natural habitat areas; presence on Project site contains oaks and other native trees; presence on Project site of habitat for known sensitive species; Project site is affected by any other factors, such as proximity to a wildlife corridor or adjacent open space linkage)
  - Cultural Resources (Project site proximity to, or known presence on Project site of, archaeological features or indications of archaeological sensitivity; presence on Project site of rock formations indicating paleontological sensitivity; presence on Project site of known historic structures or sites; Project would cause substantial adverse change in significance of archaeological or historical resource as defined in the *State CEQA Guidelines*, Section 15064.5; Project would directly or indirectly destroy a unique paleontological resource or unique geological feature)
  - Agricultural Resources (All)
  - Visual Quality (Project site location in an undeveloped or undisturbed area with unique aesthetic features)
- **Services**
  - Traffic/Access (Project-related hazardous traffic conditions, inadequate emergency vehicle access)
  - Energy (Project-related inefficient use of energy resources)

- **Other**

  - Environmental Safety (Project use of pressurized tanks or on-site storage of hazardous waste; previous uses resulting in soil toxicity or Project site location within 2 miles of known groundwater contamination within the same watershed; Project-related hazardous emission or handling of hazardous materials within 0.25 mile of an existing or proposed school; Project site listing on hazardous materials sites list; Project-related aviation safety hazards; interference with adopted emergency response or evacuation plan)

  - Land Use (Project inconsistency with Hillside Management Criteria or Strategic Environmental Assessment (SEA) Conformance Criteria; Project resulting in physical division of established community)

  - Population, Housing, and Employment (Displacement of housing or affordable housing; displacement of substantial numbers of people necessitating residential construction elsewhere)

5.1 GEOTECHNICAL AND SOIL RESOURCES

SUMMARY

The proposed Project involves the redevelopment of the approximately 15.7-acre property located at 1920 Brea Canyon Cutoff Road. The existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, a recreational facility for residents, parking structures and surface parking containing a total of approximately 1,544 resident and guest parking spaces, and landscaping throughout the Project site.

The Project site is not traversed by any known active fault and is not located in a designated Alquist-Priolo Earthquake Fault Zone. During a moderate to major earthquake occurring close to the Project site, the proposed Project could be subject to seismically induced settlement due to seismic shaking.

The potential exists on the Project site for subsurface soils to undergo dynamic settlement and lateral spreading during strong seismic events. However, with adherence to the recommendations contained in the Geotechnical Investigation prepared by Geocon West, Inc., for the Project and provided in **Appendix 5.1**, impacts associated with dynamic settlement and lateral spreading would be reduced to a less than significant level.

INTRODUCTION

This section identifies and evaluates geologic and soils conditions at the Project site that could affect, or be affected by, implementation of the Project and recommends mitigation measures to avoid or lessen potentially significant impacts. This section incorporates and summarizes information contained in the Geotechnical Investigation Report prepared by Geocon West, Inc., dated October 22, 2007. A copy of the report is provided in **Appendix 5.1**.

METHODOLOGY

The Geotechnical Investigation prepared for the Project site included the following elements:

- Site reconnaissance (which includes information from a previous backhoe investigation by DUCO Engineering, Inc., in 2002 for Southlands Christian Church and included 9 test pits at a maximum depth of 12 feet that were located throughout the northern portion of the Project site).
- Field investigation performed on August 22, 2007, through August 29, 2008.

- Geologic mapping and subsurface exploration, including 10 borings drilled in August 2007 using an 8-inch diameter hollow-stem auger borings and three 24-inch diameter bucket auger borings, for a total of 13 borings ranging in depth from 15.5 and 40.5 feet (see **Figure 5.1-1** for boring locations.).
- Laboratory testing and analyses performed on selected soil samples obtained from subsurface explorations.
- Engineering analyses.

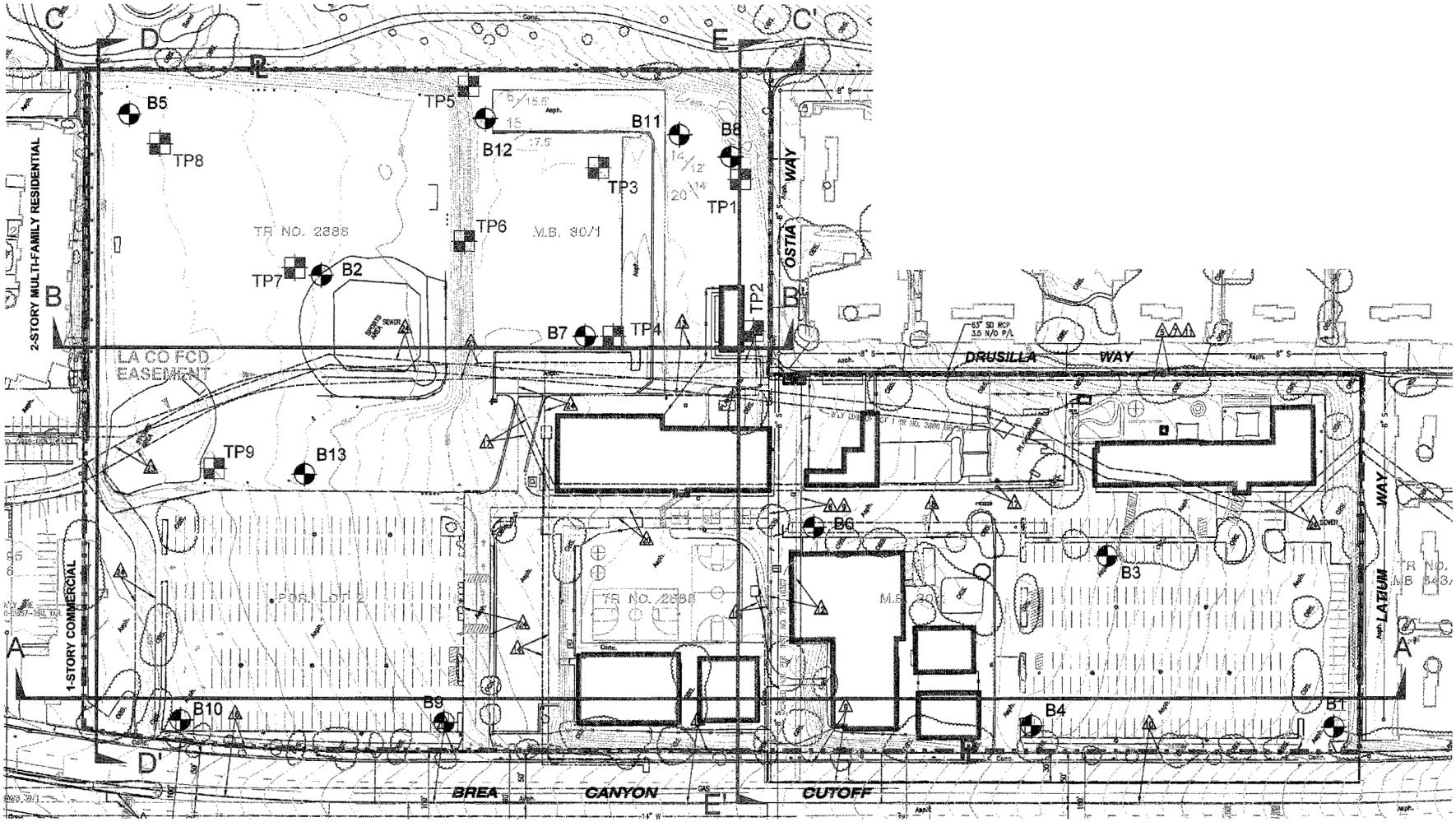
This section of the EIR summarizes the findings contained in the Geotechnical Investigation and evaluates the potential for significant environmental impacts using the County of Los Angeles thresholds contained in the County's standard Initial Study form.

EXISTING CONDITIONS

The proposed Project site is located in the northeastern portion of the unincorporated Los Angeles County community of Rowland Heights, approximately 0.75 mile south of the Pomona Freeway (State Route [SR]-60). The Project site is located near the southeast corner of the intersection of Brea Canyon Cutoff Road and Colima Road in Rowland Heights. The Project site is approximately 15.7 acres and currently developed with nine stand-alone and interconnected structures that house a chapel, a gymnasium, a maintenance building, and classrooms for the Southlands Christian Church and Southlands Christian Schools, a pre-K through grade 12 campus.

The Project site is bounded by a senior housing complex and three commercial buildings along Colima Road on the north, the Royal Vista Golf Course and multi-family residences along Drusilla Way, Esquiline Avenue and Bithynia Way on the east, multi-family residences along Ostia Way and Latium Way on the south, and Brea Canyon Cutoff Road and single family residences on the west. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road/Colima Road intersection.

The Project site generally slopes downward to the northwest. Cut slopes up to 11 feet in height and with a gradient of 2:1 have been created along the eastern and southern edges of the slightly sunken athletic field and along the property lines adjacent to Ostia Way and the Royal Vista Golf Course; no other notable topographic features are present on site. Total topographic relief across the Project site is estimated at 54 feet, ranging in elevation from the low point of 577 feet above mean sea level at the northwestern corner of the site to 631 feet above mean sea level at the southeastern corner. Multi-family residences on Ostia Way, Drusilla Way, and Latium Way, south and southeast of the Project site, sit at higher elevations relative to the site; accordingly, retaining walls up to 8 feet in height separate the lower-lying Project site from these uses. Along the northern boundary of the Project site near the northeastern corner, a retaining wall between 2 and 8 feet in height retains soils from the on-site athletic fields, since off-site land uses to the north sit at a slightly lower elevation than the site.



Legend:

- B13 Approximate Location of Boring (by GEOCON)
- TP8 Approximate Location of Boring (by DUCO Engineering)

100 50 0 100

APPROXIMATE SCALE IN FEET

SOURCE: GEOCON - October 2007

FIGURE **5.1-1**

Location of Borings

A Los Angeles County Flood Control District easement traverses the Project site running from the northwest to southwest along the property line bordering the golf course. Surface drainage on the Project site is to the northwest by sheet flow along the existing ground contours towards the off-site County storm drains.

Regional and Local Geologic Setting

The Project site is located along the northeastern boundary of the Los Angeles Basin along the north-central edge of the Puente Hills. The Los Angeles Basin is a coastal plain between the Santa Monica Mountains to the north, the Puente Hills, and Whittier faults to the east, the Palos Verdes Peninsula and Pacific Ocean to the west, and Santa Ana Mountains and San Joaquin Hills to the south. The Los Angeles Basin is located in the northern portion of the Peninsular Ranges geomorphic province and is a northwest-trending, alluviated lowland plain, sometimes called the Coastal Plain of Los Angeles. The prominent structural features within the Los Angeles Basin include the central lowland plain, the uplifted Palos Verdes Hills, and the northwest trending line of the low hills and mesas (underlain by the Newport-Inglewood Fault Zone).

The Project site is underlain by Holocene Age alluvial deposits consisting of poorly consolidated gravel, sand, and silts derived from Puente Hills. These sediments are underlain at depth by bedrock units of the Miocene Age Puente Formation.

Earth Materials

The Project site soils consist of artificial fill, Holocene Age Alluvial fan deposits, and colluvium underlain by sedimentary bedrock units of the Miocene Age Puente Formation. Brief descriptions of each of the earth units that were encountered during subsurface explorations and information obtained from the referenced reports are provided below.

Artificial Fill

Artificial fill was encountered in all of the borings and test pits drilled by Geocon West, Inc., and DUCO Engineering, Inc., at depths between 2 and 4.5 feet. The artificial fill found at the Project site generally consists of silty sand and sandy silt that is medium dense to dense, firm to stiff, moist, and contains varied amounts of bedrock clasts and construction debris. According to the Geotechnical Investigation, prior to construction of the present athletic fields at the northern end of the Project site, a shallow ravine crossed the site, trending southeast/northwest along the designated Los Angeles County Easement from the corner of Ostia Way and Drusilla Way to the center of the northern portion of the Project site.

Alluvium

The Project site is underlain by relatively flat-lying Holocene age alluvial deposits generally consisting of fine-grained silty sand, sandy silt, and sandy clay. The soils are primarily medium dense to dense and firm to hard and were derived from the nearby Puente Hills.

Colluvium

Colluvium derived from in-place weathering of the underlying bedrock units and consisting primarily of light olive brown, yellowish brown, and dark brown fine-grained clay with sand and bedrock fragments underlies the artificial fill and alluvium. The colluvial soils are primarily firm to stiff and are the result of slow downhill creep of the remnant topsoil and uppermost weathered bedrock surface.

Puente Formation

Underlying the artificial fill, alluvium, and colluvium is bedrock of the Miocene Age Puente Formation. The bedrock consists of interbedded yellowish brown, olive brown and light olive brown, poorly to moderately bedded, massive to thickly bedded, fine-grained sandstone and light yellowish brown, dark yellowish brown, dark brown and light olive brown, well bedded, thinly bedded siltstone and clayey siltstone. The bedrock exhibits slight to moderate deformation, is intensely to highly weathered, slightly fractured and is shallowly to moderately inclined to the northeast. The bedrock in the Project site vicinity, north and east of the Project site, generally strikes northwest 25 to 64 degrees with dips of 10 to 20 degrees to the northeast, and bedrock to the west of Project site generally strikes northeast 76 to 80 degrees to the northwest. The bedding exposed in the borings at the strikes from 65 degrees northwest to 85 degrees northwest with dips of 6 to 15 degrees to the northeast, and is consistent with regional trends.

Geologic Hazards

Groundwater

As discussed in **Section 5.2, Hydrology, Drainage, and Water Quality**, the historic high groundwater level is estimated to be approximately 20 feet below the ground surface bases on geological maps of the area.[1] The geotechnical consultant conducted 13 borings across the Project site in August 2007. Groundwater was encountered in 11 of the 13 borings at depths between 11 and 19 feet beneath the ground surface, or approximately 568 to 608 feet above mean sea level (see **Figure 5.1-1** for boring

1 California Division of Mines and Geology. *Seismic Hazard Zone Report for the Yorba Linda 7.5-Minute Quadrangle, Los Angeles and Orange Counties, California*, Seismic Hazard Zone Report 010. 1997.

locations). No groundwater was observed in two of the borings (B4 and B9, along the Project's site's central-western property line adjacent to Brea Canyon Cutoff Road). It is not uncommon for groundwater levels to vary seasonally or for groundwater conditions to develop where none previously existed, especially in impermeable fine-grained soils or bedrock which are heavily irrigated, or after seasonal rainfall.

Subsidence

Soils may be subject to subsidence, or downward shifting relative to a point of reference such as surrounding grade or a reference datum (e.g., feet above mean sea level), as the result of groundwater extraction, natural gas extraction, or seismic faulting. As previously stated, groundwater beneath portions of the Project site ranges from 11 to 19 feet in depth, but no permanent dewatering presently takes place on the site, and no subsidence was observed during field testing conducted for the Geotechnical Investigation for the proposed Project.

Faulting

Southern California possesses numerous active, potentially active, and inactive faults. The criteria for these major groups were developed by the California Geological Survey (formerly known as California Division of Mines and Geology (CDMG) for the Alquist-Priolo Earthquake Fault Zone Program. By definition, an active fault is one that has had surface displacement within Holocene time (approximately the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The Project site is not within a designated Alquist-Priolo Earthquake Fault Zone or a zone with surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the Project site. Therefore, the potential for surface rupture due to faulting occurring beneath the Project site during the design life of the proposed Project is considered low. However, the Project site is located in a seismically active region and could be subject to moderate to strong ground shaking in the event of an earthquake on one of the active faults in the region.

The closest active fault to the Project site is the Whittier Fault, 2.8 miles (4.5 kilometers) to the south. Other nearby active faults are the Chino-Central Avenue Fault, the Sierra Madre Fault, the Cucamonga Fault, and the Elsinore Fault, 8.0 miles (12.9 kilometers) northeast, 10.3 miles (16.6 kilometers) north, 13.5 miles (21.7 kilometers) northeast, and 13.7 miles (22 kilometers) southeast of the Project site, respectively. The active San Andreas Fault Zone is located approximately 29 miles (46.7 kilometers) northeast of the Project site.

The closest potentially active fault to the Project site is the San Jose Fault located approximately 4.3 miles (6.9 kilometers) to the north. Other nearby potentially active faults are the Walnut Creek Fault, the Indian Hill Fault, the Norwalk Fault and the El Modino Fault located 6 miles north-northwest (9.7 kilometers), 8.2 miles (13.2 kilometers) north, 9 miles (14.5 kilometers) southwest, and 10.3 miles (16.6 kilometers) south of the Project site, respectively.

Several buried thrust faults, commonly referred to as "blind thrusts," underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than approximately 2 miles (3 kilometers). The Project site is located within the boundaries of the vertical projection of the Coyote Hills Segment of the Puente Hills Blind Thrust. These thrust faults are not exposed at the surface and do not present a potential surface fault rupture hazard. However, these active faults under the Project site at depth are capable of generating moderate to strong future earthquakes without surface rupture.

Seismicity

The seismic exposure of the Project site may be investigated in two ways. The deterministic approach recognizes the Maximum Earthquake, which is the theoretical maximum event that could occur along a fault. The deterministic method assigns a maximum earthquake to a fault derived from formulas that correlate the length and other characteristics of the fault trace to the theoretical maximum magnitude earthquake. The probabilistic method considers the probability of exceedance of various levels of ground motion and is calculated by consideration of risk contributions from regional faults.

Deterministic Analysis

Using deterministic methodology, the maximum earthquake resulting in the highest peak horizontal accelerations at the site would be a magnitude 6.0 event on the Whittier Fault. If there was a magnitude 6.0 earthquake on the nearby Whittier Fault, peak horizontal ground accelerations, or side-to-side movements, at the Project site are projected to be 0.72 g.[2] Regarding the value of 0.72 g, the Earthquake Engineering Research Institute (EERI) has developed a relationship between peak ground acceleration and Modified Mercalli Intensity (MMI). In this relationship, 0.72 g is close to the boundary between "severe" and "violent" ground shaking with MMI intensities of VIII to IX. This is comparable to the surrounding developed area. While the Project site could be subjected to strong ground shaking in the

2 Peak acceleration is the maximum acceleration experienced by a particle during the course of the earthquake motion. USGS, *What is Peak Acceleration?*, October 8, 2008, http://earthquake.usgs.gov/research/hazmaps/haz101/faq/parm01.php.

event of an earthquake, this hazard is common in Southern California and the effects of ground shaking are accounted for in current building codes and engineering practices.[3]

While listing of peak accelerations is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including the frequency and duration of motion and the soil conditions underlying the Project site.

In addition, the ground acceleration is calculated on a more probabilistic analysis (discussed below) for earthquakes generated from any of the nearby faults. The calculated acceleration is based on a compilation of the subsurface soil conditions, distance to the fault, type of faulting expected, and the maximum considered earthquake for that specific fault. This information is used by the structural engineers to design the various components of the building.

Probabilistic Analysis

The Upper-Bound Earthquake Ground Motion (UBE) is the level of ground motion that has a 10 percent chance of exceedance in 100 years, with a statistical return period of 949 years. The UBE is typically utilized for the design of critical structures such as schools and hospitals. The Design-Basis Earthquake Ground Motion (DBE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years. The DBE is typically used for the design of non-critical structures. The proposed Project would be designed utilizing the DBE ground motion.

Using the probabilistic method, the UBE and DBE are expected to generate potentially severe groundshaking motions at the Project site of approximately 0.67 g and 0.56 g, respectively. As such, there is a 10 percent chance of a magnitude 6.0 event on the Whittier Fault, which could create a UBE in excess of 0.67 g within the next 100 years and a 10 percent chance of exceeding 0.56 g DBE within the next 50 years.

Liquefaction Potential

Liquefaction involves a sudden loss in strength of saturated, cohesionless soils that are subject to ground vibration and results in temporary transformation of the soil to a fluid mass. If the liquefying layer is near the surface, the effects are much like that of quicksand for any structure located on it. If the layer is deeper in the subsurface, it may provide a sliding surface for the material above it.

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3 Gerry Kasman, Director of Geological Services, Geocon West, Inc., personal communication with Impact Sciences, Inc., February 4, 2009.

The current standard of practice requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine- to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction. According to the Seismic Hazards Maps for the State of California, Yorba Linda Quadrangle, the Project site is located within an area broadly identified as having the potential for liquefaction.

Landslides

According to the Los Angeles County Seismic Safety Element, the Project site is not within an area identified as having a potential for slope instability. Additionally, according to the California Geological Survey, the Project site is not located within an area identified as having a potential for seismic slope instability. The Project site and surrounding vicinity is gently sloping to the southwest. There are no known landslides near the Project site, nor is the Project site in the path of any known or potential landslides. Accordingly, landslides are not considered to be a hazard to the Project site.

Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. A review of the Los Angeles County Seismic Safety Element indicates that the Project site is not located within the inundation boundaries of up gradient dams or reservoirs. The probability of earthquake-induced flooding is considered very low.

Seiches and Tsunamis

The Project site is not located within a coastal area. Therefore, tsunamis and seismic sea waves are not considered a hazard to the Project site.

According to the Los Angeles County Seismic Safety Element, the Project site is not located downslope of any large bodies of water that could adversely affect the Project site in the event of earthquake-induced failure or seiches, wave oscillations in an enclosed or semi-enclosed body of water.

Oil Fields

A review of the California Division of Oil, Gas, and Geothermal Resources (DOGGR) Oil and Gas Well Location Map, indicates that the Project site is not located within the boundaries of any mapped oil fields. No oil wells, existing or abandoned, are indicated in the immediate vicinity of the Project site.

REGULATORY FRAMEWORK

State Regulations

Under the Seismic Hazards Mapping Act, the California Geological Survey (CGS) provides maps of seismic hazard zones to local governments for planning purposes. These maps are intended to protect the public from the risks involved with strong ground shaking, liquefaction, landslides and other hazards related to earthquakes. CGS also provides guidelines to evaluate and mitigate hazards for projects within seismic hazard zones.

The Alquist-Priolo Earthquake Fault Zoning Act (PRC Section 2621.5) provides policies and criteria to assist cities, counties, and state agencies in the development of structures for human occupancy across the trace of active faults. Maps associated with this Act show the seismic hazard zones throughout California.

The California Building Code has been codified in the California Code of Regulations Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for administering California's building codes, including adopting, approving, publishing, and implementing codes and standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the California Building Code is to establish minimum standards for safeguarding public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction.

The California Building Standards Code is based on the International Building Code, with the addition of necessary California amendments based on the American Society of Civil Engineers Minimum Design Standards 7-05. The California Building Standards Code establishes requirements for general structural design and methods for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion in building codes. The provisions of the California Building Standards Code apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The 2007 California Building Standards Code is based on the 2006 International Building Code.

Earthquake design requirements take into account the occupancy category of a structure, site class, soil classifications, and various seismic coefficients, which are used to determine the appropriate Seismic Design Category for a project. The Seismic Design Category is a classification system that combines occupancy categories with the level of expected ground motions at the site and ranges from Seismic Design Category A (very small seismic vulnerability) to Seismic Design Category E/F (very high seismic

vulnerability and near a major fault). Design specifications for the structure are then determined according to the applicable Seismic Design Category.

Local Regulations

Building and construction within the County of Los Angeles are subject to Title 11 of the Los Angeles County Code, which governs grading, fill, and excavation activities. The County of Los Angeles Department of Public Works Building and Safety Division enforces building codes pertaining to earthquake hazards. Section 26-1-100 of the Building Code of the Los Angeles County Code sets minimum design and construction standards for construction of buildings and structures.[4]

Some project construction-related activities are also governed by standards contained in the County's Green Building Ordinance, codified in the Los Angeles County Code in Title 21 (Subdivisions) and Title 22 Planning and Zoning). For example, in an effort to divert waste from landfills, the ordinance contains a requirement to recycle a minimum of 65 percent of all nonhazardous demolition and construction debris.[5] This is discussed further in **Section 5.13, Solid Waste**.

ENVIRONMENTAL IMPACTS

Project Improvements

The proposed Project involves the redevelopment of the approximately 15.7-acre property located at 1920 Brea Canyon Cutoff Road. The existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, a recreational facility for residents, and landscaping throughout the Project site. Three different types of residences are proposed: three-story Townhome-style apartments, four-story Podium buildings, and three- and four-story Wrap-Around buildings.

A 7,850-square-foot recreation facility would be centrally located on the Project site and would serve all Project residents. This facility would include such facilities as a "great room" or community room, yoga/multipurpose room, media room, fitness center, sports lounge, library/multipurpose room, conference room, and business center, as well as space for leasing offices. Second-story terraces would provide outdoor seating. A swimming pool and spa would be located adjacent to the recreation facility.

Additional outdoor recreational amenities would be incorporated into the Podium, Townhome-style apartment, and Wrap-Around buildings.

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4 County of Los Angeles, *Los Angeles County Code, Title 26, Chapter 1, Article 1: Adoption by Reference* 2007.

5 Los Angeles County Code, Part 20 (Green Building Code), Section 22.52.2100.

The two courtyards within the Podium buildings would each contain a swimming pool, spa, recreational facilities, and landscaped terraces. The two courtyards would total 22,917 square feet.

Townhome-style apartment buildings would be configured around two landscaped quadrangles. The quadrangle closest to Brea Canyon Cutoff Road would contain a tot lot, and the quadrangle in the eastern group of Townhome-style apartment buildings would contain a lawn and gazebo.

The Wrap-Around buildings would contain a central swimming pool and spa located on the north side of the northern building. Additionally, there would be two landscaped gardens on the south side of the southern building.

Parking would include 872 spaces in a partially subterranean parking structure beneath the Podium building, 243 at-grade spaces (i.e., 216 attached garage spaces and a minimum of 27 guest spaces located adjacent to the two quadrangles and surrounding the central recreational facility/swimming pool) associated with the Townhome-style apartments, and 429 spaces in the above-grade parking structure incorporated into the Wrap-Around building. The Project site would be accessed by three driveways off Brea Canyon Cutoff Road, which runs along the western side of the Project site. A driveway along the south side of the Podium building would provide parking structure access from Brea Canyon Cutoff Road. Townhome-Style apartment garages would be attached to the units, at grade, and would be accessed via internal Project site driveways. Access to the Wrap-Around building parking structure would be provided via an internal driveway accessed from Brea Canyon Cutoff Road. See **Section 5.7, Traffic, Parking, Circulation, and Access**, for a more detailed discussion regarding access and circulation.

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and existing buildings and structures, site clearing, grading, excavation, and construction of new buildings, parking structures, surface parking, hardscape, and other improvements.

Grading and excavation would take place across the Project site, with the depth of excavation varying with each building or structure as well as the slope of the site in a given location. Excavation would be required for partially subterranean parking beneath the Podium buildings, other building and parking structure footings and foundations, utility trenching, and other improvements. The deepest excavation would be required for the partially subterranean parking structure beneath the Podium buildings. Because of the site's slope, the parking structure would be entirely subterranean at the southern end of the Podium buildings, beneath ground-floor residences, rising to 12 feet above grade (while remaining partially subterranean) at the northern end of the Project site. Excavation to a depth of 20 feet would be required for this structure. The finished floor elevations of buildings across the site would range between

577 and 620 feet above mean sea level (existing elevations on site range from 577 feet above mean sea level at the northwestern corner to 631 feet above mean sea level at the southeastern corner).

Demolition and construction would occur over an approximate 36-month period and some of the phases may overlap with other phases. Earthmoving and excavation activities would remove a total of 100,000 cubic yards of earth, with reuse and recompaction on site of approximately 45,000 cubic yards and export of approximately 55,000 cubic yards of earth off site.

Thresholds of Significance

Based on the County's Initial Study Checklist and Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, impacts related to geology and soils conditions are considered significant based on the following:

- Is the Project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?
- Is the proposed Project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?
- Will the Project entail substantial grading and/or alteration of topography including slopes of more than 25 percent?
- Is the Project site located in an area having high slope instability?
- Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The following significance threshold(s), through preparation of the Initial Study, were found not to be applicable for the proposed Project and are discussed further in **Section 7.0, Effects Found Not to be Significant**.

- Is the Project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone?
- Is the Project site located in an area containing a major landslide(s)?

Impact Analysis

Threshold 1: **Is the Project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?**

Analysis

Based on Geocon's *Geotechnical Investigation Report*, neither soils nor hazardous geologic conditions were encountered during the investigation that would preclude the construction of the proposed development, provided the recommendations presented in the report and identified in this Draft EIR are followed and implemented during construction.

High Groundwater and Subsidence

The proposed Project involves excavation across the Project site for proposed buildings and structures, with the deepest excavation planned for the partially subterranean parking in the northern portion of the Project site, which has a current elevation of approximately 577 feet above mean sea level. Groundwater was encountered in 11 out of 13 boring holes at depths of 11 to 19 feet beneath the ground surface on the Project site and therefore will likely be intercepted by excavation and grading activities. (See **Figure 5.1-1** for boring locations.) Moreover, groundwater levels are subject to fluctuation and could rise above the levels observed in the 2007 borings due to excessive irrigation or seasonal precipitation.

Accordingly, during excavation, the "seepage zone" (i.e., a zone of saturated soils where water could seep from the cut face of an excavation) would be close to or above the finished floor elevations of several proposed buildings or structures. These include the westernmost Podium building and associated, partially subterranean parking structure (in the northwestern portion of the Project site adjacent to Brea Canyon Cutoff Road), the Townhome-style apartment buildings (in the center of the Project site), and the Wrap-Around buildings (in the southern portion of the Project site).

The majority of the alluvial soils on site are very fine-grained, ranging from fine silty sand to sandy silt to sandy clay, and soil hardnesses range from medium dense to stiff; consequently, soils on site are not conducive to allowing the free movement of water.[6] However it is anticipated that during excavation, groundwater seepage could emanate from the cut face of an excavation into soil below. The saturation of soil could cause it to lose internal shear strength, increasing its compressibility, altering its engineering properties, and contributing to slope instability.

The proposed Project would be designed and constructed in conformance with all applicable local, state, and federal regulations, such as the Uniform Building Code. The Uniform Building Code and County of Los Angeles building standards would be enforced through review of plans and inspection of structures

6 Geocon West, Inc., *Geotechnical Investigation Report,* (2007), 4.

during construction, and would reduce potential risks to the proposed Project associated with unstable soils, including lateral spreading, subsidence, or collapse.

Notwithstanding the above, the potential exists for Project excavation to intercept high groundwater that could alter the engineering properties of soil, contribute to slope instability, and necessitate construction-related and permanent dewatering. With implementation of **Mitigation Measure 5.1-1**, which requires adherence to all Geotechnical Investigation recommendations including those addressing temporary and permanent dewatering, soil and excavation stability, appropriate grading techniques, and appropriate building design and construction methods given the presence of high groundwater, potentially significant impacts associated with high groundwater would be reduced to a less than significant level.

Liquefaction

According to the Seismic Hazards Maps for the State of California, Yorba Linda Quadrangle, the Project site is within an area broadly identified as having the potential for liquefaction. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine- to medium-grained, primarily sandy soil. In contrast, the Project site is underlain by Miocene sedimentary bedrock units and tight, well-consolidated, fine-grained alluvium and colluvium. Neither the soil particle sizes underlying the Project site (ranging from fine silty sand to sandy silt to sandy clay) nor soil hardnesses (ranging from medium dense to stiff) are conducive to liquefaction. Therefore, while site investigations completed during preparation of the Geotechnical Investigation indicated that groundwater is present in close proximity to bedrock underlying the Project site, laboratory hydrometer testing indicates that the alluvial/colluvial soils overlying the bedrock are not susceptible to liquefaction.[7] Moreover, bedrock by nature is not subject to liquefaction.

While excavation of the Project site would be required for partially subterranean parking beneath the Podium buildings, building and parking structure footings and foundations, utility trenching, and other improvements, the deepest excavations, for the subterranean parking structure beneath the Podium buildings, are not expected to exceed 20 feet in depth below existing natural grade.

Based on these considerations, as stated in the Geotechnical Investigation prepared for the proposed Project, the potential for liquefaction and associated ground deformation beneath the Project site is considered very low.

Subsidence and Hydrocompaction

Project excavation and construction could result in subsidence on site during or following construction dewatering or permanent dewatering, if deemed necessary. Moreover, building construction atop

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[7] Geocon West, Inc., *Geotechnical Investigation Report,* (2007), Appendix B, Figure B17.

saturated soils could result in compaction of those soils and settlement of structural elements of the proposed Project. For this reason, the Project is subject to potentially significant subsidence and hydrocompaction impacts. With implementation of applicable recommendations contained in the Geotechnical Investigation below, potentially significant impacts related to caving would be reduced to a less than significant level.

Differential Settlement

According to the Geotechnical Investigation prepared for the Project site, existing fill and alluvial soils may not be suitable for direct support of proposed Project buildings unless recommendations within the Geotechnical Investigation are implemented. Artificial fill was encountered between 2 and 4.5 feet below grade during Geocon's site investigation; however, deeper areas of fill are expected in the unexplored Flood Control District easement areas. Laboratory testing performed on soil samples collected during the Geotechnical Investigation indicates that in its present condition, fill and alluvial soils are not suitable for direct support of proposed foundations, floor slabs, or additional fill. Moreover, excavation required to achieve finished floor elevations for proposed buildings may intercept and remove fill and alluvial soils, exposing weathered bedrock, and building and structural foundations that span areas of fill, alluvium, and bedrock are prone to differential settlement. Construction on the Project site is therefore subject to differential settlement, a potentially significant impact.

Implementation of recommendations contained within the Geotechnical Investigation would minimize the potential for differential settlement where foundations transition across fill, alluvium, and bedrock. With implementation of the applicable recommendations identified in the Geotechnical Investigation, as set forth in **Mitigation Measure 5.1-2**, potentially significant impacts associated with differential settlement would be reduced to a less than significant level.

Mitigation Measures

5.1-1: The proposed Project shall be designed and constructed in accordance with recommendations pertaining to groundwater that are contained in the Geotechnical Investigation prepared by Geocon West, Inc., and in accordance with all applicable local, state, and federal regulations, including the Uniform Building Code and Title 26 of the Los Angeles County Code to the satisfaction of the Los Angeles County Department of Public Works. These recommendations include the following:

- A qualified dewatering consultant would be retained to assess flow rates during the design phase of the Project. Temporary dewatering consisting of perimeter wells with interior well points may not be effective due to the presence of fine grained soils and bedrock as well as the inability of a well to produce

groundwater draw-down in its vicinity. If wells are ineffective, the water may be collected and controlled within the excavation through the use of gravel-filled trenches (French drains). The number and locations of the French drains would be adjusted during excavation activities as necessary to collect and control any encountered seepage. The French drains would then direct the collected seepage to a sump where it will be pumped out of the excavation.

- If shoring piles are required, the design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles would be deepened to take into account any required excavations necessary to place an adjacent French drain system, or sub-slab drainage system

- A permanent dewatering system would be required to relieve and mitigate the water pressure when a structure has a subterranean portion that is below the zone of potential seepage and is not designed for full hydrostatic pressure. A subdrainage system consisting of perforated pipe placed in gravel-filled trenches could be installed beneath the subterranean slab-on-grade to intercept and direct groundwater to a sump and pumping unit.

5.1-2: In order to provide more uniform support and minimize the potential for differential settlement, the existing earth materials underlying the structure shall be reengineered, which may require over-excavating exposed soil and bedrock in order to create a more uniform, competent fill blanket for foundation and floor slab support. Where supporting soils cannot be engineered and the potential for differential settlement is inherent, a more rigid structural foundation system (grade-beam system, mat foundation, piles) shall be implemented. Each structure shall be independently evaluated and designed based on the geologic conditions underlying each structure to the satisfaction of the Los Angeles County Department of Public Works.

- Where excavations exceed 10 feet, soldier piles will likely require lateral bracing utilizing drilled tie-back anchors or raker braces;

- For the design of rigid concrete or masonry retaining walls, triangular distribution of lateral earth pressure may be used;

- Continuous lagging between soldier piles;

- Tie-back friction anchors may be used to resist lateral loads; and

- Raker bracing may be used to internally brace the soldier

Threshold 2: **Is the proposed Project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?**

Analysis

As previously mentioned, the Southern California region possesses numerous active and potentially active faults, and the Project site is therefore subject to a range of seismic hazards including fault rupture, seismic ground shaking, liquefaction, subsidence, slope failure, and landslides. The closest active fault is the Whittier fault, 2.8 miles to the south; the closest potentially active fault is the San Jose Fault, 4.3 miles to the north. The Project site is therefore considered subject to moderate to severe shaking, comparable to the surrounding developed area, but is not considered subject to significant seismic hazards.

The Project site is not located in an area subject to liquefaction, as discussed in detail in the geotechnical investigation prepared for the proposed Project.

The Project would construct residential uses on the Project site in the place of the existing church and school. Residential uses are not considered sensitive to seismic hazards compared to schools, hospitals, or other places of public assembly. As such, Project implementation would not expose sensitive uses to significant geotechnical hazards.

Mitigation Measures

No mitigation is required.

Threshold 3: **Will the Project entail substantial grading and/or alteration of topography including slopes of more than 25 percent?**

Threshold 4: **Is the Project site located in an area having high slope instability?**

Analysis

Implementation of the Project as proposed includes grading and excavation of 55,000 cubic yards, which may substantially alter the existing topography of the Project site. Approximately 55,000 cubic yards of earth would be removed and hauled from the Project site, and approximately 45,000 cubic yards of earth would be removed and recompacted.

According to the Los Angeles County Seismic Safety Element and the California Geological Survey, the Project site is not within an area identified as having a potential for slope instability. However, as discussed above, laboratory testing conducted during preparation of the Geotechnical Investigation

indicates that in its present condition, the artificial fill and upper alluvial soils on the Project site are not suitable for direct support of the proposed foundations, floor slabs, or additional fill. Excavation necessary to achieve the desired finished floor elevations for many of the proposed buildings and structures would result in penetration and removal of the existing fill and alluvial soils, thereby exposing weathered bedrock that may result in slope instability. Accordingly, impacts related to slope stability are potentially significant. However, with implementation of the **Mitigation Measures 5.1-1** and **5.1-2**, identified above, which address the stability of the underlying soils, slope stability impacts would be reduced to a less than significant level.

Mitigation Measures

With implementation of the **Mitigation Measures 5.1-1** and **5.1-2**, listed above, potential impacts related to slope stability would be reduced to a less than significant level.

Threshold 5: **Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

Analysis

According to the United States Geological Survey, expansive soils are types of soil that swell or shrink with changes in moisture content. As these soils shrink and subside or expand, structures built may experience shifting, cracking, and breaking damage.[8] The soils encountered at the Project site are highly variable and exhibit a range from "low" to "high" expansion potential, as defined by the Uniform Building Code (UBC), Table 18-I-B. As described in the Geotechnical Investigation, the Project site is underlain by fine-grained silty sand, sandy silt, sandy clay, fine-grained clay and bedrock deposits. The soils are primarily medium-dense to dense and firm to stiff.

Excavation for the proposed partially subterranean parking structure would be required to a depth of approximately 20 feet below grade. Groundwater was encountered during exploration of the Project site at depths of 11 to 19 feet beneath the ground surface and is anticipated to impact excavations and grading operations for the Project. Therefore, expansive soils are likely to impact the proposed structures. However, as discussed above, the existing earth materials underlying the structure would be reengineered during the construction process, which may require overexcavating exposed soil and bedrock in order to create a more uniform, competent fill blanket for foundation and floor slab support.

8 USGS, *Glossary,* October 8, 2008, http://landslides.usgs.gov/learning/glossary.php.

Additionally, the Project would be designed and constructed in conformance with all applicable local, state, and federal regulations, such as the Uniform Building Code. The Uniform Building Code and County of Los Angeles building standards would be enforced through review of plans and inspection of structures during construction, and would reduce potential risks to the proposed project associated with expansive soils.

Nonetheless, site-specific geology or soils conditions may be encountered during project construction that are not addressed by the Uniform Building Code or County building standards and that could expose people or structures to potentially significant impacts related to expansive soils. With incorporation of the recommendations contained in the Geotechnical Investigation prepared for the Project, as required through implementation of mitigation measure **Mitigation Measures 5.1-1** and **5.1-2**, impacts related to expansive soils would be reduced to less than significant.

Mitigation Measures

With implementation of the **Mitigation Measures 5.1-1** and **5.1-2**, listed above, potential impacts related to expansive soils would be reduced to a less than significant level.

Cumulative Impacts

Geotechnical impacts tend to be site-specific rather than cumulative in nature and any development occurring within the County of Los Angeles would be subject to, at a minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the region. As Project development and each related project would have to be consistent with recommendations contained in each project's geotechnical investigation report, or similar study, and be designed in accordance with the CBC, as well as proper engineering practices and the requirements of applicable portions of the County Code, cumulative impacts associated with known geologic conditions would be less than significant.

Mitigation Measures

As no cumulative impacts would result from the proposed Project in combination with related projects, no cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the mitigation measures listed above, all potential impacts related to geology and soils would be reduced to a less than significant level.

5.2 HYDROLOGY, DRAINAGE, AND WATER QUALITY

SUMMARY

The proposed Project site is located within the San Gabriel River Water Management Plan Area, which encompasses approximately 640 square miles in the eastern Los Angeles County. The Water Management Plan Area drains the San Gabriel Mountains to the north and is bounded by Interstate 5 to the west, Orange County line to the south, and the San Bernardino County line to the east.

Currently, approximately 70 percent (11 acres) of the Project site is developed with buildings or is paved, with the remaining 30 percent (4.7 acres) consisting of athletic fields and landscaped open space. Project construction would result in the grading and excavation of approximately 100,000 cubic yards of earth, of which 45,000 cubic yards would be reused on the Project site. Grading activities have the potential to result in wind- and water-driven erosion and sedimentation during storm events. These impacts would be mitigated to less than significant levels through compliance with National Pollutant Discharge Elimination System permit discharge requirements and implementation of a Standard Urban Stormwater Mitigation Plan, both of which are overseen by the Los Angeles Region Water Quality Control Board.

Project implementation would result in a 20 percent reduction of pervious area on the Project site, which would increase the volume of surface runoff. As with the existing surface parking lots, proposed surface parking lots would collect pollutants such as oil and grease, metals, suspended solids generated by automobiles, which could be conveyed from the Project site via surface runoff and contribute to degrading water quality downstream. Surface water quality may also be impacted by the use of fertilizer, herbicides, and pesticides used in the maintenance of landscaped areas. Finally, Project operation may require permanent dewatering operations in subterranean portions of proposed buildings and parking structures, and discharge from dewatering could contribute suspended solids and organic material to surface and subsurface bodies. However, the proposed Project would include an on-site drainage system to carry stormwater runoff generated on the Project site into existing drainage easements located within the rights of way of the surrounding streets. Prior to leaving the Project site, the first 0.75 inch of stormwater would be treated by active or passive filtration devices. Additionally, the Project would comply with the California Regional Water Quality Control Board and the County National Pollutant Discharge Elimination System permit discharge requirements during both construction and operation. Construction and operational impacts to the quality of groundwater and/or stormwater runoff to the stormwater conveyance system and/or receiving water bodies would be less than significant.

INTRODUCTION

This section addresses the potential impacts of the proposed Project on surface hydrology (i.e., the volume, rate, and patterns of surface runoff) and surface water quality on the Project site and in the surrounding area. The existing hydrological characteristics and surface water quality of the Project site and surrounding area are described below, followed by the regulatory framework. Proposed Project improvements and changes are evaluated to determine potential impacts. This section incorporates and summarizes information contained in the Preliminary Hydrology Study/Drainage Concept/Standard Urban Stormwater Mitigation Plan (SUSMP) prepared by KHR Associates in December 2009 and provided in **Appendix 5.2**. The Los Angeles County Department of Public Works, Land Development Division, has reviewed and approved the Project drainage concept and technical report.[1],

EXISTING CONDITIONS

Regional Hydrology

The proposed Project site is located within the San Gabriel River Water Management Plan area. The Management Plan Area encompasses approximately 640 square miles of land and encompasses the eastern portion of Los Angeles County; it drains the San Gabriel Mountains to the north and is bounded by Interstate 5 to the west, the Orange County line to the south, and the San Bernardino County line to the east. The Management Plan Area discharges into the Pacific Ocean between Long Beach and Seal Beach after passing through the Alamitos Bay Estuary. Walnut Creek, San Jose Creek, and Coyote Creek are the major tributaries to the San Gabriel River in the Project area.[2]

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1 Communication between Christopher Sheppard, Los Angeles County Department of Public Works, Land Development Division, and James Kawamura, KHR Associates, December 3, 2009; and communication between Steve Burger, Los Angeles County Department of Public Works, Land Development Division, and Paul McCarthy, December 31, 2009.

2 Los Angeles County Department of Public Works, *2006 Hydrology Manual*, (2006).

The following waterways and water bodies within the San Gabriel River Water Management Plan area are considered to be impaired by the U.S. Environmental Protection Agency because of high concentrations of pollutants:[3] Coyote Creek, Crystal Lake, El Dorado Lakes, Puddingstone Reservoir, San Gabriel River Estuary, San Gabriel River Reach 1 (Estuary to Firestone), San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam), San Gabriel River, East Fork, San Jose Creek Reach 1 (SG Confluence to Temple Street), San Jose Creek Reach 2 (Temple to I-10 at White Avenue), Santa Fe Dam Park Lake, Sawpit Creek, and Walnut Creek Wash (drains from Puddingstone Reservoir). San Jose Creek is the closest impaired waterway to the Project site. Stormwater runoff from the Project site would flow into one or more impaired waterways.

Project Site Hydrology

The Project site consists of two parcels (Parcel 1 and Parcel 2) and is developed with Southlands Christian Church and Southlands Christian Schools, which span grades Pre-K through 12. Nine single-story buildings, two paved surface parking lots, and athletic fields currently occupy the Project site. Approximately 70 percent (11 acres) of the Project site is currently developed with buildings or is paved, with the remaining 30 percent (4.7 acres) consisting of athletic fields or open space.[4]

The Project site generally slopes downward to the northwest. Cut slopes up to 11 feet in height and with a gradient of 2:1 have been created along the eastern and southern edges of the slightly sunken athletic field and along the property lines adjacent to Ostia Way and the Royal Vista Golf Course. Total topographic relief across the Project site is estimated at 54 feet, ranging in elevation from a low point of 577 feet above mean sea level at the northwestern corner of the site to 631 feet above mean sea level at the southeastern corner. Multi-family residences on Ostia Way, Drusilla Way, and Latium Way, south and southeast of the Project site, sit at higher elevations relative to the site; retaining walls up to 8 feet in height separate the lower-lying Project site from these uses. Along the northern boundary of the Project site near the northeastern corner, a retaining wall between 2 and 8 feet in height retains soil from the on-site athletic fields, since off-site commercial land uses to the north sit at a slightly lower elevation than

3 The Clean Water Act requires states to adopt water quality standards to protect the nation's waters and define the maximum concentration of a specific pollutant in surface water and groundwater, while still allowing that water source to meet the standards for designated uses such as drinking, fishing, the protection of aquatic life, swimming, or irrigation. States must publish a biennially updated list of streams and lakes that do not meet the standards for their designated uses ("impaired waters") because of excess pollutants. The list, known as the 303(d) list, is based on violations of water quality standards. A Total Maximum Daily Load study is performed to calculate the greatest amount of a pollutant that a water body can receive without violating water quality standards. (U.S. Environmental Protection Agency, Total Maximum Daily Load/Impaired Waters, http://www.epa.gov/region07/water/tmdl.htm. 2009.)

4 KHR Associates, *Engineering Feasibility Report*, (2007).

the Project site. A berm runs the length of the Project site boundary where it abuts the Royal Vista Golf Course, and only minor, incidental runoff from the golf course enters the Project site.

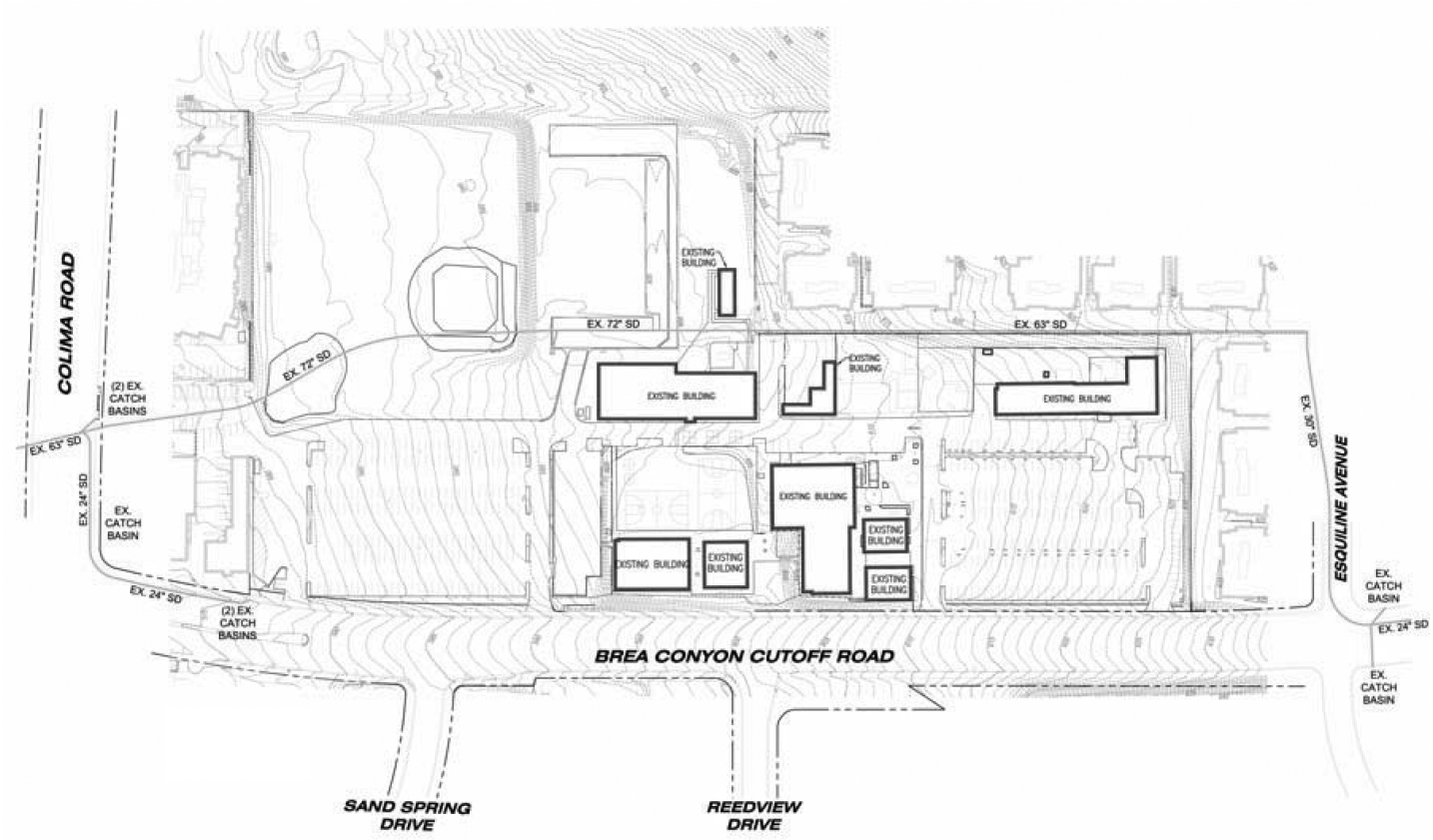
The storm drain system serving the Project site and surrounding neighborhood is owned and maintained by the County of Los Angeles Department of Public Works and the Los Angeles County Flood Control District. However, a 72-inch underground storm drain (PD 2407) currently maintained by the Project site owner enters the Project site at its southeastern corner at the corner of Drusilla Way and Ostia Way, crosses the site, and continues northwesterly to Colima Road, where it discharges into a 63-inch pipe beneath Colima Road.[5] An associated 15-foot-wide easement follows the storm drain across the Project site, and two additional easements, 20 and 26 feet wide respectively, extend east-west from Brea Canyon Road to the 72-inch storm drain in the northern half of the Project site and provide access to manholes associated with the pipe. **Figure 5.2-1, Existing Storm Drain System**, shows the locations and sizes of existing storm drains and catch basins serving the Project site and immediate vicinity.

As shown in **Figure 5.2-2, Existing Hydrology Map**, the Project site was divided into six drainage sub-areas that reflect the existing developed conditions on the Project site, which in turn determine peak runoff flows (i.e., discharge volumes during 50-year storm events) for those sub-areas.

Project site drainage sub-area E1 encompasses the northernmost portion of the Project site and is 3.76 acres in size. It is presently open space and is occupied by baseball and soccer fields. This sub-area drains to the northwest via surface flow into an existing trench drain along the length of the northern Project site boundary. The existing trench drain is connected to an 18-inch storm drain pipe that is directly connected to the existing 72-inch underground storm drain beneath the site.

Existing sub-area E2 encompasses a 4.75-acre area of the central-eastern Project site and comprises a paved road, surface parking, and a small amount of unpaved open space. The sub-area drains from east to west towards an existing catch basin near the western edge of the sub-area. The existing catch basin is connected to an 18-inch storm drain pipe that is directly connected to the existing 72-inch underground storm drain pipe beneath the Project site.

5 Geocon West, Inc., *Geotechnical Investigation Report*, 2007.

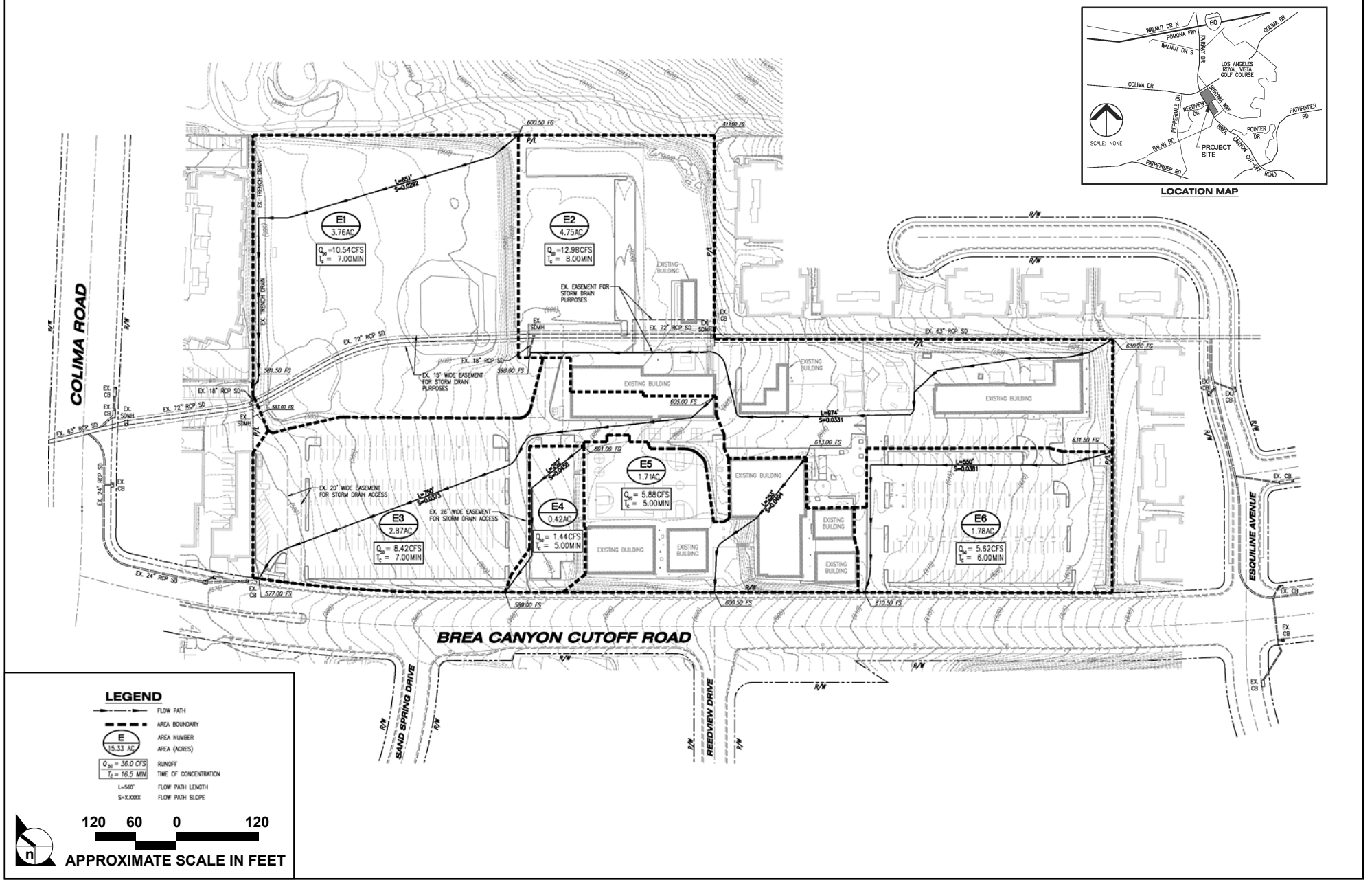


NOT TO SCALE

SOURCE: KHR Associates - 2008

FIGURE **5.2-1**

Existing Storm Drain System



SOURCE: KHR Associates – October 2009

FIGURE **5.2-2**

Existing Hydrology Map

Existing sub-area E3 comprises a 2.87-acre portion of the western Project site and is developed with paved surface parking. The sub-area drains from southeast to northwest via surface flow onto Brea Canyon Cutoff Road, where flow is conveyed via a curb gutter into an existing catch basin just north of the Project site boundary. The existing catch basin is directly connected to a 24-inch storm drain pipe that in turn connects to an existing 63-inch storm drain pipe beneath Colima Road.

Existing sub-area E4 encompasses a 0.42-acre portion of the western Project site and is developed with a paved parking lot. Similar to sub-area E3, sub-area E4 drains from southeast to northwest via surface flow onto Brea Canyon Cutoff Road, where flow is conveyed via a curb gutter into an existing catch basin located just north of the Project site boundaries. The existing catch basin is directly connected to a 24-inch storm drain pipe that in turn connects to an existing 63-inch storm drain pipe beneath Colima Road.

Existing sub-area E5 comprise 1.71 acres along the western side of the Project site and is currently occupied by five existing buildings and a basketball court. Like sub-areas E3 and E4, sub-area E5 drains from east to west via surface flow towards the northwest onto Brea Canyon Cutoff Road, where flow is conveyed via curb gutter into an existing catch basin located just north of the Project site boundaries. The existing catch basin is directly connected to a 24-inch storm drain pipe that in turn connects to an existing 63-inch storm drain pipe beneath Colima Road.

Existing sub-area E6 comprises a 1.78-acre portion in the southern Project site and is developed with paved surface parking. As with sub-areas E3, E4, and E5, sub-area E-6 drains from southeast to northwest via surface flow onto Brea Canyon Cutoff Road, where flow is conveyed via a curb gutter into an existing catch basin located just north of the Project site boundary. The existing catch basin is directly connected to a 24-inch storm drain pipe that in turn connects to an existing 63-inch storm drain pipe beneath Colima Road.

Flood Insurance Rate Maps are the official map of a community on which the Federal Emergency Management Agency has delineated both the 100-year flood area, which has a 1 percent annual flood chance of being equaled or exceeded during any given year, and the risk premium zones applicable to the community.[6] Fifty-year flood events have a 2 percent chance of being equaled or exceeded during any given year.[7] Flood Insurance Rate Maps take into account open-space and development on a given Project site; flood-control improvements in an area; and historical, hydrologic, metrologic, and hydraulic

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6 Federal Emergency Management Agency. Flood Insurance Rate Maps Tutorial. http://www.fema.gov/media/fhm/firm/ot_firm.htm., 2008.

7 Federal Emergency Management Agency. Homeowner's Guide to Retrofitting, http://search.fema.gov/search?q=50-year+flood&btnG=Go&sort=date%3AD%3AL%3Ad1&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&client=fema&proxystylesheet=fema&site=fema. 2008.

data.[8] According to the Flood Insurance Rate Maps provided by Federal Emergency Management Agency, the Project site is located within Zone X,[9] denoting a less than 0.2 percent chance of annual flooding. The Project site is not located within a 50- or 100-year flood area and, therefore, the likelihood of direct inundation by 50-year or 100-year storm events is low.

Based on the 2006 Los Angeles County *50-Year 24-Hour Isohyet Map #1-H1.12* and the soil classification for the Project site, soil type 002 was assumed in calculating the runoff coefficient for the Project site and, per the *Runoff Coefficient Curve for Soil Type No. 002*, the 50-year, 24-hour rainfall was estimated to be 6.41 inches.

For each of the on-site drainage sub-areas, time of concentration (Tc) calculations were generated using the County of Los Angeles Department of Public Works' *Tc Calculator Software*. Based on these and on the input parameter values of Fire Factor, Area, Proportion Impervious, plus the Flow Path Length and Slope, the calculated peak flow rates are as follows: sub-area E1 generates 10.91 cubic feet per second; sub-area E2 generates 13.12 cubic feet per second; sub-area E3 generates 8.42 cubic feet per second; sub-area E4 generates 1.44 cubic feet per second; sub-area E5 generates 5.88 cubic feet per second; and sub-area E6 generates 5.62 cubic feet per second. Runoff from the Project site under existing conditions therefore totals approximately 45.39 cubic feet per second.

Project Site Water Quality

Under existing conditions, the primary sources of pollutants expected to adversely affect stormwater and dry weather runoff include the two paved surface parking lots, which provide parking for all employees of and visitors to the church and schools, and landscaping maintenance activities.

Parking lot pollutants typically include atmospheric pollution (i.e., soot); brake dust and tire tread residue, petroleum products, and oil and grease. Pollutants are washed from parking lots surfaces by any rainfall event producing sufficient runoff to mobilize pollutants and carry them off site. The quantity of pollutants mobilized in a given storm event is a function of the quantity of pollutants in parking lots (or other hardscape areas on the Project site) and the volume of surface water flow.

Runoff from landscaped areas can contribute biochemical oxygen demand (BOD), residue from pesticides, herbicides, and fungicides, and nitrates to surface runoff. Presently, approximately 30 percent (4.7 acres) of the Project site is unpaved, including an athletic field, and is subject to regular maintenance activities, presumably employing these, or similar chemicals.

8 Federal Emergency Management Agency. Flood Insurance Rate Maps Tutorial. 2008.

9 Federal Emergency Management Agency. Flood Insurance Rate Maps. http://www.fema.gov/hazard/map/firm.shtm. 2008.

Since Project site runoff site is currently not treated by active or passive filtration before leaving the site and entering the County storm drain system, any pollutants associated with on-site land uses and activities pass unfiltered into the County system and, ultimately, the receiving water body(ies).

REGULATORY SETTING

Federal

The proposed Project is subject to the requirements of the State Water Resources Control Board and the Los Angeles Regional Water Quality Control Board pursuant to the Clean Water Act and the Los Angeles County Department of Public Works, Flood Control Division.

Federal Clean Water Act

The federal Clean Water Act of 1972 established the national strategy for controlling water quality. The primary purpose of the act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" and to attain a level of water quality "which provides for the protection of and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water[.]" (33 USC Section 1251(a)). It is the responsibility of the State Water Resources Control Board and the Regional Water Quality Control Board to regulate the activities and factors that affect or have the potential to affect water quality in the state.

The federal Clean Water Act contains two strategies for managing water quality. One is a technology-based approach that sets requirements to maintain a minimum level of pollutant management using the best available control technology. The second relies on evaluating the condition of surface waters and setting limits on the amount of pollution that the water can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the federal Clean Water Act specifies that, once a water body is listed as "impaired," the states must establish Total Maximum Daily Loads for the pollutants causing the impairment (33 USC Section 1313(d)(c)). The states must then develop a "pollution budget" or pollutant load allocation for point and non-point sources that are contributing to the water quality impairment.[10] Once these allocations have been set, waste load allocations for point sources are implemented through National Pollutant Discharge Elimination System permits for individual dischargers, while non-point source discharges are subject to load allocations that can be specified in an individual National Pollutant Discharge Elimination System permit or may be regulated or addressed in other ways.

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10 Point sources are defined as those sources that generate discharge from a single, discrete conveyance facility. Non-point sources.

Additionally, the U.S. Environmental Protection Agency sets drinking water standards under the federal Clean Water Act and the Safe Drinking Water Act of 1974. These regulations apply to groundwater only if the groundwater is directly conveyed to the consumer for drinking water purposes. The U.S. Environmental Protection Agency also sets maximum contaminant levels for substances in drinking water.

The Clean Water Act also regulates the discharge of pollutants to "waters of the U.S.," as defined by the Clean Water Act, from any point source under the auspices of the National Pollutant Discharge Elimination System program. In the State of California, the federal National Pollutant Discharge Elimination System program is administered by the local Los Angeles Regional Water Quality Control Board, as discussed above. The discharge of groundwater (such as from dewatering) into the storm drain or sewer system, for example, is regulated by a general National Pollutant Discharge Elimination System permit issued by the Los Angeles Regional Water Quality Control Board.

State

The Porter-Cologne Water Quality Control Act of 1969 established the principal state program for water quality control. The Porter-Cologne Water Quality Control Act also authorizes the State Water Resources Control Board to implement the provisions of the federal Clean Water Act. In this Act, the legislature directed that state policy should provide principles and guidelines for water quality control and objectives for key geographic locations. To accomplish this objective, the state is subdivided into nine regions, each containing a separate Regional Water Quality Control Board. This statute gives the state and Regional Water Quality Control Boards broad powers to protect water quality by regulating waste disposal and requiring cleanup of hazardous conditions.

The State Water Resources Control Board sets state policy for water quality control that must be followed by the regional water boards and by other state agencies and offices. Each Regional Water Quality Control Board must formulate and adopt a water quality plan for all areas within their region. The regional plans must conform to the policies set forth in the act and established by the State Water Resources Control Board in its state water policy. The regional plans must (1) identify beneficial uses of the waters that are to be protected, such as domestic, navigational, agricultural, industrial and recreational uses, as well as aesthetic enjoyment; (2) establish water quality objectives, limits or levels of constituents or characteristics established to protect beneficial uses and to prevent nuisances; and (3) present an

implementation program necessary to achieve those water quality objectives. The Project site is located in Region 4, the Los Angeles Regional Water Quality Control Board area.[11]

Additionally, it is the responsibility of the State Water Resources Control Board and the Regional Water Quality Control Boards to regulate the activities and factors that affect or have the potential to affect groundwater quality in the state.

The California Domestic Water Quality and Monitoring Regulations are set forth in Title 22 of the *California Code of Regulations*. These regulations establish primary and secondary drinking water standards for public water systems and are based on the national standards. As with federal regulations, these regulations apply to groundwater only if the groundwater is directly conveyed to the consumer for drinking water purposes.

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) has two basic provisions: (1) no discharge of a listed chemical shall be made in a significant amount to a potential source of drinking water or to soil, which may cause the chemical to enter groundwater; and (2) the posting of clear and reasonable warnings prior to the exposure of Proposition 65 listed chemicals is required.

Regional

Los Angeles Regional Water Quality Control Board Water Quality Control Plan

Discharges to both surface water and groundwater are regulated by the National Pollutant Discharge Elimination System, which is administered by the Los Angeles Regional Water Quality Control Board as part of its discharge permits program. Any proposed action that would result in a discharge into the waters of the Los Angeles region must describe the quantity and nature of the proposed discharge in a Report of Waste Discharge or a National Pollutant Discharge Elimination System application. As part of the National Pollutant Discharge Elimination System permit or Report of Waste Discharge permit, the Regional Water Quality Control Board will incorporate appropriate measures and limitations to protect public health and water quality.

National Pollutant Discharge Elimination System permits are required for all construction Projects impacting 1 acre or more, or smaller areas that are part of a larger common plan, including excavation, demolition, grading, and clearing. Also, the National Pollutant Discharge Elimination System permit

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11 California Regional Quality Control Board, Los Angeles Region, *Water Quality Control Plan: Los Angeles Region*, (1995).

requirement applies to all discharges of pollutants to "navigable waters" from a "point source."[12] A point source is defined broadly in the Clean Water Act as "any discernible, confined and discreet conveyance," such as a well, pipe, ditch, discreet fissure, container, or vessel.[13] Navigable waters are defined broadly as "waters of the U.S.," and the U.S. Environmental Protection Agency has effectively asserted that these comprise most surface waters, including waters that are tributary to navigable waters, interstate waters, and interstate waters having some impact or involvement in interstate commerce.[14]

Under Order No. 01-182 adopted by the Los Angeles Regional Water Quality Control Board on December 13, 2001, projects are required to implement a Standard Urban Storm Water Mitigation Plan during the operational life of the proposed Project to ensure that potential stormwater pollution is addressed by incorporating Best Management Practice features into Project design. This plan defines water quality design standards to ensure that stormwater runoff is managed for water quality concerns, and to insure that pollutants carried by stormwater are confined and not delivered to waterways. Project applicants are required to select source control and treatment control Best Management Practices from the list approved by the Los Angeles Regional Water Quality Control Board and include them in the Project's Standard Urban Storm Water Mitigation Plan. In combination, these treatment control Best Management Practices must be sufficiently designed and constructed to treat or filter the first 0.75 inch of stormwater runoff from a storm event.

Local

Drainage and flood control structures and improvements in the County of Los Angeles are subject to review and approval by the Los Angeles County Department of Public Works. The Los Angeles County Department of Public Works will review and approve plans for any improvements to County-owned and private facilities.

ENVIRONMENTAL IMPACTS

Project Improvements

The proposed Project involves the redevelopment of the approximately 15.7-acre property with 775 for-lease residential units in multiple buildings, associated recreational amenities for residents, and

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12 McCutchen, Black, Verleger, and Shea, the Attorneys of: *California Environmental Law Handbook, Second Edition,* Government Institutes, Inc., (1988), 61.

13 McCutchen, Black, Verleger, and Shea, the Attorneys of: *California Environmental Law Handbook, Second Edition,* 61.

14 McCutchen, Black, Verleger, and Shea, the Attorneys of: *California Environmental Law Handbook, Second Edition,* 61–62.

landscaping throughout the Project site, Three different types of residences are proposed: three-story Townhome-Style apartments, four-story Podium buildings, and three- and four-story Wrap-Around buildings. The Project site would be accessed by three driveways off Brea Canyon Cutoff Road, which runs along the western side of the Project site. Implementation of the proposed Project would develop approximately two-thirds of the Project site with buildings, parking, sidewalks, and the internal driveway and roadway system, with the remainder of the Project site occupied by landscaped open space and common areas.

Proposed storm drain improvements would include a network of above-ground curb gutters and catch basins that would direct and capture all surface runoff. The first 0.75 inch of runoff would be treated by active or passive filtration on the Project site before being discharged into the County's storm drain system. Following filtration, all runoff generated on the Project site would be discharged into the 72-inch storm drain beneath the site and carried to the 63-inch storm drain beneath Colima Road. Project site runoff would no longer exit the site via surface flows to Brea Canyon Road, as it does under existing conditions.

Project implementation would include both flow- and volume-based Best Management Practice (BMP) water quality treatment features that would be constructed within the private on-site drive aisles and would be privately maintained. Typical flow-based Best Management Practices intended to filter or otherwise treat the "first flush" of runoff from a storm event include vegetated filter strips, swales, and wet vaults (i.e., underground storage tanks, usually constructed of reinforced concrete, used for the capture and treatment of runoff). Sediment and pollutants would be removed from runoff stored within the vaults primarily through gravity settling of suspended solids, followed by filtration and screening (thus requiring no power source). Runoff could subsequently be used for landscape irrigation, at which time biological uptake by plants would provide additional pollutant removal. The water quality vaults would capture all stormwater runoff from each Project site sub-area before discharging runoff into the on-site detention/retention[15] system and storm drain. The final design of the water quality vaults would be determined when specific site constraints and hydraulic conditions are defined and construction drawings are prepared. Five water quality vaults are proposed for the Project site and would serve as pre-treatment features for a separate volume-based treatment system.

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15 In terms of stormwater, "detention" refers to the temporary storage and gradual release of excess stormwater; detention is generally necessary when constraints in downstream storm drain capacity require a reduction in peak runoff volumes from a given site. In contrast, "retention" refers to the more permanent or indefinite storage of excess stormwater on a site, for purposes such as groundwater recharge or landscape irrigation. If stormwater infiltration into the soil is determined not to be possible for a given proposed detention tank on the Project site, a retention storage tank would be constructed instead.

The volume-based treatment system is proposed to include underground detention and/or retention storage tanks designed to retain 3.19 cubic feet per second, which is the increase in runoff volumes over existing conditions, as described in more detail on page 5.2-18. The tanks would be perforated and allow for infiltration; if soil conditions are determined unsuitable for infiltration, the system would be designed for retention and subsequent irrigation in accordance with applicable Los Angeles County standards and specifications, including the Project's Stormwater Pollution Prevention Plan, discussed in more detail in pages 15–16.

These technologies would be used in conjunction with other stormwater Best Management Practices and consistent with deemed appropriate, as part of an overall stormwater control strategy on the Project site.

In addition, the two existing easements (20 feet and 26 feet wide, respectively) that access the 72-inch storm drain pipe would be replaced with comparable easements (20 feet and 28 feet wide) on the Project site. Landscaping cover and asphalt/concrete paving drive aisles and surface parking would overlie the 72-inch storm drain easement throughout most of the Project site; a portion of the easement would be located within the Podium building parking structure, but would still be overlaid only with an asphalt/concrete parking surface and no structural elements.

Project implementation would necessitate dewatering of the subterranean portion of the Podium building parking structure, which could intercept the high water table in this part of the Project site. As with storm and dry weather runoff, water pumped from the parking structure through dewatering operations would be directed first to filtration devices and then discharged into the 72-inch storm drain beneath the Project site.

Thresholds of Significance

Based on the County's Initial Study Checklist and Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, projects should be evaluated for potentially significant impacts related to hydrology, drainage, and water quality based on the following criteria:

- Would the Project substantially alter the existing drainage pattern of the site or area?
- Is the Project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?
- Could the Project's associated construction activities significantly impact the quality of groundwater and/or stormwater runoff to the stormwater conveyance system and/or receiving water bodies?
- Could the Project's post-development activities potentially degrade the quality of stormwater runoff and/or could post-development non-stormwater discharges contribute potential pollutants to the stormwater conveyance system and/or receiving bodies?

During preparation of the Initial Study, the following County significance criteria were determined not to apply to the proposed Project and are therefore discussed in **Section 7.0, Effects Found Not to be Significant**.

- Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the Project site?
- Is the Project site located in or subject to high mudflow conditions?
- Could the Project contribute or be subject to high erosion and debris deposition from run off?
- Is the Project site located in an area subject to other risk factors (e.g., dam failure)?
- Is the Project site located in an area having known water quality problems and proposing the use of individual water wells?
- Will the proposed Project require the use of a private sewage disposal system?

Impact Analysis

Threshold 1: **Would the Project substantially alter the existing drainage pattern of the site or area?**

Threshold 2: **Is the Project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?**

Analysis

Proposed Project implementation would result in the reduction of pervious surfaces on the Project site by 20 percent as the result of redevelopment with residential buildings, parking facilities, outdoor recreational amenities, hardscape areas, and landscaped areas. The proposed Project would place the majority of parking within enclosed parking structures, including the partially subterranean Podium building parking structure, the parking structure enclosed by the Wrap-Around buildings, and garages associated with the Townhome-style apartments. A limited amount of parking also would be provided along interior roadways for short-term and guest use.

The Project site contains no floodways and is not located within a floodplain. According to the Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency, the Project site is located within Zone X,[16] denoting a less than 0.2 percent chance of annual flooding. The Project site is not located

[16] Federal Emergency Management Agency. Flood Insurance Rate Maps. http://www.fema.gov/hazard/map/firm.shtm. 2008.

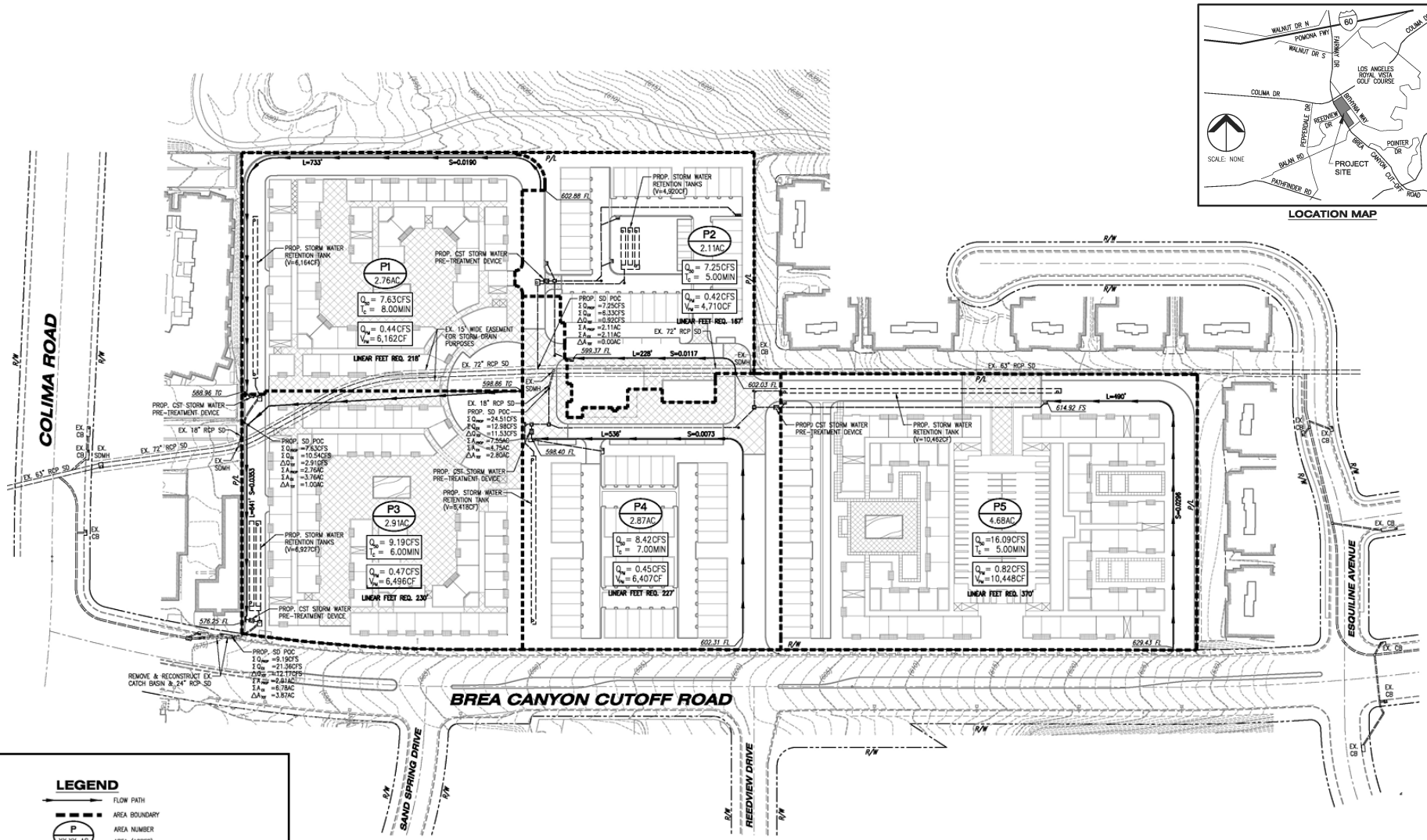
within a 50- or 100-year flood area and direct inundation by storm events of this magnitude is considered unlikely.

For purposes of calculating the runoff coefficient at Project buildout, the developed Project site was divided into five drainage sub-areas, as shown in **Figure 5.2-3, Proposed Hydrology Map**, as compared to the six drainage sub-areas defined under existing conditions. The five future drainage sub-areas are defined by the proposed developed uses for each portion of the Project site, and correspond to the two Podium Buildings at the north end of the site (sub-areas P1 and P3), the eastern-central portion of the Project site containing eastern cluster of Townhome-style apartments (sub-area P2), the western-central portion of the Project site containing the western cluster of Townhome-style apartments (sub-area P4), and the Wrap-Around building (sub-area P5). The areas and calculated peak flow rates for the five drainage sub-areas are described below.

Proposed sub-area P1 would be 2.76 acres in size and would be developed with a Podium building and paved drive aisle. This sub-area would generate 7.63 cubic feet per second and would drain mainly in the northwesterly direction. Proposed storm drain improvements would include curbs and gutters, catch basins, and storm drain pipes. Sub-area P1 would be directly connected to an existing 18-inch storm drain lateral that accepts a peak flow volume of 10.54 cubic feet per second. This lateral receives a greater flow volume under existing conditions than is proposed at Project buildout, and therefore no detention of stormwater is required for this sub-area.

Proposed sub-area P2 would be 2.11 acres in size and would be developed with Townhome-style apartments and covered parking garages, paved roads, and some small landscaped areas. This sub-area would generate 7.25 cubic feet of runoff per second and would drain in a northwesterly direction. Proposed storm drain improvements would include curbs and gutters, catch basins, detention/retention storage tanks, and storm drain pipes. Sub-area 2 would require a direct connection to the existing 72-inch storm drain pipe beneath the Project site.

Proposed sub-area P3 would be 2.91 acres in size and would be developed with a Podium building, paved roads, and some small landscaped areas. This sub-area would generate 9.19 cubic feet of runoff per second and would drain mainly in a northwesterly direction. Proposed storm drain improvements would include curbs and gutters, catch basins, and storm drain pipes. Sub-area P3 would be directly connected to an existing catch basin along Brea Canyon Cutoff Road just north of the Project site boundaries; this catch basin would require relocation. The existing catch basin located along Brea Canyon Cutoff Road currently accepts a peak flow of 21.36 cubic feet per second during a 50-year 24- hour storm event. Sub-area P3 would only generate a peak flow of 9.19 cubic feet per second during a 50-year 24-hour storm event; therefore, no detention of stormwater would be required. Detention tanks are proposed for sub-area P3 only in order to meet stormwater quality regulations.



SOURCE: KHR Associates – October 2009

FIGURE **5.2-3**

Proposed Hydrology Map

Proposed sub-area P4 would be 2.87 acres in size and would be developed with Townhome-style apartments and covered parking garages, paved roads, and small landscaped areas. This sub-area would generate 8.42 feet of runoff per second and would drain mainly in a northeasterly direction. Proposed drainage improvements would consist of curbs and gutters, catch basins, detention/retention storage tanks, and storm drain pipes. Sub-area P4 would be directly connected to an existing 18-inch storm drain lateral that currently accepts 12.98 cubic feet per second. Under proposed conditions, sub-areas P4 and P5, which would collectively generate a total of 24.51 cubic feet per second, would drain to this existing lateral. The flow to the existing lateral would be restricted to assure that no more than 12.98 cubic feet per second is allowed to discharge at any one time. The additional volume of stormwater runoff would be retained in perforated underground storage tanks on the Project site and permitted to infiltrate the surrounding soil, as to release flows into the County storm drain gradually.

Proposed sub-area P5 would be 4.68 acres in size and would be developed with the Wrap-Around buildings, paved roads, and small landscaped areas. This sub-area would generate 16.09 cubic feet per second and would drain mainly in a northeasterly direction. Proposed drainage improvements would consist of utilizing proposed curb and gutter, catch basins, and storm drain pipes. Sub-area P5 would be conveyed to the storm drain system of sub-area P4. As for sub-area P4, underground storage tanks would be constructed on the Project site to retain excess stormwater runoff generated by both sub-areas.

At Project buildout, assuming 90 percent of the site would be impervious, the calculated peak flow rate during a 50-year storm event would generate 48.58 cubic feet per second of runoff. This is an increase of approximately 3.19 cubic feet per second over existing conditions (45.39 cubic feet per second). The Project would be designed to hold and detain this 3.19 cubic-foot-per-second difference between pre- and Post-Project runoff volumes in perforated underground storage tanks on the Project site that would allow for infiltration in the soil. Accordingly, 50-year-storm event peak flows following Project buildout would be the same as peak flows under existing conditions, or 45.39 cubic feet per second[17] because of the use of proposed detention/retention tanks on the Project site.

Peak flows would, therefore, not increase over existing conditions and would remain within the County's receiving storm drain system capacity. Any dewatering required would be mitigated on an as-needed basis through the use of pumping equipment and/or small channels at the base of the excavations leading to temporary sump pits.

As stated under **Project Improvements**, proposed storm drain improvements would include a network of above-ground curb gutters, catch basins, wet vaults, detention/retention storage tanks, and storm drain

17 KHR Associates, *Preliminary Hydrology Study/Drainage Concept/SUSMP: Canyon Residences, Rowland Heights, California* (2009).

pipes that would direct and capture all surface runoff. Following filtration and/or detention, all runoff generated on the Project site would be discharged into the existing 72-inch storm drain beneath the site and conveyed north to the 63-inch storm drain beneath Colima Road. Runoff would no longer exit the site via surface flows to Brea Canyon Road, as under existing conditions.

Mitigation

Since hydrology impacts related to the presence of a floodway, floodplain, or designated flood hazard zone or the alteration of existing drainage patterns would be less than significant, no mitigation is required.

Threshold 2: **Could the Project's associated construction activities significantly impact the quality of groundwater and/or stormwater runoff to the stormwater conveyance system and/or receiving water bodies?**

Threshold 3: **Could the Project's post-development activities potentially degrade the quality of stormwater runoff and/or could post-development non-stormwater discharges contribute potential pollutants to the stormwater conveyance system and/or receiving bodies?**

Analysis

Project construction would involve several phases, including demolition of asphalt paving and the existing structures, excavation of the Project site for partially subterranean parking, and construction of the new buildings, recreational areas including landscaped and hardscape areas, surface parking along interior Project site streets, and other improvements. The volume of debris expected to be generated by demolition of on-site buildings, structures, and hardscape would be approximately 5,000 cubic yards. Construction would occur over an approximately 36-month period, with overlap possible between phases. Approximately 45,000 cubic yards of earth would be graded and re-compacted on site, with an additional 55,000 cubic yards to be removed and hauled from the Project site. The removal of vegetation and other soil-stabilizing features during Project construction could accelerate wind and water driven erosion of soils that would increase sedimentation during storm events. Additionally, throughout Project construction, either portions, or all, of the Project site would remain undeveloped with exposed soil. Demolition and grading, and associated erosion, could temporarily increase the amount of suspended polluted solids in surface flows, potentially polluting stormwater that could percolate into the ground or enter storm drains.

As previously discussed, portions of the San Gabriel Watershed Management Plan Area, including the San Jose Creek to which the Project's stormwater flows would discharge, are considered to be impaired by the U.S. Environmental Protection Agency. A National Pollutant Discharge Elimination System permit is required for demolition and construction and the Project Applicant would be required comply with all applicable requirements of the National Pollutant Discharge Elimination System program. The Project Applicant would also be required to prepare a Storm Water Pollution Prevention Plan containing structural treatment and source control measures appropriate and applicable to the Project. The Stormwater Pollution Prevention Plan would incorporate Best Management Practices that require controls for pollutant discharge, including the best available technology and best conventional pollutant control technology to reduce pollutants. Implementation of Best Management Practices as required for permit compliance would ensure that Los Angeles Regional Water Quality Control Board water quality standards are met during construction activities and Project construction impacts on water quality would be less than significant.

In compliance with Los Angeles Regional Water Quality Control Board requirements, the Applicant would be required to implement a Standard Urban Storm Water Mitigation Plan to ensure that potential stormwater pollution is addressed by Best Management Practice features incorporated into Project design. These treatment control Best Management Practices are required to be sufficiently designed and constructed to treat or filter the first 0.75 inch of rainfall from a storm event before being discharged into the County's storm drain system. According to the Preliminary Hydrology Study prepared for the Project, a 0.75-inch storm event would produce flows of 2.69 cubic feet per second, or a total volume of 35,045 cubic feet of runoff, that would require treatment through filtration during an average annual rainfall event.

The proposed structured parking facilities would reduce the amount of pollutants likely to be transported by rainfall into the County storm drain system as compared to existing conditions; although periodic cleaning and maintenance of the parking surfaces would still contribute pollutants to runoff, all post-Project runoff would be treated on site before entering the County storm drain system. Additionally, while the proposed Project would reduce the landscaped area on site compared to existing conditions, future landscaping would still require maintenance, including, presumably, the use of fertilizers, pesticides and other chemicals. Other activities reasonably expected to be conducted on site following Project buildout, such as the use and disposal of household cleaners, pool and spa chemicals, and other such chemicals, could contribute pollutants to runoff.

Finally, runoff transported from the site via the County's storm drain system would be discharged to San Jose Creek within the San Gabriel Watershed Management Plan area, portions of which are considered to be impaired by the U.S. Environmental Protection Agency.

Runoff generated on the Project site would be subject to Section 402(A) of the Clean Water Act under the National Pollutant Discharge Elimination System program. Under this program, developers are responsible for ensuring pollutant loads originating on a Project site do not exceed Total Maximum Daily Loads for downstream receiving waters. Development projects are required to submit and implement a Standard Urban Storm Water Mitigation Plan[18] containing design features and Best Management Practices that adequately reduce post-construction pollutants in stormwater discharges. With compliance with National Pollutant Discharge Elimination System and Standard Urban Storm Water Mitigation Plan requirements, potential water quality impacts from pollutants generated by vehicles, landscape maintenance, and other routine activities on the Project site following buildout would be less than significant.

Project implementation would require excavation to a maximum depth of approximately 20 feet below existing grade for the partially subterranean Podium building parking structure. Groundwater was encountered on the Project site at depths of 11 to 19 feet below the existing surface, and the geotechnical report states that the seepage zone, where groundwater may saturate soils, is near and possibly above the finished floor elevations of several of the proposed buildings, including the western Podium building parking structure levels and first story, in the northwestern portion of the site adjacent to Brea Canyon Cutoff Road; the Townhome-style apartments in the center of the site); and the Wrap-Around buildings, at the southern end of the site. For this reason, permanent dewatering of below-grade and at-grade portions of these buildings and structures may be required. The permanent dewatering system associated with the proposed Project would consist of electric pumps, storage tanks, and filters within or beneath the buildings and structures that would require ongoing dewatering, and water would be conveyed via catch basins and storm drain pipes on the Project site into the 72-inch storm drain pipe beneath the Project site. Discharge from dewatering activities could contribute suspended solids and organic material to surface and subsurface bodies. Dewatering would require a National Pollutant Discharge Elimination System Permit for Groundwater Discharge from the Los Angeles Regional Water Quality Control Board, which would in turn require that water discharged to the County's storm drain system, would meet all National Pollutant Discharge Elimination System requirements for suspended solids, organic material, and other water quality parameters. With compliance with National Pollutant Discharge Elimination System requirements, stormwater quality impacts associated with permanent dewatering would be less than significant.

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18 The Los Angeles Regional Water Quality Control Board approved the Standard Urban Storm Water Mitigation Plan that requires new construction and development projects to implement Best Management Practices on March 8, 2000. In May 2000, the County of Los Angeles finalized its *Manual for the Standard Urban Storm Water Mitigation Plan*, which details the requirements of the Standard Urban Storm Water Mitigation Plan. Projects that are subject to the Standard Urban Storm Water Mitigation Plan requirements are required to incorporate measures into their development plans prior to issuance of grading and building permits.

As discussed above, portions of the San Gabriel Watershed Management Plan area, including the San Jose Creek where the Project's stormwater would flow to, are considered to be impaired by the U.S. EPA. Stormwater quality is generally affected by the length of time since the last rainfall, rainfall intensity, urban uses of the area, and quantity of transported sediment. Typical urban water quality pollutants usually result from motor vehicle operations, oil and grease residues, fertilizer/pesticide uses, human/animal littering, careless material storage and handling, and poor property management.

Mitigation

Since water quality impacts from construction and operation would be less than significant, no mitigation is required.

CUMULATIVE IMPACTS

Development of the proposed Project and related projects could result in increased rates and volumes of runoff or violation of water quality or waste discharge requirements during construction and operations. However, none of the proposed Projects discharge to storm drains directly serving the proposed Project, and therefore would not result in any demand on the capacity of those storm drains. With respect to water quality, the proposed Project and all related projects would be required to comply with National Pollutant Discharge Elimination System permit requirements and prepare a Stormwater Pollution Prevention Plan for construction activities. As with the proposed Project, the Stormwater Pollution Prevention Plans prepared for each related project would incorporate Best Management Practices by requiring controls of pollutant discharges that utilize best available technologies/best conventional pollutant control technologies to reduce pollutants. In addition, the proposed Project and related projects are required to submit and then implement a Standard Urban Storm Water Mitigation Plan containing design features and Best Management Practices appropriate and applicable to each project to reduce post-construction operational pollutants in stormwater discharges. Potential water quality impacts of related projects would be less than significant in light of compliance with National Pollutant Discharge Elimination System requirements, and the enforcement of these requirements by the County. As such, the proposed Project, considered together with related projects, would result in an incremental, but less than cumulatively considerable, contribution to cumulatively significant hydrology impacts.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Development of the proposed Project would not, individually or considered together with other projects, result in significant hydrology or water quality impacts during construction or operation and no mitigation is required.

5.3 NOISE

SUMMARY

This section describes existing and future noise levels on and surrounding the Canyon Residences Project (Project) site and evaluates the Project's potential to result in or contribute to significant noise-level increases. Increases in ambient noise levels of less than 3 decibels as measured on an A-weighted scale (dB(A)) Community Noise Equivalent Level (CNEL) are not usually perceptible to the human ear. However, changes from 3 to 5 dB(A) may be noticed by some individuals who are sensitive to changes in noise. Operation of the Project would result in noise-level increases of up to 0.4 dB(A) CNEL, which is well below the level of human perception, due to the net increase in vehicle trips on the roadway segments evaluated. Additionally, noise-level increases on the roadway segments evaluated would not exceed 0.4 dB(A) CNEL even with the addition of vehicle trips due to the development of related projects. Therefore, both Project-level and cumulative operational noise impacts would be less than significant.

However, construction of the Project would generate exterior noise levels above 65 dB(A) equivalent noise level (L_{eq}), and vibration levels exceeding 0.01 peak particle velocity (PPV) at adjacent sensitive receptor locations. Therefore, noise and vibration levels generated from the Project during construction stages could periodically exceed County standards for exterior noise levels during the workday. All construction activities would comply with County of Los Angeles Plans and Policies for noise control (Ordinance No. 11773). Construction noise would be limited to normal working hours. Nevertheless, construction noise would represent a temporary, but significant impact, as noise levels could periodically exceed County standards even after mitigation.

INTRODUCTION

This section of the Environmental Impact Report (EIR) describes the existing noise environment at the Project site and within the Project vicinity. This section also estimates future noise levels at surrounding land uses resulting from construction and operation of the proposed Project, as well as levels of vibration. Additionally, this section includes a discussion of the Project's cumulative impacts related to reasonably foreseeable future projects. Where impacts are identified, mitigation measures are recommended to avoid or reduce impacts to the fullest extent feasible.

Characteristics of Noise

Noise is usually defined as undesired sound, and is an undesirable by-product of human society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound

implies that it has an adverse effect on people and their environment. Although sound can be easily measured, the perceptibility of sound is subjective and the physical response to sound complicates the analysis of its impact on people.

Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies, and is less sensitive to very low and high frequencies than to medium frequencies that correspond with human speech. In response, the A-weighted noise level (or scale) has been developed. It corresponds better with people's subjective judgment of sound levels, as it de-emphasizes low frequencies to which human hearing is less sensitive and focuses on mid- to high-range frequencies. This A-weighted sound level is called the "noise level" referenced in units of dB(A). Because noise is measured on a logarithmic scale, a doubling of sound energy results in a 3 dB(A) increase in noise levels. However, changes in a community noise level of less than 3 dB(A) are not typically noticed by the human ear.[1] Therefore, a doubling of sound wave energy (e.g., doubling the volume of traffic on a roadway) would result in a barely perceptible change in sound level. Changes from three to 5 dB(A) may be noticed by some individuals who are sensitive to changes in noise. A 3 dB(A) increase is readily noticeable, while the human ear perceives a 10 dB(A) increase in sound level to be a doubling of sound. Common noise levels associated with certain activities are shown in **Figure 5.3-1, Common Noise Levels**.

Noise sources are classified in two forms: (1) point sources, such as stationary equipment; and (2) line sources, such as a roadway with a large number of noise sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of six dB(A) for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB(A) at acoustically "soft" sites.[2] For example, a 60 dB(A) noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and 48 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for hard and soft sites, respectively.[3] Sound levels can also be attenuated by artificial or natural barriers, as illustrated in **Figure 5.3-2, Noise Attenuation Barriers**. Solid walls, berms, or

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1 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (1980) 81.

2 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, 97. A "hard" or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt, concrete, and very hard packed soils. An acoustically "soft" or absorptive site is characteristic of normal earth and most ground with vegetation.

3 U.S. Department of Transportation, *Highway Noise Fundamentals*, 97.

elevation differences typically reduce noise levels by five to 10 dB(A).[4] The noise attenuation provided by typical structures in California is provided below in **Table 5.3-1, Outside to Inside Noise Attenuation**.

Table 5.3-1
Outside to Inside Noise Attenuation

Building Type	Noise Reduction – dB(A)	
	Open Windows	Closed Windows
Hotels/Motels	17	25
Residences	12	25
Schools	12	25
Places of Worship	20	30
Hospitals/Convalescent Homes	17	25
Offices	17	25
Theaters	20	30

Source: Highway Noise Fundamentals, p. 117.

When assessing community reaction to noise, there is an obvious need for a scale that averages varying noise exposures over time and quantifies the results in terms of a single number descriptor. Several scales have been developed that address community noise levels. Those that are applicable to this analysis are the L_{eq} and CNEL. L_{eq} is the average A-weighted sound level measured over a given time interval. L_{eq} can be measured over any period but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods. For instance, the County Noise Ordinance uses L_{eq} noise metrics such as L_{50}, L_{25}, $L_{8.3}$, $L_{1.7}$, and L_{max}, which are based upon a 1-hour time frame, and which indicate exceedances of a noise level 50, 25, 8.3, or 1.7 percent of the time, or the maximum sound level during that period, respectively.

CNEL is another average A-weighted sound level measured over a 24-hour period and is adjusted to account for some individual's increased sensitivity to noise levels during the evening and nighttime hours. A CNEL noise measurement is obtained after adding 5 dB to sound levels occurring during the evening from 7:00 PM to 10:00 PM and 10 dB to sound levels occurring during the nighttime from 10:00 PM to 7:00 AM. The 5 and 10 dB "penalties" are applied to account for peoples' increased sensitivity during the evening and nighttime hours. For example, the logarithmic effect of these additions is that a 60 dB(A) 24-hour L_{eq} would result in a measurement of 66.7 dB(A) CNEL.

4 Federal Highway Administration, *Highway Noise Mitigation,* (1980) 18.

Characteristics of Vibration

Vibration consists of waves transmitted through solid material. The solid medium can be excited by forces, moments, or pressure fields. Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in hertz (Hz). Most environmental vibrations consist of a composite, or "spectrum," of many frequencies, and generally are classified as broadband or random vibrations. The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz. Vibration often is measured in terms of the PPV[5] in inches per second (in/sec). The threshold for human perception is approximately 0.01 PPV. The level of annoyance generally ranges from 0.013 to 0.04 PPV, while difficulty with performing certain tasks such as reading a video display may occur at 0.13 PPV. Minor cosmetic damage to buildings occurs at 0.4 PPV. Human annoyance by vibration is related to the number and duration of events. The more events or the greater the duration, the more bothersome it will be to humans.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease (attenuate) with distance away from the source. High-frequency vibrations reduce much more rapidly than low frequencies, so that in the far-field from a source the low frequencies tend to dominate. An example of high-frequency vibration would be the ultrasound used in medicine, while sources of low frequency vibration include pumps, boilers, electrical installations, fans, and road and rail traffic. 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 typically is perceived as rattling of windows or items on shelves, or the motion of building surfaces.

Groundborne vibration can be perceived without instrumentation within a few hundred feet of certain types of construction activities, especially pile driving. Road vehicles rarely create enough groundborne vibration to be perceptible to humans unless the road surface is poorly maintained and there are potholes or bumps. If traffic, typically heavy trucks, induces perceptible vibration in buildings, such as window rattling or shaking of small loose items, then it is most likely an effect of low frequency airborne noise or ground characteristics.

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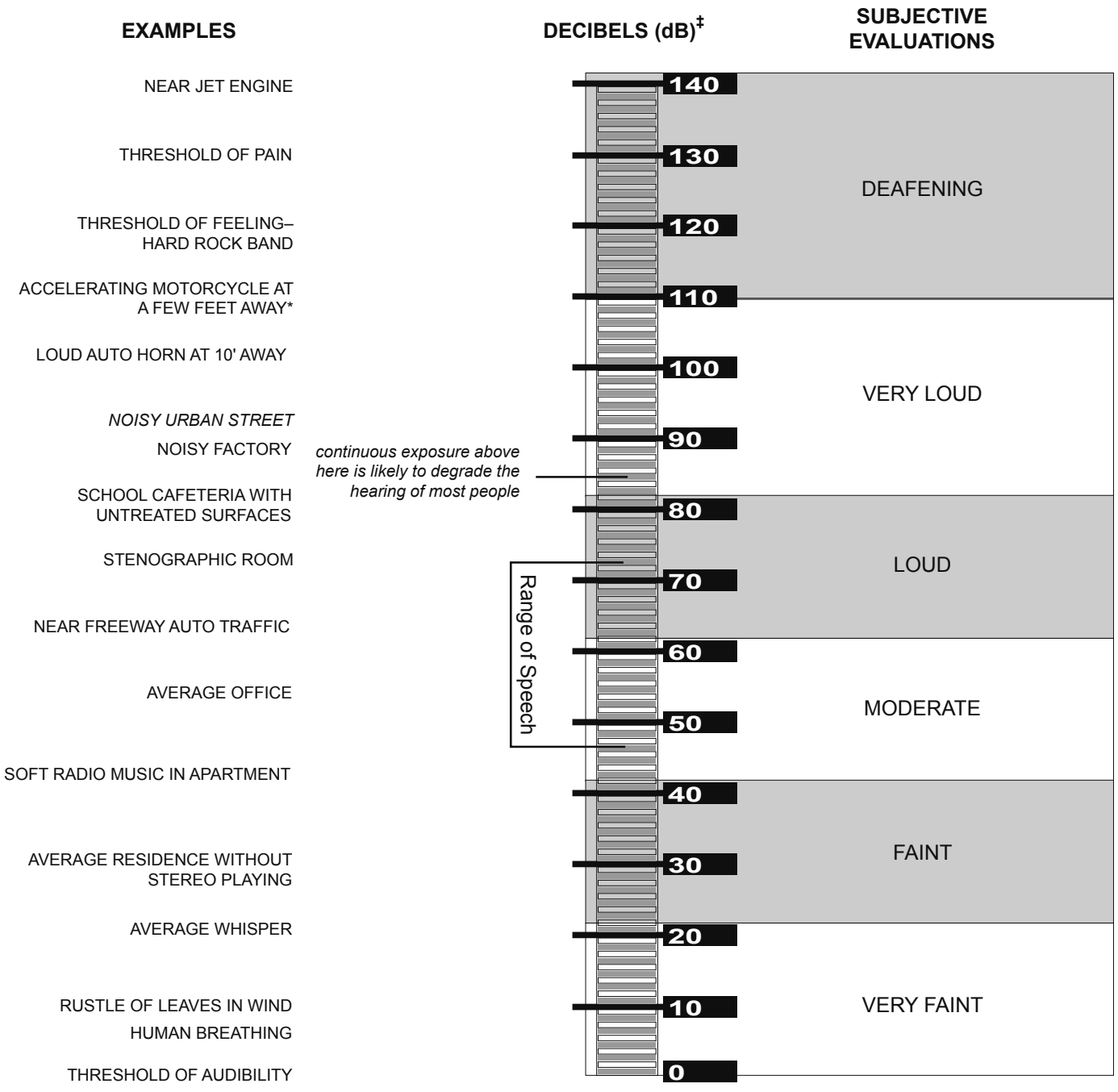
5 Particle velocity is the velocity of a particle (real or imagined) in a medium as it transmits a wave.

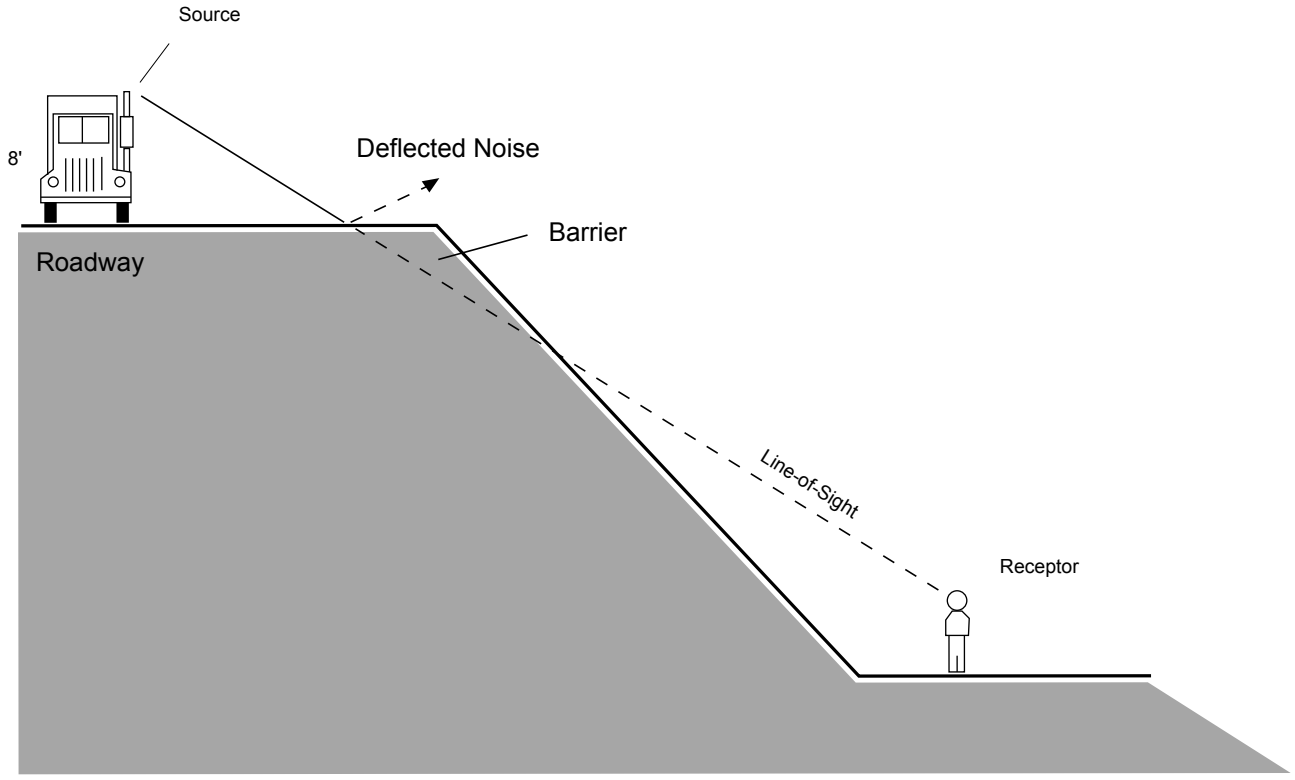


** NOTE: 50' from motorcycle equals noise at about 2000' from a four-engine jet aircraft.*

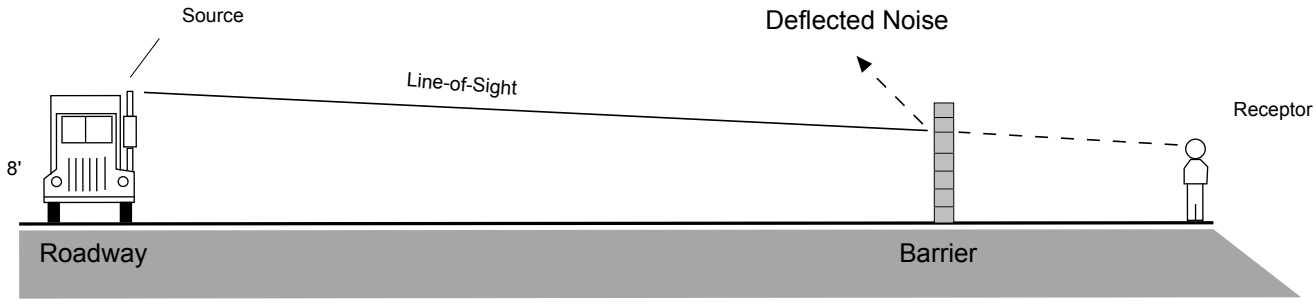
‡*NOTE: dB are "average" values as measured on the A–scale of a sound–level meter.*

FIGURE **5.3-1**

Common Noise Levels



"Barrier Effect" Resulting from Differences in Elevation.



"Barrier Effect" Resulting from Typical Soundwall.

SOURCE: Impact Sciences, Inc. – May 2005

FIGURE **5.3-2**

Noise Attenuation Barriers

Methodology

Ambient noise levels were calculated based on the existing traffic volumes of roadways within the Project area and the *FHWA Highway Noise Prediction Model*. Roadway geometrics and traffic volumes were obtained from KHR Associates, the traffic consultant for the proposed Project.

EXISTING CONDITIONS

Project Site

The proposed Project site is located at 1920 Brea Canyon Cutoff Road in the unincorporated Los Angeles County community of Rowland Heights, approximately 0.75 mile south of the Pomona Freeway (State Route [SR] 60). The approximately 15.7-acre Project site is presently developed with Southlands Christian Church and the Southlands Christian Schools. Sources of noise presently associated with the church and school include outdoor play areas, heating, ventilation, and air conditioning (HVAC) equipment, outdoor school events such as athletic games, the surface parking lots located along Brea Canyon Cutoff Road, and traffic generated on local roadways during drop-off and pick-up hours. The Project site is located in an urban environment and is exposed to a variety of noise sources typical to such a setting. The primary noise source experienced on the Project site is roadway traffic, especially along Brea Canyon Cutoff Road to the west and Colima Road to north. Based on the volume of traffic passing the Project site along Brea Canyon Cutoff Road, the current ambient noise level on the Project site is 67.9 dB(A) CNEL.

Noise-Sensitive Receptors

The County assigns acceptable noise level standards for four distinct noise zones: residential properties; commercial properties; industrial properties; and noise-sensitive areas.[6] A noise-sensitive area is any area designated for exceptional quiet and must be identified by the display of conspicuous signs in at least three separate locations within 164 meters (0.10 mile) of the facility. No designated noise-sensitive areas are located within the Project area. Although any noise zone may be considered a sensitive receptor if the applicable noise level standards are exceeded, residential uses (i.e., uses with sleeping quarters) are considered sensitive receptors for purposes of this analysis since commercial and industrial uses are subject to less restrictive noise standards.

The following describes the type and location of noise sensitive receptors in the Project area and the ambient noise levels at those sites. Since roadway traffic represents the greatest noise source in the Project

6 County of Los Angeles, Municipal Code, Section 12.08.380.

area, ambient noise levels are based on roadway noise levels generated along the closest arterial roadway segments.

North of Project Site: Senior housing complex directly adjacent to the Project site. Based on roadway noise levels estimated near the intersection of Brea Canyon Cutoff Road and Colima Road, the ambient exterior noise level is estimated to be 69.5 dB(A) CNEL.[7]

South of Project Site: Multi-family residences along Ostia Way and Latium Way directly adjacent to the Project site. Based on roadway noise levels estimated near the intersection of Brea Canyon Cutoff Road and Reedview Drive, the ambient exterior noise level is estimated to be 67.9 dB(A) CNEL.[8]

West of Project Site: Single family residences across Brea Canyon Cutoff Road, approximately 100 feet from the Project site boundary. Based on roadway noise levels estimated on Brea Canyon Cutoff Road between Colima Road and Reedview Drive, the ambient exterior noise level is estimated to be 67.9 dB(A) CNEL.[9]

East of Project Site: Multi-family residences along Drusilla Way directly adjacent to the Project site. Based on roadway noise levels estimated near the intersection of Brea Canyon Cutoff Road and Reedview Drive, the ambient exterior noise level is estimated to be 67.9 dB(A) CNEL.[10]

Roadway Noise

Existing (year 2008) roadway noise levels are presented in **Table 5.3-2, Existing Off-Site Roadway Noise Levels**. These noise levels were calculated based on the existing traffic volumes of roadways within the Project area and the *FHWA Highway Noise Prediction Model*. Roadway geometrics and traffic volumes were obtained from KHR Associates, the traffic consultants for the proposed Project. Roadway segments that were determined by the traffic study to be potentially affected by Project related traffic were evaluated for potential exposure to Project-related noise impacts. Six of the seven roadway segments within the study area pass adjacent to sensitive noise receptors, including single-family and multi-family residences and the nursing home north of the Project site, on Colima Avenue. The seventh roadway segment in the study area, Fairway Drive north of the SR-60 freeway, is developed with commercial and

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7 Estimate is based on the ambient roadway noise level calculated 50 feet from the roadway centerline of Colima Road between Nogales Street and Fairway Drive/Brea Canyon Cut-Off Road.

8 Estimate is based on the ambient roadway noise level calculated 50 feet from the roadway centerline of Brea Canyon Cut-Off Road between Colima Road and Reedview Drive.

9 Estimate is based on the ambient roadway noise level calculated 50 feet from the roadway centerline of Brea Canyon Cut-Off Road between Colima Road and Reedview Drive.

10 Estimate is based on the ambient roadway noise level calculated 50 feet from the roadway centerline of Brea Canyon Cut-Off Road between Colima Road and Reedview Drive.

light industrial uses, which are not considered sensitive receptors. The roadway segments are listed in **Table 5.3-2, Existing Off-Site Roadway Noise Levels**, and are mapped in **Figure 5.7-1, Study Intersection Locations,** in **Section 5.7, Traffic, Parking, Circulation, and Access**.

Table 5.3-2
Existing Off-Site Roadway Noise Levels

Roadway Segment	Existing and Planned Land Uses	CNEL dB(A)
Fairway Drive N/O SR-60 Ramps	Residential	69.6
Fairway Drive between Colima Road and SR-60 Ramps	Residential	68.2
Brea Canyon Cutoff Road between Colima Road and Reedview Drive	Residential	67.9
Brea Canyon Cutoff Road between Reedview Drive and Pathfinder Road	Residential	66.7
Brea Canyon Cutoff Road S/O Pathfinder Road	Residential	67.5
Colima Road between Nogales Street and Fairway Drive	Residential	69.5

*Source: Average daily traffic volumes provided by KHR Associates. Calculations are provided in **Appendix 5.3**. The above noise levels are modeled at 50 feet from the roadway centerline.*

As shown, existing weekday roadway noise levels range from a minimum of 66.7 dB(A) CNEL along Brea Canyon Cutoff Road between Reedview Drive and Pathfinder Road to a maximum 69.6 dB(A) CNEL along Fairway Drive north of the Pomona Freeway. The existing roadway noise level adjacent to the Project site on Brea Canyon Cutoff Road is 67.9 dB(A) CNEL.

The County defers to the state guidelines in **Figure 5.3-3, Land Use Compatibility Guidelines for Noise** in order to assess a land use's compatibility with motor vehicle noise sources.[11] The maximum normally acceptable exterior noise level standard for single-family residences is 60 dB(A) CNEL and the maximum normally acceptable exterior noise level standard for multi-family residences is 65 dB(A) CNEL. As shown in **Table 5.3-2**, all roadway noise levels in the study area currently exceed the standards of the state guidelines for single-family and multi-family land uses.

11 Los Angeles County Code Section 12.08.570 exempts all vehicles of transportation (with a few exceptions) that operate in a legal manner within the public right-of-way, railway, or air space, or on private property, from the standards of the Noise Control Ordinance.

REGULATORY SETTING

Plans and policies that pertain to the noise conditions affecting and affected by the proposed Project are discussed below. These plans and policies include (1) the State of California, Department of Health Services, Environmental Health Division *Guidelines for Noise and Land Use Compatibility*; (2) The Los Angeles County General Plan Noise Element; (3) Rowland Heights Community General Plan; and (4) the County of Los Angeles Noise Control Ordinance (Ord. 11773 and 11778; Section 12.08 of the County Code).

State

California Department of Health Services (For Operational Mobile Source Noise)

The County has no adopted ordinance regulating individual motor vehicle noise levels.[12] These are regulated by the state. The State of California Department of Health Services, Environmental Health Division, has published recommended guidelines for mobile source noise and land use compatibility. Each jurisdiction is required to consider these guidelines when developing its general plan noise element and determining the acceptable noise levels within its community. The County of Los Angeles defers to these guidelines when assessing a land use's compatibility with motor vehicle noise sources. These guidelines are illustrated in **Figure 5.3-3**.

Based on these guidelines, an exterior noise level of 60 dB(A) CNEL is considered an acceptable level for conventionally built single-family, duplex and mobile homes. Exterior noise levels up to 65 dB(A) CNEL are typically considered acceptable for multi-family units and transient lodging without any special noise insulation requirements. Exterior noise levels between 65 and 70 dB(A) CNEL are typically considered acceptable for both single-family and multi-family units only if the buildings are conditioned to include noise insulation features; therefore, exterior noise levels between 65 and 70 dB(A) CNEL are conditionally acceptable noise levels for residential uses. An exterior noise level of 70 dB(A) CNEL is typically the dividing line between an acceptable and unacceptable exterior noise environment for all noise sensitive uses, including schools, libraries, places of worship, hospitals, day care centers, and nursing homes of conventional construction. Noise levels below 70 dB(A) CNEL are typically acceptable for office and commercial buildings, while levels up to 75 dB(A) CNEL are typically acceptable for industrial uses.

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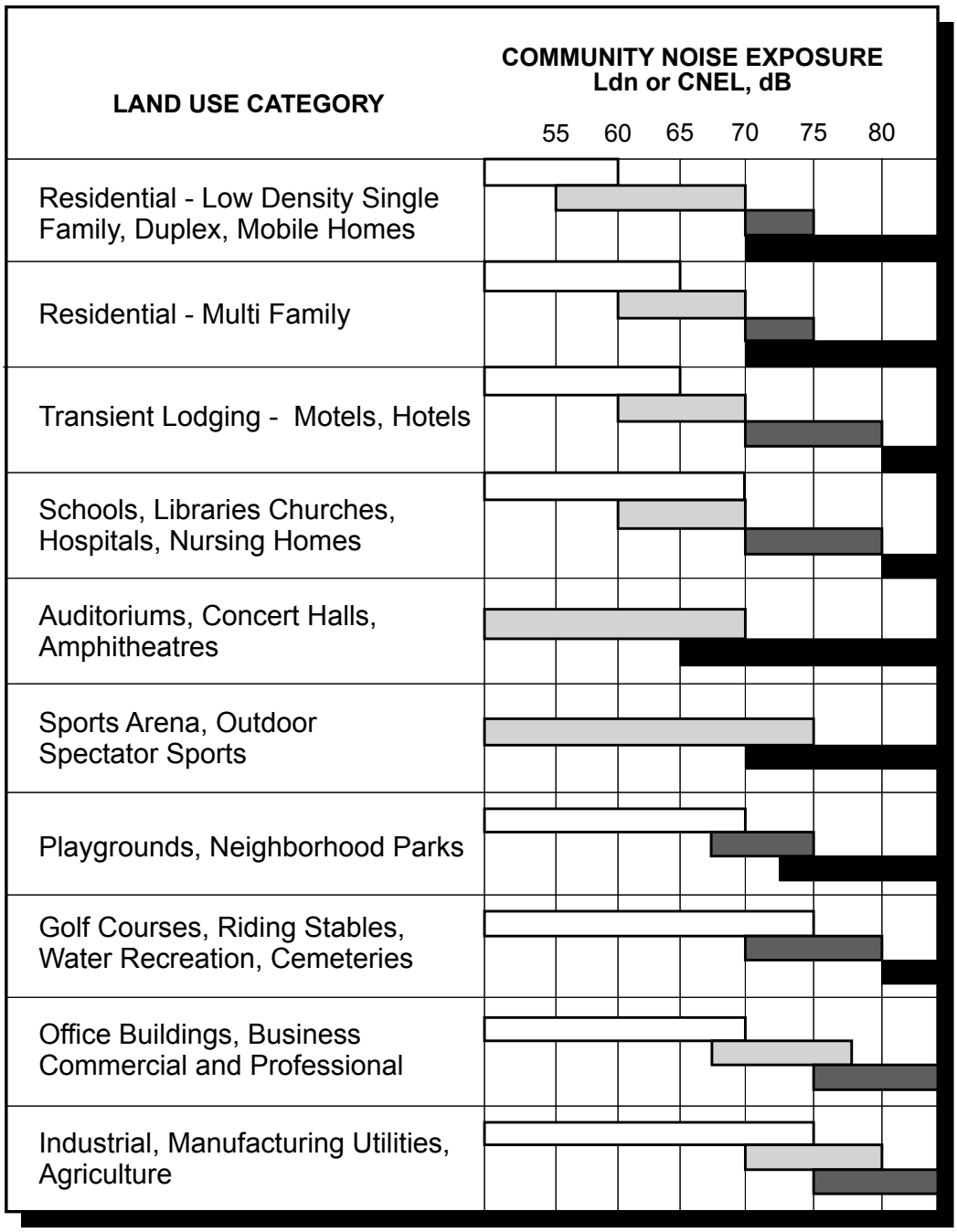
12 Los Angeles County Code Section 12.08.570 exempts all vehicles of transportation (with a few exceptions) that operate in a legal manner within the public right-of-way, railway, or air space, or on private property, from the standards of the County of Los Angeles Noise Control Ordinance.



NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

SOURCE: California Department of Health, Office of Health Control, Guidelines for the Preparation and Content of Noise Elements of the General Plan, February 1976.

FIGURE **5.3-3**

Land Use Compatibility Guidelines for Noise

Local

County of Los Angeles General Plan Noise Element

The Los Angeles County General Plan Noise Element was established as a planning tool that developed strategies and action programs to allow the government to address the multitude of noise sources and issues throughout the County. The General Plan Noise Element primarily addresses transportation noise sources such as traffic, railroads, and aircraft. However, methods to plan for future development, as well as noise ordinances within the County Code, also derive from the General Plan. Together, these sources enforce the Noise Element's primary goal of protecting areas from future noise impacts that affect the quality of life.

One specific goal of the County General Plan is that noise mitigation costs should be assessed to the producers of the noise. Policy 16 of the Noise Element states that the County should "encourage cities to adopt definitive noise ordinances and policies that are consistent throughout the county." The Noise Element does not prescribe any specific standards for acceptable noise or vibration levels. Because Rowland Heights is located in unincorporated Los Angeles County, the specific and applicable noise standards for the Project are addressed in the County Noise Control Ordinance (County Code Section 12.08). This ordinance, discussed below, prescribes standards for point and stationary source noise and construction-related noise, as well as general standards for vibration.

Rowland Heights Community General Plan

The Rowland Heights Community General Plan identifies vehicle traffic as the major source of noise in Rowland Heights and states that the Pomona Freeway, Colima Road, Fullerton Road, and Nogales Street are the corridors experiencing the highest noise levels. The Community General Plan also establishes policies to regulate noise levels and land use incompatibility in Rowland Heights. For example, the Community General Plan discourages the construction of new schools, libraries, or medical facilities in areas experiencing noise levels above 65 dB(A) CNEL; promotes the construction of walls, berms and landscaping along the Pomona Freeway to screen noise; and encourages the placement of commercial or industrial uses along freeway and highway routes. The following policy from the Rowland Heights Community General Plan is relevant to the proposed Project:

Policy 1: In areas experiencing exterior noise levels of 65 dB(A) or more, require that all new residential structures having four or more units be insulated so that interior noise levels do not exceed 45 dB(A).

Although the Community General Plan provides community noise exposure levels for different sections of Rowland Heights, this data was collected in or prior to 1981. For this reason, noise levels reported in the Community General Plan are not used in this analysis. Existing noise levels in this analysis are based on noise modeling conducted for existing (2008) traffic volumes, as previously discussed.

County of Los Angeles Noise Control Ordinance (For Point and Stationary Source Noise)

The County Noise Control Ordinance (County Code Section 12.08) provides standards for both interior and exterior noise standards and sets guidelines for a variety of activities. Section 12.08.390 identifies exterior noise standards for stationary and point noise sources, specific noise restrictions, exemptions and variances for exterior point or stationary noise sources. Several of these standards are applicable to the Project and are discussed below.

The County Noise Control Ordinance states that exterior noise levels caused by stationary or point noise sources shall not exceed the levels identified below in **Table 5.3-3, County of Los Angeles Exterior Noise Standards for Stationary and Point Noise Sources**, or the ambient noise level,[13] whichever is greater. Since the proposed Project is residential, it would be subject to an exterior noise level standard of L_{50} of 50 d(BA) between 7:00 AM and 10:00 PM and L_{50} of 45 dB(A) between 10:00 PM and 7:00 AM.

The Noise Control Ordinance (Section 12.08.400 of the County Code) also states that interior noise levels (resulting from outside point or stationary sources) within multi-family residential units shall not exceed 45 dB(A) for more than 5 minutes in any hour, or 50 dB(A) for more than 1 minute in any hour, between 7:00 AM and 10:00 PM. Between 10:00 PM and 7:00 AM, the interior noise level shall not exceed 40 dB(A) for more than 5 minutes in any hour, or 45 dB(A) for more than 1 minute in any hour. Conventional construction of buildings with the inclusion of fresh air supply systems or air conditioning will normally ensure that interior noise levels are acceptable (refer to **Table 5.3-1** for noise reduction provided by conventional construction techniques). **Table 5.3-3** also includes the County's standards for acceptable exterior noise levels near receptor properties.

13 Ambient noise level is defined as the existing background noise level at the time of measurement or prediction.

Table 5.3-3
County of Los Angeles Exterior Noise Standards for Stationary and Point Noise Sources

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level dB(A) L_{eq}[1]
I	Noise Sensitive Area[2]	Anytime	45
II	Residential Properties	10:00 PM to 7:00 AM	45
		7:00 AM to 10:00 PM	50
III	Commercial Properties	10:00 PM to 7:00 AM	55
		7:00 AM to 10:00 PM	60
IV	Industrial Properties	Anytime	70

Source: County of Los Angeles Noise Control Ordinance, County Code Section 12.08.390.

[1] *No person shall operate or cause to be operated, any source of sound at any location within the unincorporated County, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards:*
Standard No. 1 shall be the exterior noise level that may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from the above table; or, if the ambient L50 exceeds the forgoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1.
Standard No. 2 shall be the exterior noise level that may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from Standard No. 1 plus 5 dB(A); or, if the ambient L25 exceeds the forgoing level, then the ambient L25 becomes the exterior noise level for Standard No. 2.
Standard No. 3 shall be the exterior noise level that may not be exceeded for a cumulative period of more than 5 minutes in any hour. Standard No. 3 shall be the applicable noise level from Standard No. 1 plus 10 dB(A); or, if the ambient L8.3 exceeds the forgoing level, then the ambient L8.3 becomes the exterior noise level for Standard No. 3.
Standard No. 4 shall be the exterior noise level that may not be exceeded for a cumulative period of more than 1 minute in any hour. Standard No. 4 shall be the applicable noise level from Standard No. 1 plus 15 dB(A); or, if the ambient L1.7 exceeds the forgoing level, then the ambient L1.7 becomes the exterior noise level for Standard No. 4.
Standard No. 5 shall be the exterior noise level that may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from Standard No. 1 plus 20 dB(A); or, if the ambient L0 exceeds the forgoing level, then the ambient L0 becomes the exterior noise level for Standard No. 5.

[2] *Not defined in the County Noise Ordinance. To be designated by the County Health Officer.*

County of Los Angeles Noise Ordinance (For Construction Noise)

The County Noise Control Ordinance (County Code Section 12.08.440) identifies specific restrictions regarding construction noise. The operation of equipment used in construction, drilling, repair, alteration, pile driving, or demolition work is prohibited between the weekday hours of 7:00 PM to 7:00 AM and anytime on Sundays or legal holidays if such noise would create a noise disturbance across a residential or commercial real-property line.[14] The Noise Control Ordinance further states that the contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in **Table 5.3-4, County of Los Angeles Construction Equipment Noise**

[14] Noise disturbance is not defined in the Noise Control Ordinance. The County Health Officer has the authority to define and determine the extent of a noise disturbance on a case-by-case basis.

Restrictions. All mobile and stationary internal-combustion-powered equipment and machinery are also required to be equipped with suitable exhaust and air-intake silencers in proper working order.

Table 5.3-4
County of Los Angeles Construction Equipment Noise Restrictions

Residential Structures	Single-Family Residential	Multi-Family Residential	Commercial[1]
Mobile Equipment: Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:			
Daily, except Sundays and legal holidays, 7:00 AM to 8:00 PM	75 dB(A) L_{eq}	80 dB(A) L_{eq}	85 dB(A) L_{eq}
Daily, 8:00 PM to 7:00 AM and all day Sunday and legal holidays	60 dB(A) L_{eq}	64 dB(A) L_{eq}	70 dB(A) L_{eq}
Stationary Equipment: Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:			
Daily, except Sundays and legal holidays, 7:00 AM to 8:00 PM	60 dB(A) L_{eq}	65 dB(A) L_{eq}	70 dB(A) L_{eq}
Daily, 8:00 PM to 7:00 AM and all day Sunday and legal holidays	50 dB(A) L_{eq}	55 dB(A) L_{eq}	60 dB(A) L_{eq}

Source: County of Los Angeles Noise Control Ordinance, County Code Section 12.08.440.
[1] *Refers to residential structures within a commercial area. This standard does not apply to commercial structures.*

Los Angeles County Code Vibration Guidelines (Section 12.08.560)

The County Code prohibits the operation or permission of operation of any device that creates vibration above the vibration perception threshold (motion velocity of 0.01 in/sec, 0.01 PPV, over the range of 1 to 100 Hz at or beyond the property boundary on private property, or at 150 feet from the source if on a public space or public right-of-way). These guidelines apply to impacts associated with both Project construction and operation.

ENVIRONMENTAL IMPACTS

Project Improvements

Under the proposed Project, the existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, associated recreational amenities for residents, approximately 1,544 parking spaces in subterranean and aboveground parking structures as well as at-grade surface parking, and landscaping throughout the Project site. Potential sources of exterior noise associated with the proposed

Project include balconies, outdoor recreational areas, HVAC equipment, courtyards, vehicles using the on-site access driveways, parking areas, and vehicle trips generated by the Project onto surrounding roadways.

Thresholds of Significance

Based on the County's Initial Study Checklist and Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, impacts related to noise are considered significant if the Project would:

- result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels without the Project;
- substantially increase permanent ambient noise levels through the operation of special equipment (such as amplified sound systems) or parking areas associated with the Project; or
- propose the introduction of noise-sensitive uses (school, hospital, senior citizen facility) on the Project site that are subject to substantial or periodic increases in ambient noise levels above levels without the Project, or substantially increase permanent ambient noise levels?

The following significance threshold, through preparation of the Initial Study, was found not to be applicable to the proposed Project and is discussed further in **Section 7.0, Effects Found Not to be Significant**.

- Is the Project site located near a high noise source (airports, railroads, freeways, industry)?

Impact Analysis

Threshold 1: Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels without the Project?

Analysis

Construction

On-Site Construction Activities (Construction Equipment Noise)

Project construction activities would involve three phases: (1) demolition of the existing structures and site clearance; (2) site grading, including excavation and site preparation; and (3) building construction and asphalt paving. As shown in **Table 5.3-5, Construction Details**, equipment that is anticipated to be used during construction includes, but is not limited to, excavators, cranes, graders, and loaders.

Table 5.3-5
Construction Details

Construction Phase	Anticipated Duration	Anticipated Equipment
Demolition	3 months	3 concrete/industrial saw, 1 crushing/processing equipment, 2 excavators, 2 graders, 2 rubber-tired dozers, 2 rubber-tired loaders, 1 signal board, 2 skid steer loaders
Grading and Excavation	3 months	2 excavators, 2 graders, 2 rubber-tired dozers, 2 rubber-tired loaders, 1 scraper, 1 signal board, 2 skid steer loaders
Building Construction and Asphalt Paving	30 months	2 cranes, 1 paver, 2 paving equipment, 2 rollers, 1 scraper, 2 signal boards, 2 skid steer loaders, 2 trenchers

Construction of the proposed Project would result in a temporary increase in ambient noise levels in the Project area on an intermittent basis. Noise levels would fluctuate depending on the type of construction activity, equipment type, and duration of use, the distance between the noise source and receptor, and the presence or absence of noise attenuation barriers.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise-generating characteristics of specific types of construction equipment. Based on this data, **Table 5.3-6, Noise Levels of Typical Construction Equipment**, presents noise levels of typical construction equipment, which could be used on site during various phases of construction. As shown, noise levels generated by heavy equipment can reach noise levels of 100 dB(A) when measured at 50 feet. However, noise would diminish with distance from the construction site at a rate of approximately 6 dB(A) per doubling of distance.

The nearest sensitive receptors to the Project site are multi-family residences along Drusilla Way, Esquiline Avenue, and Bithynia Way to the east; multi-family residences along Ostia Way and Latium Way to the south; a senior housing complex to the north; and single-family residences to the west across Brea Canyon Cutoff Road. The multi-family residences and senior housing complex directly abut the Project site; the nearest single-family residence across Brea Canyon Cutoff Road is approximately 100 feet from the Project site boundary. These locations, as well as any other locations with an uninterrupted line of sight to the construction site, could be temporarily exposed to the elevated exterior construction noise levels identified in **Table 5.3-6**. According to the County's Noise Control Ordinance standards for construction equipment and as identified in **Table 5.3-4**, the maximum noise exposure level for long-term construction activity is 65 dB(A) L_{eq} at residential structures on all days except Sundays and legal

holidays, and 55 dB(A) L_{eq} when construction takes place on Sundays and holidays. The standard for commercial structures is 85 dB(A) L_{eq} when mobile construction equipment is operated on a non-scheduled, intermittent, and short-term basis. Based on the anticipated noise generation reflected in **Table 5.3-6**, the nearest residential uses to the north, south and west would be intermittently exposed to noise levels exceeding 65 dB(A). Therefore, construction noise would result in a short-term significant impact based on the potential to exceed County noise standards and the length of the construction period. Implementation of **Mitigation Measures 5.3-1** through **5.3-3** would reduce construction noise impacts by ensuring that construction equipment is fitted with standard factory silencing features, limiting construction activity to between the hours of 7:00 AM and 7:00 PM, and maintaining construction notification signage and noise complaint logs. Although these mitigation measures would reduce construction noise levels, impacts would remain significant and unavoidable.

Table 5.3-6
Noise Levels of Typical Construction Equipment

Equipment Type	Typical Equipment at 50 ft. (dB[A])	Quiet Equipment at 50 ft. (dB[A]) [1]
Air Compressor	81	71
Backhoe	85	80
Concrete Pump	82	80
Concrete Vibrator	76	70
Truck Crane	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic Tools	85	75
Pile Driver	100	NA
Water Pump	76	71
Power Hand Saw	78	70
Shovel	82	80
Trucks	88	83

[1] *Quieted equipment can be designed with enclosures, mufflers, or other noise-reducing features.*

Off-Site Construction Activities (Roadway Noise)

In addition to construction equipment noise, the movement of equipment and workers to the Project site during construction would generate temporary traffic noise along access routes to the Project site. Project construction will require the use of heavy trucks to haul equipment and materials to the Project site, as

well as to transport debris and earth excavated during demolition of existing structures and grading of the site. To limit noise impacts associated with construction traffic on nearby land uses, a truck haul route has been established that would direct vehicles away from sensitive uses. As shown in **Figure 5.3-4, Truck Haul Route**, the haul route extends north on Brea Canyon Cutoff Road/Fairway Drive to the Pomona Freeway, which provides access to the regional landfills where the earth material and demolition debris would be delivered. This route utilizes only major traffic corridors, provides the most direct access to the Pomona Freeway and minimizes the use of roadways adjacent to residential or other sensitive uses wherever possible. Trucks are anticipated to enter and leave the site on a daily basis over the construction period, but only during working hours. As mentioned earlier, construction would be limited to between the hours of 7:00 AM and 7:00 PM on weekdays and Saturdays, and no construction would occur on Sundays or legal holidays. It is anticipated that demolition would require the transport of between 10 and 50 truckloads per day, and excavation would require between 50 and 100 truckloads per day. The number of truck trips traveling along the designated haul route would vary daily, depending on the nature of the construction activity.

In order to further minimize conflicts along the haul route, a construction traffic control plan will be developed for use during construction. The plan will identify all traffic control measures, signs, and time limits to be implemented by the construction contractor for the duration of demolition and construction activity. Measures likely to be used to reduce noise impacts include limitations on the hours and days in which hauling may occur. All hauling vehicles would be staged either within the property lines or at designated areas as established by a County approved haul route plan. Since the proposed haul route minimizes use of roadways adjacent to sensitive receptors and would comply with the County Noise Ordinance, impacts associated with the haul route would be less than significant.

In addition, demolition would require the daily transportation of a maximum of 20 construction personnel, excavation would require transportation of 15 personnel, and construction would require transportation of 200 personnel. Each worker is expected to generate one vehicle trip to and from the Project site, resulting in noise-level increases along roadways in the Project vicinity. However, given that it takes a doubling of average daily trips on roadways to increase noise by 3 dB(A) CNEL and that the maximum number of construction workers traveling to the Project site would not cause a doubling of average daily trips in the immediate area, the noise-level increases along major arterials surrounding the Project site would be less than 3 dB(A). Since changes in a community noise level of less than 3 dB(A) are not typically noticed by the human ear,[15] traffic noise generated by construction personnel trips would be less than significant.

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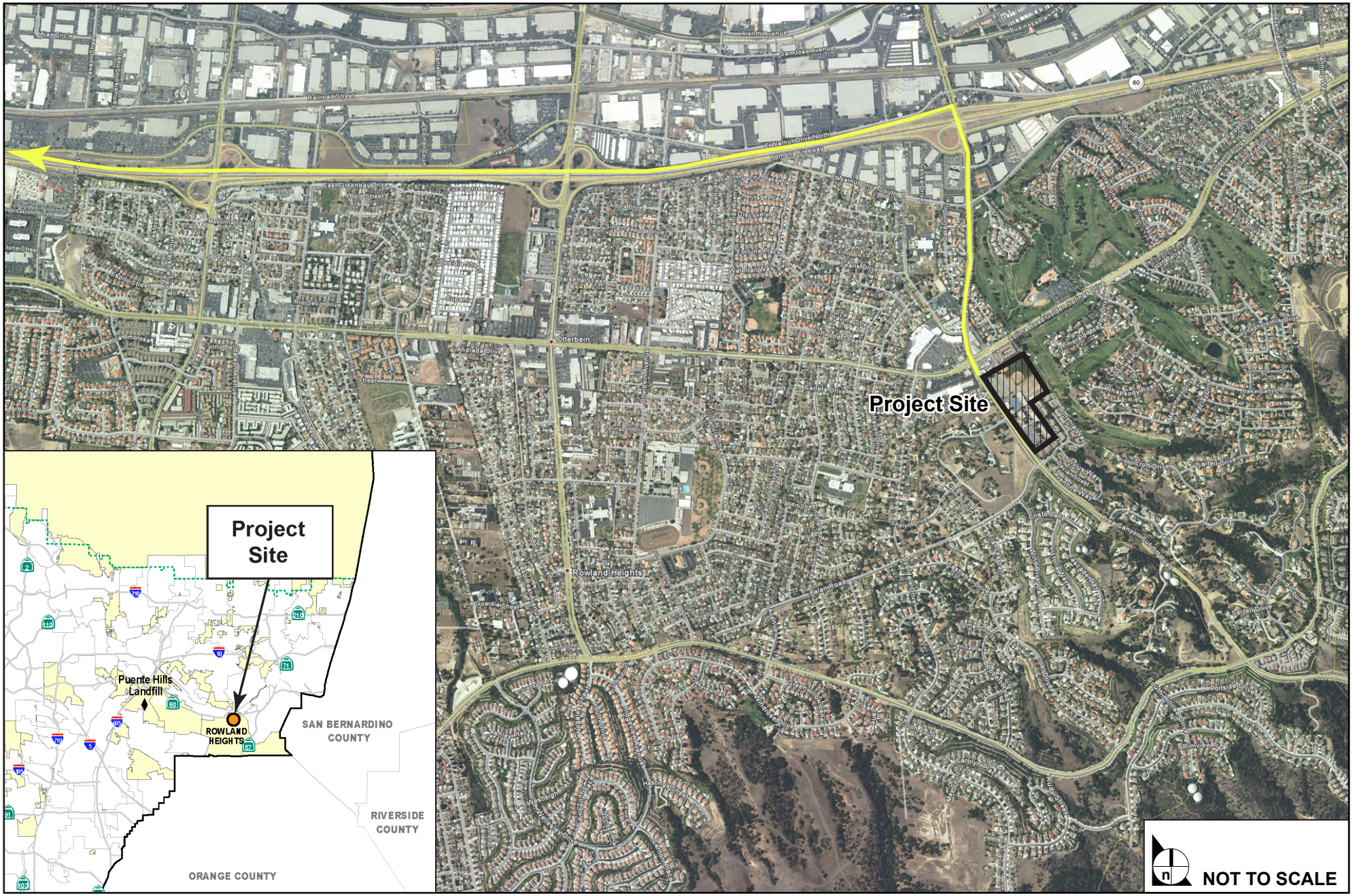
15 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (1980) 81.



SOURCE: Google Earth - 2008, Impact Sciences, Inc. – January 2009

FIGURE **5.3-4**

Truck Haul Route

Vibration

Persons residing and working in the area surrounding the Project site could be exposed to the generation of excessive groundborne vibration or groundborne noise levels related to construction activities. Typical groundborne vibrations from construction activities rarely reach the levels that can damage structures; however, they can achieve the perceptible range and can be felt in buildings very close to the Project site. **Table 5.3-7, Vibration Source Levels for Construction Equipment**, lists typical vibration source levels for selected construction equipment. The primary and most intensive vibration source associated with the development of the Project would be the use of bulldozers during construction. Bulldozers can generate vibration levels of 0.089 PPV at a distance of 25 feet from the source. As previously described, the threshold of perception for humans is approximately 0.01 PPV.

Table 5.3-7
Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 ft (in/sec)
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Office of Planning and Environment, Federal Transit Administration, Transit Noise and Vibration Impact Assessment (May 2006) FTA-VA-90-1003-06, p. 12-9.
PPV = peak particle velocity

The nearest sensitive land uses are single-family and multi-family residences as well as a senior housing complex, all of which are located either directly adjacent to or within 100 feet of the Project site boundaries. Since several sensitive land uses are adjacent to the Project site, a distance of 25 feet from the source is used to determine construction equipment vibration impacts. As indicated in **Table 5.3-7**, large bulldozers are capable of producing vibration levels of 0.089 PPV at 25 feet from the source. As a result, ground vibrations from Project construction activities are anticipated to exceed the County of Los Angeles groundborne vibration threshold of 0.01 PPV at or beyond the property boundary on private property.

It should be noted that the vibration levels generated by the types of equipment required for each phase of construction would be experienced intermittently as construction equipment generally does not operate continuously. Therefore, construction vibration levels experienced at the adjacent sensitive land uses would be below the vibration levels reflected in **Table 5.3-7** for the majority of the construction

period. However, based on the potential to exceed the County of Los Angeles groundborne vibration threshold of 0.01 PPV, Project construction activity would result in significant vibration impacts. Implementation of **Mitigation Measure 5.3-4** would reduce impacts by limiting construction resulting in vibration that exceeds this threshold to Monday through Saturday, between the hours of 9:00 AM and 5:00 PM, during which it is anticipated that fewer adjacent residences would be occupied. However, at least some adjacent sensitive uses, particularly the senior housing complex, would still be occupied during these hours and thus exposed to vibration levels in excess of the County's threshold. Given the close proximity of the Project site to adjacent sensitive uses, the reduction of vibration levels would not be feasible. For these reasons, impacts are considered significant and unavoidable.

Operation

Occupancy of the Project at buildout would generate temporary and periodic noise-level increases typically associated with residential activities. These sounds may include people conversing in outdoor spaces, doors slamming, horns honking, HVAC equipment, operation of landscaping equipment, personal stereos audible through open doors and windows, vehicles entering and exiting the Project site, and domestic animals. These noise sources are discussed in greater detail under **Threshold 2**, below. Since such temporary and periodic noise-level increases are common within residential areas and therefore not considered substantial, impacts during operation would be less than significant.

Mitigation Measures

5.3-1: All construction equipment, fixed or mobile, that is utilized on the site for more than two working days shall be in proper operating condition and fitted with standard factory silencing features. To ensure that mobile and stationary equipment is properly maintained and meets all federal, state, and local standards, the Applicant shall maintain an equipment log. The log shall document the condition of equipment relative to factory specifications and identify the measures taken to ensure that all construction equipment is in proper tune and fitted with an adequate muffling device. The log shall be made available to the Los Angeles County Department of Public Works for review and approval on a quarterly basis. In areas where construction equipment (such as generators and air compressors) is left stationary and operating for more than one day within 100 feet of residential land uses, temporary portable noise structures shall be built. These barriers shall be located between the piece of equipment and sensitive land uses.

5.3-2: All exterior construction activity, including grading, transport of material or equipment and warming up of equipment, shall be limited to between the hours of 7:00 AM and 7:00 PM, except for concrete pours, and shall not occur on Sundays or legal holidays

unless approved by the Los Angeles County Department of Public Works. The work schedule shall be posted at the construction site and modified as necessary to reflect deviations approved by the Los Angeles County Building and Safety Division.

5.3-3: The Project Applicant shall post a notice at the construction site and along the proposed truck haul route. The notice shall contain information on the type of Project and anticipated duration of construction activity, and shall provide a phone number where people can register questions and complaints. The Applicant shall keep a record of all complaints and take appropriate action to minimize noise generated by the offending activity where feasible to the satisfaction of the Los Angeles County Department of Public Health. A monthly log of noise complaints shall be maintained by the Applicant and made available to the County of Los Angeles Department of Public Health.

5.3-4: All construction activity resulting in vibration that exceeds the County of Los Angeles groundborne vibration threshold of 0.01 PPV at or beyond the property boundary of an adjacent sensitive use shall be limited to Monday through Saturday, between the hours of 9:00 AM and 5:00 PM.

Threshold 2: **Could the Project substantially increase permanent ambient noise levels through the operation of special equipment (such as amplified sound systems) or parking areas associated with the Project?**

Analysis

Stationary Noise Sources

The Project site is currently occupied by a school and church, which generate on-site noise within the outdoor play areas and surface parking lots during normal operation and special events. Development of the proposed Project would replace the church and school with residential uses, and several new noise sources would be similar to those already existing on the Project site. Point (or stationary) noise generated by the proposed Project would include intermittent sounds such as people conversing in outdoor spaces, doors slamming, horns honking, HVAC equipment, operation of landscaping equipment, personal stereos audible through open doors and windows, and domestic animals. Although several of these noise sources presently occur on the Project site, the stationary noise sources associated with the Project could increase ambient noise levels.

Most HVAC equipment would be located on the rooftops of the proposed buildings. Typically, rooftop mounted equipment sources produce noise levels of approximately 56 dB(A) at 50 feet. Although these

noise levels may be noticeable within a quiet environment, the existing urban daytime, evening, and nighttime ambient noise levels within the Project area (approximately 67.9 dB(A) CNEL due to traffic along Brea Canyon Cutoff Road)[16] would mask these on-site sources. Furthermore, all HVAC equipment must not exceed the noise standards listed in Section 12.08.530 of the County Code, which specifically limits off-site noise-level increases due to the operation of air conditioning and refrigeration equipment. Use of standard design features such as shielding, enclosures and parapets, proper selection and sizing of equipment, as well as locating rooftop equipment a suitable distance from sensitive receptors, are incorporated as Project design features and would ensure compliance with the County Code. All other stationary noise sources associated with the Project would be subject to Section 12.08.390 of the County Code, which states that no person shall operate or cause to be operated any noise source that causes the noise level on an adjacent property to exceed the standards identified in **Table 5.3-3**.

As previously noted, the Project site is currently occupied by a church and school, which generate noise on a regular basis. Since the Project is residential and would be occupied less during daytime hours, noise activity may increase during the evening hours and weekends relative to existing conditions. However, as previously discussed, the proposed buildings would be configured such that the Project components with the greatest potential for noise generation (e.g., parking areas, courtyards, and recreational centers) are located on the interior of the site and surrounded by structures that act as noise barriers. For this reason, the Project is not anticipated to substantially increase on-site noise levels. The impact due to on-site point noise generation would be a less than significant impact.

Roadway Noise

Operation of the proposed Project is expected to increase off-site ambient noise levels due to increased daily traffic volumes. Development of the Project would increase daily traffic volumes along local roadways. To evaluate potential impacts associated with increased vehicle trips, noise prediction modeling was conducted for study roadway segments in the Project area. Estimates of future traffic volumes were obtained from KHR Associates, the preparers of the traffic study for the proposed Project. The Project's impact is based on the difference between future (year 2012) traffic volumes without development of the Project and future traffic volumes with development of the Project. The results of the noise modeling are shown in the **Table 5.3-8, Future Off-Site Roadway Noise Levels**.

16 See **Table 5.3-2**.

Table 5.3-8
Future Off-Site Roadway Noise Levels

Roadway Segment	Existing and Planned Noise-Sensitive Uses	Existing	Future Without Project	Future With Project	Increase due to Project	Significant Impact?
Fairway Drive N/O SR-60 Ramps	None	69.6	69.7	69.8	0.1	No
Fairway Drive between Colima Road and SR-60 Ramps	Rear of single-family residences	68.2	68.3	68.7	0.4	No
Brea Canyon Cutoff Road between Colima Road and Reedview Drive	Single-family residences oriented along Sand Spring Drive and Reedview Drive	67.9	68.0	68.4	0.4	No
Brea Canyon Cutoff Road between Reedview Drive and Pathfinder Road	Multi-family residences oriented along Esquiline Avenue and Dacian Street Single-family residences	66.7	66.8	67.0	0.2	No
Brea Canyon Cutoff Road S/O Pathfinder Road	Single-family residences	67.5	67.8	68.0	0.2	No
Colima Road between Nogales Street and Fairway Drive	Single-family residences	69.5	69.6	69.7	0.1	No

Source: Average daily traffic volumes provided by KHR Associates. Calculations are provided in ***Appendix 5.3****. The above noise levels are modeled at 50 feet from the roadway centerline.*
All noise levels are reported in dB(A) CNEL.

The significance of mobile-source noise impacts is based on both the Land Use Compatibility Guidelines, identified in **Figure 5.3-3, Land Use Compatibility Guidelines for Noise**, and typical community responses to changes in noise levels.[17] A noise-level increase of less than 3 dB(A) is not typically noticed by the human ear. Increases from 3 to 5 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. Based on this information, significant off-site noise impacts would occur if an increase of 3 dB(A) or greater in the ambient noise level would occur due to Project-related traffic. As shown in **Table 5.3-8**, noise-level increases attributable to traffic generated by the Project would range from 0.1 to 0.4 dB(A) CNEL. Additionally, noise levels presently exceed the standards identified in the Land Use Compatibility Guidelines for roadway segments abutting residential uses and would continue to exceed these standards under both Future Without Project and Future With Project conditions. Since all roadway noise increases associated with the Project would be less than 3 dB(A) CNEL, such roadway

[17] Los Angeles County Code Section 12.08.570 exempts all vehicles of transportation (with a few exceptions) that operate in a legal manner within the public right-of-way, railway, or air space, or on private property, from the standards of the Noise Control Ordinance.

noise increases would not be perceptible, and thus no significant off-site noise impacts would occur as a result of Project operation.

Mitigation Measures

As impacts would be less than significant, no mitigation is required.

Threshold 3: **Would the Project propose the introduction of noise-sensitive uses (school, hospital, senior citizen facility) on the Project site that are subject to substantial or periodic increases in ambient noise levels above levels without the Project, or substantially increase permanent ambient noise levels?**

Analysis

The Los Angeles County Municipal Code considers all residential uses to be noise sensitive. As the proposed use is multi-family residential, it is therefore considered noise sensitive. Other sensitive residential uses are located in close proximity to the Project site. Noise impacts on surrounding sensitive uses would be less than significant during Project operation and significant and unavoidable during Project construction, as discussed above.

All residential dwelling units are required to comply with Title 24 of the Uniform Building Code for the conservation of energy associated with building design and construction. Consequently, buildings are constructed with insulated walls, glazed windows, and weather stripping on all doors and windows opening to the exterior. Double-paned windows provide a sound transmission coefficient (STC) rating reduction of approximately 21 dB(A) from roadway noise. Development of the proposed Project must comply with Title 24 building requirements, thus the residential units are expected to experience a reduction in exterior noise levels estimated between 23 dB(A) to 31 dB(A).

Assuming minimum attenuation of 23 dB(A) associated with compliance with Title 24 requirements, interior noise levels for proposed units along Brea Canyon Cutoff Road are estimated to be 45.4 dB(A) CNEL at buildout. Therefore, interior noise levels along this roadway could exceed the 45 dB(A) CNEL threshold for residential interior space established in Title 24 such that significant operational noise impacts could result. However, implementation of **Mitigation Measure 5.3-5** would reduce noise levels by an additional seven to 10 dB(A), depending on the material(s) used. Therefore, interior noise levels for the proposed residential units adjacent to Brea Canyon Cutoff Road would be less than significant with the incorporation of mitigation measures.

Mitigation Measures

5.3-5: The Applicant shall incorporate building materials and techniques that reduce sound transmission through walls, windows, doors, ceilings, and floors of on-site residences in order to achieve interior noise levels that meet or are below the state land use guidelines standards for interior noise, which is 45 dB(A). Such building materials and techniques may include double-paned windows, staggered studs, or sound-absorbing blankets incorporated into building wall design, or outdoor noise barriers erected between noise sources and noise-sensitive areas, such as berms made of sloping mounds of earth, walls and fences constructed of a variety of materials, or combinations of these materials.

CUMULATIVE IMPACTS

Cumulative noise impacts could occur as a result of additional construction activity taking place within Rowland Heights, as well as increased vehicle traffic generated by cumulative development. All construction activities would be subject to the requirements of the "County of Los Angeles Construction Equipment Noise Standards," County of Los Angeles Noise Control Ordinance (County Code Section 12.08.440) as identified earlier in **Table 5.3-4**. Compliance with the ordinance along with incorporation of mitigation recommended as part of each project's environmental review would reduce the project's contribution to any cumulative construction related noise impacts.

Cumulative noise impacts would primarily occur as a result of increased traffic on local roadways due to development of the proposed Project and related projects identified in the study area for traffic analysis (hereafter referred to as cumulative development). The potential for a cumulative noise impact is based on the difference between future (year 2012) traffic volumes without development of the Project or related projects and future traffic volumes with their development. The results of the noise modeling are shown in **Table 5.3-9**, **Cumulative Roadway Noise Levels**.

The significance of mobile-source noise impacts is based on both the Land Use Compatibility Guidelines, identified in **Figure 5.3-3, Land Use Compatibility Guidelines for Noise**, and typical community responses to changes in noise levels.[18] As previously stated, increases of less than 3 dB(A) CNEL would not be perceptible to the human ear, while increases between 3 dB(A) and 5 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. As shown in **Table 5.3-9**, noise-level increases attributable to traffic generated by cumulative development would be less than 3 dB(A) CNEL

[18] Los Angeles County Code Section 12.08.570 exempts all vehicles of transportation (with a few exceptions) that operate in a legal manner within the public right-of-way, railway, or air space, or on private property, from the standards of the Noise Control Ordinance.

for all roadway segments. Additionally, noise levels due to cumulative traffic increases would continue to exceed the standards identified in the Land Use Compatibility Guidelines. Since all cumulative roadway noise increases would be less than 3 dB(A) CNEL, such roadway noise increases would not be perceptible and thus cumulative noise impacts would be less than significant.

Table 5.3-9
Cumulative Roadway Noise Levels

Roadway Segment	Existing	Future Without Cumulative Development	Future With Cumulative Development	Increase due to Cumulative Development	Significant Impact?
Fairway Drive N/O SR-60 Ramps	69.6	69.7	69.9	0.2	No
Fairway Drive between Colima Road and SR-60 Ramps	68.2	68.3	68.7	0.4	No
Brea Canyon Cutoff Road between Colima Road and Reedview Drive	67.9	68.0	68.4	0.4	No
Brea Canyon Cutoff Road between Reedview Drive and Pathfinder Road	66.7	66.8	67.0	0.2	No
Brea Canyon Cutoff Road S/O Pathfinder Road	67.5	67.8	68.0	0.2	No
Colima Road between Nogales Street and Fairway Drive	69.5	69.6	69.9	0.3	No

*Source: Average daily traffic volumes provided by KHR Associates. Calculations are provided in **Appendix 5.3**. The above noise levels are modeled at 50 feet from the roadway centerline.*
Cumulative development includes development of the proposed project and related projects identified within the study area.
All noise levels are reported in dB(A) CNEL.

UNAVOIDABLE SIGNIFICANT IMPACTS

The proposed Project would not result in a significant noise impact during operation nor would it contribute to a significant cumulative noise impact. However, it would result in short-term noise and vibration impacts during construction. While mitigation measures have been provided to reduce these impacts, these impacts would remain significant and unavoidable. Construction impacts are expected to be periodic in nature, and confined to normal working hours.

5.4 AIR QUALITY

SUMMARY

This section describes the ambient air quality of the local and regional area and provides a comparison of existing air quality to applicable federal, state, and local air pollutant standards. In addition, sources of air emissions in the vicinity of the Project site are identified and discussed. This section also identifies the plans and policies developed to improve air quality. Finally, this section evaluates potential air quality impacts associated with the Project and identifies mitigation measures to reduce potentially significant impacts. Sources utilized in this discussion include the South Coast Air Quality Management District *California Environmental Quality Act (CEQA) Air Quality Handbook* and air quality data from the South Coast Air Quality Management District. Emission calculations and air quality modeling conducted for the Project are contained within **Appendix 5.4** of this Draft Environmental Impact Report (EIR).

Construction of the proposed Project would result in of nitrogen oxide emissions (NO_X) and respirable particulate matter (PM_{10}) that exceed the established significance thresholds. Operation of the proposed Project also would result in volatile organic compounds (VOCs) that exceed the established significance thresholds. The required mitigation measures would reduce emissions and associated impact, but these impacts would remain significant and unavoidable impacts.

INTRODUCTION

This section addresses the projected air emissions generated from construction and operation of the Project. The analysis also addresses the Project's consistency with air quality policies in the South Coast Air Quality Management District's Air Quality Management Plan (AQMP) and other policies and plans developed to improve air quality. The analysis of the Project's air emissions from construction and operation focuses on whether the proposed Project would result in an exceedance of an ambient air quality standard or South Coast Air Quality Management District significance threshold. Emission calculations and air quality dispersion modeling conducted for the Project are contained within **Appendix 5.4** of this Draft EIR.

METHODOLOGY

The methodology used to evaluate the air quality impacts associated with construction and operation of the proposed Project is based on the South Coast Air Quality Management District's *CEQA Air Quality Handbook,*[1] *Final Localized Significance Threshold Methodology,*[2] the URBEMIS2007 Environmental Management Software,[3] and information provided in the *Software User's Guide [for] URBEMIS2007 for Windows*.[4] The emissions are also estimated based on construction phasing schedules and estimated equipment activity levels provided by the Applicant. Some elements of this analysis are based on data provided in other sections of this EIR; for example, trip generation rates and a carbon monoxide (CO) hotspots analysis are based on the traffic impact analysis prepared for this Project.

Construction and operation of the proposed Project would generate air emissions from a variety of area and mobile sources. Area source emissions are generated by fugitive dust generating activities, on-site equipment, and the combustion of natural gas once the proposed uses are occupied. Mobile source emissions are generated by heavy-duty trucks and passenger vehicles associated with construction activities and occupancy of the proposed Project.

REGULATORY SETTING

Federal

The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the federal Clean Air Act (CAA) and the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for seven criteria pollutants: ozone (O_3), CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. The threshold levels are considered to be the maximum concentration of ambient (background) air pollutants determined safe, within an adequate margin of safety, to protect the public health and welfare. The federal ambient air quality standards are listed in **Table 5.4-1**. As indicated, the averaging times for the various pollutants range from 1 hour to annual. The standards are reported as a concentration, in parts per million (ppm) by volume, or as a weighted mass of material per a volume of air, in micrograms of pollutant per cubic meter of air ($\mu g/m^3$).

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1 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993).

2 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

3 Rimpo and Associates, "URBEMIS2007 for Windows," http://www.urbemis.com. 2008.

4 Ibid.

The 1990 CAA Amendments were enacted in order to better protect the public's health and create more efficient methods of lowering pollutant emissions. The major areas of improvement from the amendments include new methods for regulating air basin designations, automobile/heavy duty engine emissions, and hazardous air pollutants (HAPs). The U.S. EPA designates air basins as being in attainment or nonattainment for each of the seven criteria pollutants. Nonattainment air basins are ranked (marginal, moderate, serious, severe, or extreme) according to the degree of the threshold violation. The air basin is then required to submit a State Implementation Plan (SIP) that describes how the state will achieve the federal standards by specified dates. The stringency of emission control measures in a given SIP depends on the severity of the air quality within specific air basin. The status of the South Coast Air Basin (the Basin in which the Project is located) with respect to NAAQS attainment is summarized in **Table 5.4-1**, **National Ambient Air Quality Standards and Status – South Coast Air Basin (Los Angeles County)**.

Table 5.4-1
National Ambient Air Quality Standards and Status
South Coast Air Basin (Los Angeles County)

Pollutant	Averaging Time	Designation/Classification
Ozone (O_3)	8 Hour	Nonattainment/Severe 17
Carbon Monoxide (CO)	1 Hour, 8 Hour	Attainment
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	Attainment/Unclassifiable
Sulfur Dioxide (SO_2)	24 Hour, Annual Arithmetic Mean	Attainment
Respirable Particulate Matter (PM_{10})	24 Hour	Nonattainment/Serious
Fine Particulate Matter ($PM_{2.5}$)	24 Hour, Annual Arithmetic Mean	Nonattainment
Lead (Pb)[1]	Calendar Quarter	Attainment

Source: U.S. Environmental Protection Agency, "Region 9: Air Programs, Air Quality Maps," http://www.epa.gov/region9/air/maps/maps_top.html. 2008.

[1] *The U.S. Environmental Protection Agency issued a final rule on October 15, 2008 reducing the lead standard from 1.5 µg/m3 averaged over a calendar quarter to 0.15 µg/m³ averaged over a rolling 3-month period. Based on 2005–2007 monitoring data, California has not exceeded this new standard anywhere. The U.S. EPA will make final designations no later than October 2010. The designation listed in this table is based on the previous standard.*

In response to the rapid population growth and its subsequent rise in automobile operations, the 1990 CAA Amendments address tailpipe emissions from automobiles, heavy-duty engines, and diesel fuel engines. The 1990 Amendments established more stringent standards for hydrocarbons, NO_X, and CO emissions in order to reduce ozone and carbon monoxide levels in heavily populated areas. Fuels became more strictly regulated by requiring new fuels to be less volatile, contain less sulfur (regarding diesel fuels), and have higher levels of oxygenates (oxygen-containing substances to improve fuel

combustion). The U.S. EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking.

Due to the lack of toxic emissions reduction by the 1977 CAA, the 1990 CAA Amendments listed 189 HAPs that are carcinogenic, mutagenic, and/or reproductive toxins to be reduced. Title III of the 1990 federal CAA Amendments amended Section 112 of the CAA to replace the former program with an entirely new technology-based program. This program involves identifying all major sources (greater than 10 tons/year of a single HAP or 25 tons/year of combined HAPs) and area sources (i.e., non-major sources) in order to implement Maximum Achievable Control Technology (MACT) that will reduce health impacts.

State

The California Air Resources Board (CARB), a branch of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the California Clean Air Act (CCAA), responding to the federal CAA requirements and for regulating emissions from motor vehicles and consumer products within California. CARB has established emission standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

Enacted in 1988, the CCAA established a legal mandate for air basins to achieve the California ambient air quality standards by the earliest practical date. These standards apply to the same seven criteria pollutants as the federal CAA and also include sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. The state standards are more stringent than the federal standards and, in the case of PM_{10} and SO_2, far more stringent.

CARB supervises and supports the regulatory activities of local air quality districts as well as monitors air quality itself. Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as attainment, nonattainment, or unclassified for the state standards. In addition, Health and Safety Code Section 39608 requires CARB to use the designation criteria to designate areas of California and to annually review those area designations. CARB makes area designations for 10 criteria pollutants: O_3,

CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, sulfates, lead, hydrogen sulfide, and visibility-reducing particles.[5] CARB will designate an area as nonattainment for a pollutant if monitoring data shows that a violation of the California Ambient Air Quality Standard (CAAQS) for a particular pollutant occurred at least once during the previous three years. The status of the basin with respect to attainment with the CAAQS is summarized in **Table 5.4-2, California Ambient Air Quality Standards and Status – South Coast Air Basin (Los Angeles County),** below.

Table 5.4-2
California Ambient Air Quality Standards and Status
South Coast Air Basin (Los Angeles County)

Pollutant	Averaging Time	Designation/Classification
Ozone (O_3)	1 Hour, 8 Hour	Nonattainment[1]
Carbon Monoxide (CO)	1 Hour, 8 Hour	Attainment
Nitrogen Dioxide (NO_2)	1 Hour	Attainment
Sulfur Dioxide (SO_2)	1 Hour, 24 Hour	Attainment
Respirable Particulate Matter (PM_{10})	24 Hour, Annual Arithmetic Mean	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	Nonattainment
Lead (Pb)[2]	30 Day Average	Attainment
Sulfates (SO_4)	24 Hour	Attainment
Hydrogen Sulfide (H_2S)	1 Hour	Unclassified
Vinyl Chloride[2]	24 Hour	Unclassified
Visibility-Reducing Particles	8 Hour (10:00 AM–6:00 PM)	Unclassified

Source: California Air Resources Board, "Area Designations Maps/State and National," http://www.arb.ca.gov/desig/adm/adm.htm. 2007.
[1] CARB has not issued area classifications based on the new state 8-hour standard. The previous classification for the 1-hour ozone standard was Extreme.
[2] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined.

In general, the state standards are more stringent than the federal standards. Therefore, the classifications in **Table 5.4-4** represent the worst-case designations for any established ambient air quality standards.

5 California Air Resources Board, "Area Designations (Activities and Maps)," http://www.arb.ca.gov/desig/desig.htm. 2007. According to California Health and Safety Code, Section 39608, "state board, in consultation with the districts, shall identify, pursuant to subdivision (e) of Section 39607, and classify each air basin which is in attainment and each air basin which is in nonattainment for any state ambient air quality standard." Section 39607(e) states that the state shall "establish and periodically review criteria for designating an air basin attainment or nonattainment for any state ambient air quality standard set forth in Section 70200 of Title 17 of the California Code of Regulations. California Code of Regulations, Title 17, Section 70200 does not include vinyl chloride; therefore, CARB does not make area designations for vinyl chloride.

Local

South Coast Air Quality Management District

The South Coast Air Quality Management District has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county region of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, which make up the South Coast Air Basin (SoCAB), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The SoCAB is shown in **Figure 5.4-1, South Coast Air Basin**.

An air basin is a land area with similar meteorological and geographic conditions throughout. To the extent possible, air basins include both the air pollutant source and immediate downwind receptor areas. For example, air quality in the non-desert portions of Riverside and San Bernardino Counties are directly influenced by pollution generated in the more populous Los Angeles and Orange Counties; therefore those areas are included as part of the SoCAB. The management of air quality in the SoCAB is the responsibility of the South Coast Air Quality Management District. This responsibility was given to South Coast Air Quality Management District by the California Legislature's adoption of the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Lewis-Presley Air Quality Act, the South Coast Air Quality Management District is responsible for bringing air quality in the areas under its jurisdiction into conformity with federal and state air quality standards. Specifically, the South Coast Air Quality Management District is responsible for monitoring ambient air pollutant levels throughout the SoCAB and for developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards.

The South Coast Air Quality Management District primarily regulates emissions from stationary sources such as manufacturing and power generation. Mobile sources such as buses, automotive vehicles, trains, and airplanes are largely out of the South Coast Air Quality Management District's jurisdiction and are up to CARB and the U.S. EPA to regulate. In order to achieve air quality standards, the South Coast Air Quality Management District adopts an AQMP that serves as a guideline to bring pollutant concentrations into attainment with federal and state standards. The District determines if certain rules and control measures are appropriate for their specific region according to technical feasibility, cost effectiveness, and the severity of nonattainment. Once the District has adopted the proper rules, control measures, and permit programs, it is responsible to implement and enforce compliance with those rules, control measures, and programs.

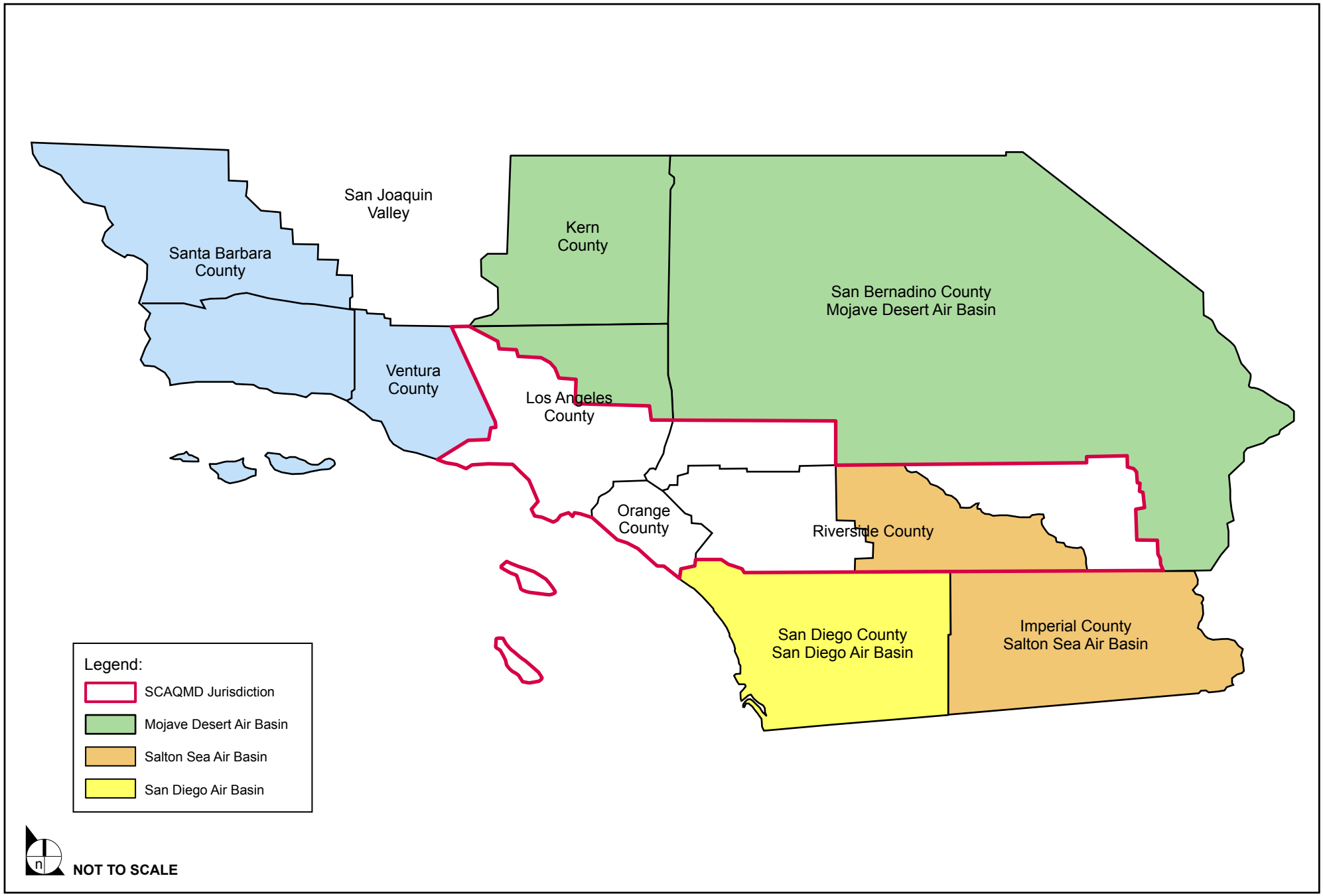

FIGURE **5.4-1**

South Coast Air Basin

South Coast Air Quality Management District CEQA Air Quality Handbook

In 1993, the South Coast Air Quality Management District prepared its *CEQA Air Quality Handbook* to assist local government agencies and consultants in preparing environmental documents for projects subject to CEQA. There has been one full update to the document in November 1993, and it is currently undergoing an update process. There is no scheduled completion date. The document describes the criteria that South Coast Air Quality Management District uses when reviewing and commenting on the adequacy of environmental documents. The handbook recommends thresholds of significance in order to determine if a project will have a significant adverse environmental impact under CEQA. Other important contents are methodologies for predicting project emissions and mitigation measures that can be taken to avoid or reduce air quality impacts. Although the Governing Board of the South Coast Air Quality Management District has adopted the *CEQA Air Quality Handbook*, it does not, nor does it intend to, supersede a local jurisdiction's CEQA procedures.

The *CEQA Air Quality Handbook* is currently undergoing revision. However, the air quality significance thresholds have been revised, and a new procedure referred to as "localized significance thresholds," has been added and publicly released. The *CEQA Air Quality Handbook* and these revised methodologies were used in preparing the air quality analysis in this Draft EIR section.

South Coast Air Quality Management District Air Quality Management Plan

The South Coast Air Quality Management District is required to produce plans describing how air quality will be improved. The CCAA requires that these plans be updated triennially in order to incorporate the most recent available technical information. In addition, the U.S. EPA requires that transportation conformity budgets be established based on the most recent planning assumptions (i.e., within the last five years). Plan updates are necessary to ensure continued progress toward attainment and to avoid a transportation conformity lapse and associated federal funding losses. A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implement the programs contained in these plans. Agencies involved include the U.S. EPA, CARB, local governments, the Southern California Association of Governments (SCAG), and the South Coast Air Quality Management District.

The South Coast Air Quality Management District is the agency responsible for preparing the AQMP for the region under its jurisdiction. Since 1979, a number of AQMPs have been prepared by the South Coast Air Quality Management District. The South Coast Air Quality Management District adopted the Final 2007 Air Quality Management Plan (2007 AQMP) on June 1, 2007. CARB approved the 2007 AQMP as the comprehensive State Implementation Plan component for the region on September 27, 2007. Because the

2007 AQMP has been approved by the South Coast Air Quality Management District and CARB, it is an "applicable regional plan" in terms of CEQA requirements for assessing plan consistency. Federal approval is only relevant as to the federal CAA components of the 2007 AQMP. Like previous AQMPs, the 2007 AQMP includes elements that are beyond the scope of the federal requirements.

The purpose of the 2007 AQMP for the SoCAB (and those portions of the Salton Sea Air Basin under the South Coast Air Quality Management District's jurisdiction) is to set forth a comprehensive program that will lead these areas into compliance with federal and state air quality planning requirements for ozone and $PM_{2.5}$. In addition, as part of the 2007 AQMP, the South Coast Air Quality Management District is requesting U.S. EPA's approval of a "bump-up" to the "extreme" nonattainment classification for the SoCAB, which would extend the attainment date to 2024 and allow for the attainment demonstration to rely on emission reductions from measures that anticipate the development of new technologies or improvement of existing control technologies. Although $PM_{2.5}$ plans for nonattainment areas were due after the 2007 AQMP, it also focuses on attainment strategies for the $PM_{2.5}$ standard through stricter control of sulfur oxides, directly emitted $PM_{2.5}$, NO_X, and VOCs. The need to commence $PM_{2.5}$ control strategies before the April 2008 deadline was due to the attainment date for $PM_{2.5}$ (2015) being much earlier than that for ozone (2021 for the current designation of severe-17 or 2024 for the extreme designation). Control measures and strategies for $PM_{2.5}$ will also help control ozone generation in the region because $PM_{2.5}$ and ozone share similar precursors (e.g., NO_X). The District has integrated $PM_{2.5}$ and ozone reduction control measures and strategies in the 2007 AQMP. In addition, the AQMP focuses on reducing VOC emissions, which have not been reduced at the same rate as NO_X emissions in the past. Hence, the SoCAB has not achieved the reductions in ozone as were expected in previous plans. The AQMP was based on assumptions provided by both CARB and SCAG in the new on-road motor vehicle emissions model, called EMFAC2007, and the most recent demographics information, respectively.

South Coast Air Quality Management District Rules and Regulations

The South Coast Air Quality Management District is responsible for limiting the amount of emissions that can be generated throughout the region under its jurisdiction by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the South Coast Air Quality Management District Governing Board, which limit the emissions that can be generated by various uses/activities and that identify specific pollution reduction measures which must be implemented in association with various uses and activities. These rules not only regulate the emissions of the federal and state criteria pollutants but also toxic air contaminants (TACs) and acutely hazardous materials. The rules are also subject to ongoing refinement by the South Coast Air Quality Management District.

Among the South Coast Air Quality Management District rules applicable to the Project are Rule 403 (Fugitive Dust), Rule 1113 (Architectural Coatings), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). Rule 403 requires the use of stringent best available control measures to minimize PM_{10} emissions during grading and construction activities. Rule 1113 will require reductions in the VOC content of coatings, with a substantial reduction in the VOC content limit for flat coatings in July 2008. Compliance with South Coast Air Quality Management District Rule 1403 requires the owner or operator of any demolition or renovation activity to have an asbestos survey performed prior to demolition and provide notification to the South Coast Air Quality Management District prior to commencing demolition activities. Additional details regarding these rules and other potentially applicable rules are presented below.

- *Rule 403 (Fugitive Dust).* This rule requires fugitive dust sources to implement Best Available Control Measures for all sources and all forms of visible particulate matter are prohibited from crossing any property line. South Coast Air Quality Management District Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust (see also Rule 1186).

- *Rule 1113 (Architectural Coatings)*. This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- *Rule 1121 (Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters)*. This rule prescribes NO_X emission limits for natural gas-fired water heaters with heat input rates less than 75,000 Btu per hour. It applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters. In lieu of meeting these NO_X limits, this rule allows emission mitigation fees to be collected from water heater manufacturers to fund stationary and mobile source emission reduction projects targeted at offsetting NO_X emissions from water heaters that do not meet Rule 1121 emission standards.

- *Rule 1146.2 (Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters)*. This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_X emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

- *Rule 1186 (PM_{10} Emissions from Paved and Unpaved Roads, and Livestock Operations).* This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM_{10} emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).

Stationary emissions sources subject to these rules are regulated through the South Coast Air Quality Management District's permitting process. Through this permitting process, the South Coast Air Quality Management District also monitors the amount of stationary emissions being generated and uses this

information in developing AQMPs. The Project would be subject to South Coast Air Quality Management District rules and regulations to reduce specific emissions and to mitigate potential air quality impacts.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments for the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the economy, community development and the environment. SCAG also serves as the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts and consistency with SCAG's regional planning efforts.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the Southern California region, it is responsible, pursuant to Section 176(c) of the 1990 amendments to the CAA, for providing current population, employment, travel and congestion projections for regional air quality planning efforts.

Local Governments

Local governments have the authority and responsibility to reduce air pollution through their police power and land use decision making. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the AQMP.[6] The AQMP assigns local governments certain responsibilities to assist the basin in meeting air quality goals and policies. In general, a first step toward implementation of a local government's responsibility is accomplished by identifying air quality goals, policies and implementation measures in its general plan, such as the Air Quality section in the County of Los Angeles General Plan. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality, by requiring such improvements as bus turnouts, energy-efficient streetlights and synchronized traffic signals.[7] In accordance with the CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.[8]

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6 South Coast Air Quality Management District. *CEQA Air Quality Handbook*, (1993) 2-2.

7 Ibid.

8 Ibid.

EXISTING CONDITIONS

Regional Conditions

Regional Climate

Air quality is affected by both the rate and location of pollutant emissions. It is also heavily influenced by meteorological conditions that affect the movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, solar radiation, and air temperature gradients, along with local topography, strongly affect the relationship between pollutant emissions and air quality. Generally, the combination of low wind speeds and low inversions produce the greatest concentration of air pollutants. Air quality is greatly improved on days without inversions or on days with winds averaging over 15 miles per hour (mph).[9]

The proposed Project is located within the SoCAB, which is influenced by the Pacific Ocean and is frequently subjected to an inversion layer caused by a semi-permanent, high-pressure cell over the northern Pacific Ocean that traps air pollution. Results of these influences include warm summers, mild winters, infrequent rainfall, and moderate humidity throughout most of the SoCAB. These meteorological conditions, in combination with regional topography, are also conducive to the formation and retention of ozone (O_3) and urban smog.

Although SoCAB's climate can be characterized as semi arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of basin climate. Humidity restricts visibility in the SoCAB. Further, the conversion of SO_2 to sulfates is heightened in air with high relative humidity and the marine layer is an excellent environment for that conversion process, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature of the SoCAB. These effects decrease with distance from the coast.

Regional Air Quality

Air pollutants within the SoCAB are primarily generated by two categories of sources: stationary and mobile. Stationary sources are known as point sources, which have one or more distinct emission sources at a single facility, or area sources, which have widely distributed and diffuse emissions over a two-dimensional surface. Point sources are usually associated with manufacturing and industrial uses

9 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) A8-1.

and include sources such as large boilers or combustion equipment that produces electricity or process heat. Examples of area sources include residential water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products, such as barbecue lighter fluid or hair spray. Mobile sources refer to operational and evaporative emissions from motor vehicles. Mobile sources account for over 95 percent of the CO emissions, approximately 58 percent of the oxides of sulfur (SO_X) emissions, over 90 percent of the NO_X emissions, and over 60 percent of the VOC emissions within the SoCAB.[10]

The determination of whether a region's air quality is healthful or unhealthful is evaluated by comparing contaminant levels in ambient air samples to national and state standards. Health-based air quality standards have been established by California and the federal government for the following seven criteria air pollutants: (1) O_3, (2) CO, (3) NO_2, (4) SO_2, (5) respirable particulate matter (PM_{10}), (6) fine particulate matter ($PM_{2.5}$), and (7) lead. These standards were established to protect sensitive receptors from adverse health impacts due to exposure to air pollution with a margin of safety. California standards are more stringent than the federal standards and in the case of PM_{10} and SO_2, much more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide and vinyl chloride, none of which have corresponding federal standards. Generally, the sources for hydrogen sulfide emissions include decomposition of human and animal wastes and industrial activities, such as food processing, coke ovens, kraft paper mills, tanneries, and petroleum refineries, and the sources for vinyl chloride emissions include manufacturing of plastic products, hazardous waste sites, and landfills. No such uses are proposed or associated with the Project. As a result, there is no need for any further evaluation of the hydrogen sulfide or vinyl chloride emissions associated with this Project.

In addition, according to the South Coast Air Quality Management District *2007 Final Air Quality Management Plan*,[11] the lead, sulfate and visibility reducing particle standards have not been exceeded anywhere in the SoCAB. Because of its size and expected types of air pollution sources and that lead and sulfur have largely been removed from transportation and residential fuels, the Project is not expected to have any direct impact on those pollutants. Accordingly, this air quality analysis will focus primarily on the criteria air pollutants identified below.

Each of the criteria air pollutants, inclusive of volatile organic compounds that are relevant to this Project and that are of concern in the SoCAB, is briefly described below.

- *Ozone (O_3)*. Ozone is a gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust and other sources undergo slow photochemical reactions in the presence

10 California Air Resources Board, "2006 Estimated Annual Average Emissions – South Coast Air Basin," http://www.arb.ca.gov/ei/maps/basins/abscmap.htm. 2007.

11 South Coast Air Quality Management District, *2007 Final Air Quality Management Plan*, (2007).

of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

- *Nitrogen Dioxide (NO_2).* A reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO). NO_2 is also a byproduct of fuel combustion. The principle form of NO_X produced by combustion is NO, but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_X is only potentially irritating. NO_2 absorbs blue light, the result of which is a brownish-red cast to the atmosphere and reduced visibility.

- *Volatile Organic Compounds (VOCs)*. VOCs are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by VOCs, but rather by reactions of VOCs to form secondary air pollutants, including ozone. VOCs are also referred to as reactive organic compounds (ROCs) or reactive organic gases (ROGs). VOCs themselves are not criteria pollutants; however, they contribute to the formation of O_3.

- *Respirable Particulate Matter (PM_{10}).* PM_{10} consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM_{10}, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM_{10} is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

- *Fine Particulate Matter ($PM_{2.5}$)*. $PM_{2.5}$ refers to particulate matter that is 2.5 microns or smaller in size. The sources of $PM_{2.5}$ include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_X, and VOCs are transformed in the air by chemical reactions.

- *Carbon Monoxide (CO).* CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, 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, and 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.

- *Sulfur dioxide (SO_2).* SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO_4).

Air quality of a region is considered to be in attainment of the state standards if the measured ambient air pollutant levels for O_3, CO, NO_2, PM_{10}, $PM_{2.5}$, SO_2 (1- and 24-hour), and lead are not exceeded, and all other standards are not equaled or exceeded at any time in any consecutive three-year period. The NAAQS (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to

be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant.

The SoCAB is currently designated as nonattainment for O_3, PM_{10}, and $PM_{2.5}$. These violations are largely due to automotive vehicle emissions in the region. Once designated as nonattainment, the federal CAA and the CCAA require the particular air basin to develop a plan that will reach attainment status. This usually involves the local air quality district (e.g., the South Coast Air Quality Management District), along with CARB and the U.S. EPA, in adopting emission control measures to cumulatively reduce a particular pollutant emission. Those criteria pollutants currently in attainment within the SoCAB are expected to continue to decrease as control measures and strategies are developed to improve overall air quality.

The state and national ambient air quality standards for each of the criteria pollutants and their effects on health are summarized in **Table 5.4-3**, **Ambient Air Quality Standards**. **Table 5.4-3** also sets forth the state ambient air quality standards and health effects applicable to sulfates, visibility reducing particles, hydrogen sulfide and vinyl chloride, even though such pollutants are not applicable to the proposed uses on the Project site.

Table 5.4-3
Ambient Air Quality Standards

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard	Federal Primary Standard	
Ozone[1]	0.070 ppm, 8-hr avg. 0.09 ppm, 1-hr. avg.	0.075 ppm, 8-hr avg. (3-year average of annual 4th-highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard	Federal Primary Standard	
Nitrogen Dioxide	0.18 ppm, 1-hr avg. 0.030 ppm, annual arithmetic mean	0.053 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Respirable Particulate Matter (PM_{10})	20 μg/m^3, annual arithmetic mean 50 μg/m^3, 24-hr avg.	150 μg/m^3, 24-hr avg.	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Fine Particulate Matter ($PM_{2.5}$)	12 μg/m^3, annual arithmetic mean	15 μg/m^3, annual arithmetic mean (3-year average) 35 μg/m^3, 24-hr avg. (3-year average of 98th percentile)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Carbon Monoxide	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.	9 ppm, 8-hr avg. 35 ppm, 1-hr avg.	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Sulfur Dioxide	0.04 ppm, 24-hr avg. 0.25 ppm, 1-hr. avg.	0.030 ppm, annual arithmetic mean 0.14 ppm, 24-hr avg.	Bronchioconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in person with asthma
Lead[2,3]	1.5 μg/m^3, 30-day avg.	0.15 μg/m^3, 3-month rolling average	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	Reduction of visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	None	Visibility impairment on days when relative humidity is less than 70 percent

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard	Federal Primary Standard	
Sulfates	25 μg/m³, 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None	Odor annoyance
Vinyl Chloride[2]	0.01 ppm, 24-hr avg.	None	Known carcinogen

μg/m³ = microgram per cubic meter.
ppm = parts per million by volume.
Source: South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2007 Air Quality Management Plan, (2007) Table 3.1-1, p. 3.1-3.

[1] *On March 12, 2008, the U.S. EPA revised the federal ozone standard from 0.08 ppm to 0.075 ppm. The standard became effective on May 27, 2008.*

[2] *CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

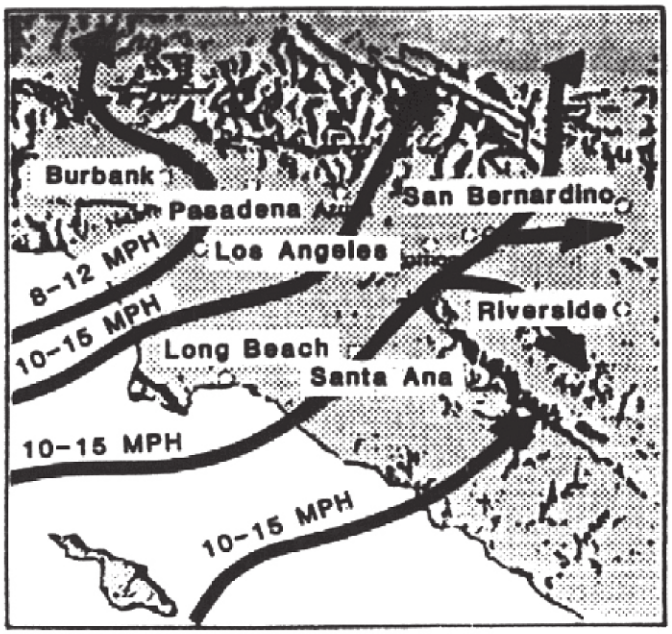
[3] *On October 15, 2008, the U.S. EPA revised the federal lead standard from 1.5 μg/m³ to 0.15 μg/m³ based on a 3-month rolling average.*

Local Conditions

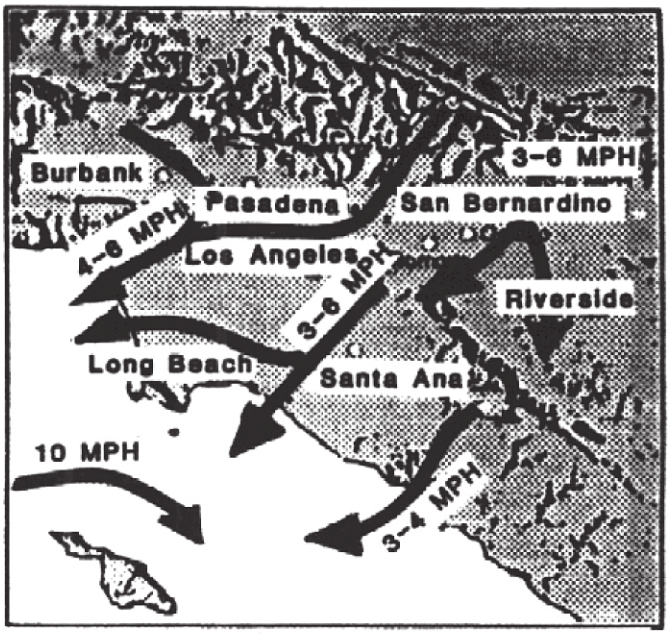
Local Climate

The proposed Project is located on an approximately 15.7-acre site at 1920 Brea Canyon Cutoff Road in the unincorporated Los Angeles County community of Rowland Heights, approximately 0.75 mile south of the Pomona Freeway (State Route [SR] 60).

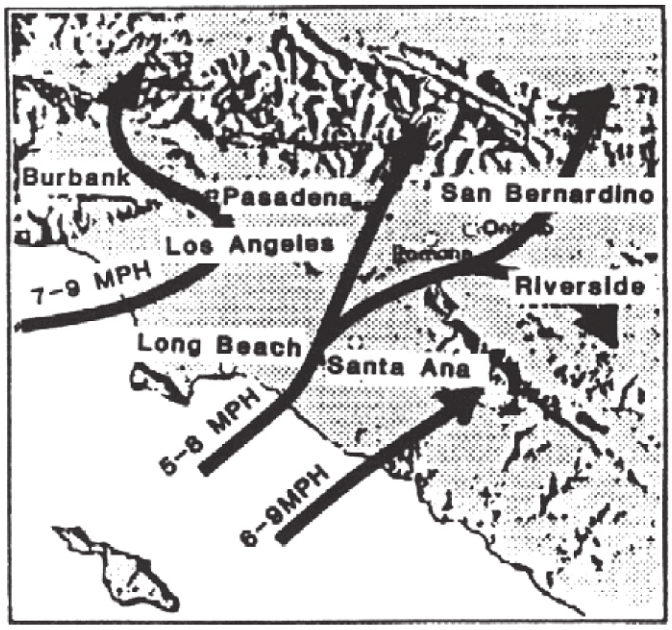
Predominant meteorological conditions in the region are primarily light winds and shallow vertical mixing due to low-altitude temperature inversion. Long-term diurnal wind patterns in the general vicinity of the Project site are dominated by higher-velocity on-shore daytime winds of 4 to 12 miles per hour (mph) from the southwest. Diurnal winds from the southwest are created by pressure differences between the relatively cold ocean and the unevenly heated land. Nocturnal winds exhibit more directional variability and result commonly in low-velocity on-shore flow at speeds of 2 to 5 mph from the west and southwest and less commonly in 2 to 20 mph winds from the northwest and east. Nocturnal winds are created when air along the mountain slopes cools and descends into the lower elevations of the SoCAB towards the ocean. These diurnal and nocturnal wind patterns play an important role in dispersing air pollutants and moderating the temperatures throughout the SoCAB and the Project vicinity. **Figure 5.4-2, Dominant Wind Patterns in the Basin**, illustrates the typical observed wind direction and average speed in the SoCAB for daytime and nighttime wind conditions during the annual seasons.



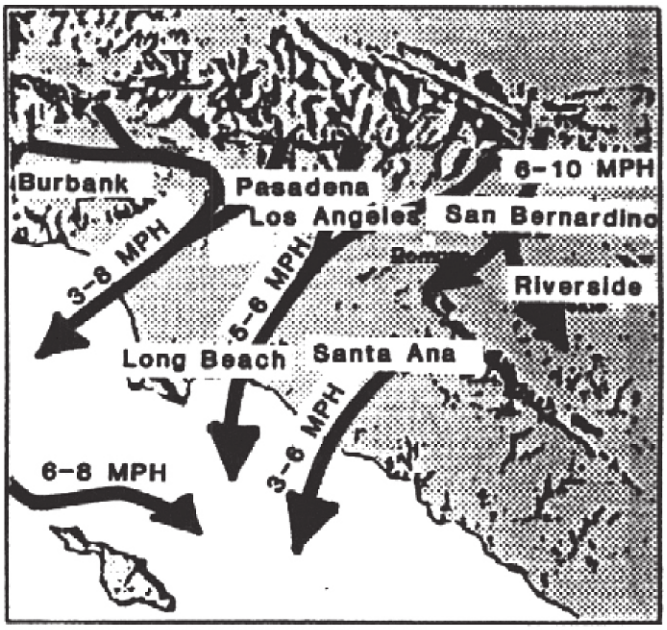
Typical Summer Daytime Ocean Winds
(noon to 7:00 pm)



Typical Summer Night Drainage Winds
(midnight to 5:00 am)



Typical Winter Daytime Ocean Winds
(noon to 7:00 pm)



Typical Winter Night Drainage Winds
(midnight to 5:00 am)

NOT TO SCALE

SOURCE: South Coast Air Quality Management District, CEQA Air Quality Handbook

FIGURE **5.4-2**

Dominant Wind Patterns in the Basin

Local Air Quality

To monitor the concentrations of the pollutants, the South Coast Air Quality Management District has divided the SoCAB into Source Receptor Areas (SRAs) for the purposes of operating ambient air quality monitoring stations. The Project site is located in the Pomona/Walnut Valley SRA (SRA 10). The monitoring station for this area is located approximately 8.7 miles northeast of the Project site at 924 North Garey Avenue, Pomona, California (Station No. 075). This station presently monitors pollutant concentrations of O_3, CO, and NO_2. The nearest station that monitors pollutant concentrations of PM_{10}, and $PM_{2.5}$ is located in the East San Gabriel Valley SRA (SRA 9) at 803 North Loren Avenue, Azusa, California (Station No. 060), approximately 11 miles to the north of the Project site. The nearest station that monitors pollutant concentrations of SO_2 is located in the Central Los Angeles SRA (SRA 1) at 1630 North Main Street, Los Angeles, California (Station No. 087), approximately 21 miles to the north of the Project site.

Table 5.4-4, Ambient Pollutant Concentrations Registered for SRA 10, lists the ambient pollutant concentrations registered and the violations of state and federal standards that have occurred at the abovementioned monitoring stations from 2003 through 2007, the most recent years for which data are available. As shown, the monitoring station has registered values above state and federal standards for O_3, the state standard for PM_{10}, and the federal standard for $PM_{2.5}$. Concentrations of CO, NO_2, SO_2, lead and sulfate have not been exceeded anywhere within the basin for several years. Values for lead and sulfate are not presented in the table below since ambient concentrations are well below the state standards. Hydrogen sulfide, vinyl chloride, and visibility reducing particles were not monitored by CARB or the South Coast Air Quality Management District in Los Angeles County during the period of 2003 to 2007. As described above, hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles are not applicable to the proposed uses on the Project site.

Table 5.4-4
Ambient Pollutant Concentrations Registered for SRA 10

Pollutant	Standards[1, 2]	Year				
		2003	2004	2005	2006	2007
OZONE (O_3)						
Maximum 1-hour concentration monitored (ppm)		0.161	0.131	0.140	0.15	0.153
Maximum 8-hour concentration monitored (ppm)		0.123	0.102	0.112	0.128	0.108
Number of days exceeding state 1-hour standard	0.09 ppm	39	31	26	32	19
Number of days exceeding state 8-hour standard	0.070 ppm	NA	25	18	30	25
Number of days exceeding federal 8-hour standard[3]	0.075 ppm	24	13	11	16	8
NITROGEN DIOXIDE (NO_2)[4]						

Pollutant	Standards[1, 2]	Year				
		2003	2004	2005	2006	2007
Maximum 1-hour concentration monitored (ppm)		0.12	0.11	0.08	0.10	0.10
Annual average concentration monitored (ppm)		0.035	0.031	0.031	0.031	0.032
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0	0	0
RESPIRABLE PARTICULATE MATTER (PM_{10})[5]						
Maximum 24-hour concentration monitored ($\mu g/m^3$)		119	83	76	81	83
Annual average concentration monitored ($\mu g/m^3$)		44.4	35.4	35.1	31.9	35.6
Number of samples exceeding state standard	50 $\mu g/m^3$	21	8	12	7	11
Number of samples exceeding federal standard	150 $\mu g/m^3$	0	0	0	0	0
FINE PARTICULATE MATTER ($PM_{2.5}$)[6]						
Maximum 24-hour concentration monitored ($\mu g/m^3$)		121.2	75.6	132.7	52.8	63.8
Annual average concentration monitored ($\mu g/m^3$)		19.2	18.4	17.0	15.5	15.9
Number of samples exceeding federal standard[6]	35 $\mu g/m^3$	3	1	1	0 (8)	19
CARBON MONOXIDE (CO)						
Maximum 1-hour concentration monitored (ppm)		6	4	4	3	3
Maximum 8-hour concentration monitored (ppm)		4.4	3.1	2.5	2.1	2.1
Number of days exceeding state 8-hour standard	9.0 ppm	0	0	0	0	0
Number of days exceeding federal 8-hour standard	9 ppm	0	0	0	0	0
SULFUR DIOXIODE (SO_2)[7]						
Maximum 1-hour concentration monitored (ppm)		0.05	0.08	0.07	0.03	0.01
Maximum 24-hour concentration monitored (ppm)		0.006	0.015	0.010	0.006	0.003
Number of samples exceeding 24-hour state standard	0.04 ppm	0	0	0	0	0
Number of samples exceeding federal 24-hour standard	0.14 ppm	0	0	0	0	0

NA = not available

Source: South Coast Air Quality Management District, "Historical Data by Year," http://www.aqmd.gov/smog/historicaldata.htm. 2008.

1 *Parts by volume per million of air (ppm), micrograms per cubic meter of air ($\mu g/m^3$), or annual arithmetic mean (aam).*

2 *Federal and state standards are for the same period as the maximum concentration measurement unless otherwise indicated.*

3 *The 8-hour federal O_3 standard was revised to 0.075 ppm in March 2008. The statistics shown are based on the previous standard of 0.08 ppm.*

4 *The NO_2 state standard was amended on February 22, 2007 to lower the 1-hour state standard from 0.25 ppm to 0.18 ppm and to establish a new annual state standard of 0.030 ppm. These changes became effective March 20, 2008. Statistics shown are based on the standards in effect at the time.*

5 *PM_{10} samples were collected every 6 days at Station No. 060.*

6 *$PM_{2.5}$ samples were collected daily at Station No. 060. The federal standard for $PM_{2.5}$ was changed to 35 $\mu g/m^3$, which became effective on December 17, 2006. Statistics shown are based on the 65 $\mu g/m^3$ standard for years 2003–2006. The statistic shown in parenthesis ( ) for year 2006 is based on the 35 $\mu g/m^3$ standard.*

7 *SO_2 was monitored at Station No. 087.*

ENVIRONMENTAL IMPACTS

Project Improvements

The proposed Project involves the redevelopment of the approximately 15.7-acre property located at 1920 Brea Canyon Cutoff Road. The existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, a recreational facility for residents, parking structures and on-grade parking containing 1,544 parking spaces, and landscaping throughout the Project site.

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of the site for below-grade parking, and construction of the new buildings, parking areas, and related improvements. This process would occur over an approximately 36-month period and some of the construction phases may overlap with other phases.

The volume of debris expected to be generated from the demolition of the existing church and school facilities and the associated parking structure has been estimated at approximately 5,000 cubic yards, including both hard and soft materials. The demolition process would include efforts to separate debris and recycle a minimum of 65 percent of the basic building materials; however, as much of the basic building materials as possible would be separated debris and recycled. This demolition and recycling process would occur over a period of approximately 12 weeks.

Additionally, due to the slope of the Project site and the proposed below-grade parking structure, excavation, and recompaction activities would be required on the Project site. Associated with the earthwork and excavation activities, approximately 55,000 cubic yards of earth would be removed and exported from the Project site, while 45,000 cubic yards of earth would be removed and recompacted. Earthwork and excavation would occur over a period of approximately 12 weeks. Building construction, asphalt paving, and architectural coating would follow excavation and grading activities and would occur over a period of approximately 30 months.

Thresholds of Significance

County Initial Study Checklist; State CEQA Guidelines Appendix G Significance Criteria

The County's Initial Study Checklist and Appendix G of the *State CEQA Guidelines* state that the determination of a Project's significance in terms of air quality impacts shall consider whether the Project would:

- Exceed the state's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for nonresidential uses);
- Generate or be located in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions;
- 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 non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Create or contribute to a non-stationary source "hot spot";
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

The County's Initial Study Checklist also states that the determination of a Project's significance in terms of air quality impacts shall consider whether the Project would:

- Increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure, or exceed South Coast Air Quality Management District thresholds of potential significance per Screening Tables of the *CEQA Air Quality Handbook.*

However, the South Coast Air Quality Management District no longer recommends use of the Screening Tables of the *CEQA Air Quality Handbook* because they are based on obsolete mobile source emission factors and trip generation data. Instead, local emissions associated with Project operations are evaluated in accordance with the current South Coast Air Quality Management District methodologies and the thresholds contained in **Table 5.4-5, SCAQMD Daily Operation Emission Thresholds,** below.

Additionally, the County's following Initial Study significance criteria was found not to be applicable for the proposed Project and is discussed further in **Section 7.0, Effects Found Not to be Significant**.

- Is the Project considered a sensitive use (schools, hospitals, and parks) and located near a freeway or heavy industrial use?

South Coast Air Quality Management District Significance Thresholds

The *State CEQA Guidelines* (Section 15064.7) provide that, when available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The potential air quality impacts of the proposed Project are, therefore, evaluated according to thresholds developed by the South Coast Air Quality Management District in their *CEQA Air Quality Handbook* and subsequent guidance, which are listed below. While the South Coast Air Quality Management District *CEQA Air Quality Handbook* contains significance thresholds for lead, construction and operation of the proposed Project will not exceed the established thresholds as previously discussed above. Furthermore, as discussed near the beginning of this section, the region is below the state and federal ambient air quality standards for lead. Therefore, lead emissions from the Project will not cause an air quality violation and will not be analyzed further.

Construction Emissions Thresholds

Emissions Thresholds

Impacts related to construction emissions associated with the proposed Project would be considered significant when the proposed Project exceeds the limits specified in **Table 5.4-5, SCAQMD Daily Construction Emission Thresholds**.

Table 5.4-5
SCAQMD Daily Construction Emission Thresholds

	Pollutant (pounds per day)					
Significance Threshold	**VOC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Construction	75	100	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds*, (2006).*

Localized Significance Thresholds

In addition to the above listed emission-based thresholds, the South Coast Air Quality Management District also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project site. The thresholds are based on the difference between the maximum monitored ambient pollutant concentrations and the CAAQS or NAAQS. Therefore, the thresholds depend upon the concentrations of pollutants monitored locally with respect to a project site. For pollutants that already exceed the CAAQS or NAAQS (e.g., PM_{10} and $PM_{2.5}$), the thresholds are based on standards established by the South Coast Air Quality Management District in the *Final Localized Significance Threshold Methodology*. This evaluation requires that anticipated ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to localized significance thresholds for PM_{10}, $PM_{2.5}$, NO_2, and CO.[12] The significance threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust), while the thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of the Project that would not cause or contribute to an exceedance of the relevant ambient air quality standards. The significance threshold for $PM_{2.5}$ is intended to constrain emissions so as to aid in progress toward attainment of the ambient air quality standards.[13] The applicable thresholds are shown in **Table 5.4-6, SCAQMD Localized Significance Thresholds for SRA 10.**

12 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

13 South Coast Air Quality Management District, *Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds*, (2006).

Table 5.4-6
SCAQMD Localized Significance Thresholds for SRA 10

Pollutant	Averaging Period	LST Criteria		CAAQS/NAAQS[1]	
		µg/m³	ppm	µg/m³	ppm
Respirable Particulate Matter (PM_{10})	24 hours	10.4	NA	50	NA
Fine Particulate Matter ($PM_{2.5}$)	24 hours	10.4	NA	35	NA
Nitrogen Dioxide (NO_2)	1 hour	150	0.08	338	0.18
Carbon Monoxide (CO)	1 hour	18,310	16	23,000	20
Carbon Monoxide (CO)	8 hours	7,438	6.5	10,000	9.0

*Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). LST criteria for NO_2 and CO are based on highest concentrations during 2005-2007 (see **Appendix 5.4**).*
[1] California has not adopted a 24-hour AAQS for $PM_{2.5}$; the 24-hour $PM_{2.5}$ AAQS shown is the national standard. All other standards are the California standards.

Operational Emissions Thresholds

The South Coast Air Quality Management District has recommended two sets of air pollution thresholds to assist lead agencies in determining whether or not the operational phase of a project's development would be significant. These are identified in the following discussion under Primary Thresholds and Secondary Thresholds. The South Coast Air Quality Management District recommends that a project's impacts be considered significant if thresholds are exceeded for either primary or secondary effects.[14]

Primary Thresholds

Impacts related to operational emissions associated with the proposed Project would be considered significant when the Project's operational emissions exceed the limits specified in **Table 5.4-7, SCAQMD Daily Operation Emission Thresholds**, which are based on guidance contained in the South Coast Air Quality Management District's *CEQA Air Quality Handbook*. As previously discussed, this analysis relies on methodologies prescribed by the South Coast Air Quality Management District, including revisions and supplemental information that have been adopted since the *CEQA Air Quality Handbook*.

The South Coast Air Quality Management District established the operational emission thresholds, in part, based on Section 182(e) of the federal Clean Air Act that identifies 10 tons per year of VOCs and NO_X as the significance level for stationary sources of emissions in extreme nonattainment areas for O_3. As discussed earlier, VOC and NO_X undergo photochemical reactions in sunlight to form O_3, and, at the time these thresholds were established, the Basin was the only extreme nonattainment area for O_3 in the

14 South Coast Air Quality Management District, *Air Quality Significance Thresholds*, (2006).

United States. This emission threshold has been converted to a pound per day threshold for the operational phase of a project. Thresholds for other emissions have been identified based on regulatory limits adopted by the South Coast Air Quality Management District. Because the thresholds are converted from a Clean Air Act threshold, the South Coast Air Quality Management District has determined that these thresholds are based on scientific and factual data.[15] Therefore, the South Coast Air Quality Management District recommends that the following thresholds be used by lead agencies in making a determination of operation-related Project significance:

Table 5.4-7
SCAQMD Daily Operation Emission Thresholds

Significance Threshold	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operation	55	55	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds*, (2006).*

Secondary Thresholds

The South Coast Air Quality Management District recommends that projects meeting any of the following criteria also be considered to have significant air quality impacts:

- The project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation;
- The project could result in population increases within an area, which would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the project's buildout year;
- The project could generate vehicle trips that cause a CO hotspot or project could be occupied by sensitive receptors that are exposed to a CO hotspot;
- The project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors; or
- The project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety.[16]

15 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 6-1.

16 South Coast Air Quality Management District, *Air Quality Significance Thresholds*, (2006).

Cumulative Thresholds

In large part, the South Coast Air Quality Management District 2007 AQMP was prepared to accommodate growth, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. According to the South Coast Air Quality Management District *CEQA Air Quality Handbook*, projects that are within the emission thresholds identified above should be considered less than significant on a cumulative basis unless there is other pertinent information to the contrary.[17]

If a project is not within the emission thresholds above, the South Coast Air Quality Management District *CEQA Air Quality Handbook* identifies three possible methods to determine the cumulative significance of land use projects.[18] The South Coast Air Quality Management District's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the 2007 AQMP. However, one method is no longer recommended and supported by the South Coast Air Quality Management District, and another method is not applicable as the South Coast Air Quality Management District repealed the underlying regulation (Regulation XV) after the *CEQA Air Quality Handbook* was published.[19] Therefore, the only viable South Coast Air Quality Management District method for determining cumulative impacts is based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

Impact Analysis

Threshold 1: **Would the Project's construction emissions exceed any of SCAQMD's daily construction emission thresholds?**

Impacts related to construction emissions associated with the proposed Project would be considered significant when the Project exceeds the limits specified in **Table 5.4-8, SCAQMD Daily Construction Emission Thresholds**:

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17 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 9–12.

18 Ibid. Personal communication with Dr. Steve Smith, South Coast Air Quality Management District, November 20, 2003.

19 The two methods that are no longer recommended and supported by the SCAQMD are: (1) demonstrating a 1 percent per year reduction in project emissions of VOC, NO_X, CO, SO_X, and PM_{10} and (2) demonstrating a 1.5 average vehicle ridership, or average vehicle occupancy for a transportation project.

Table 5.4-8
SCAQMD Daily Construction Emission Thresholds

Significance Threshold	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds, (2006).

Analysis

The URBEMIS2007 Environmental Management Software was used to quantify construction emissions generated during each phase of Project construction described above. URBEMIS2007 is a land use and transportation based computer model designed to estimate regional air emissions from new development Projects. The model accounts for certain meteorological conditions that characterize specific air basins in California.

A number of variables are input into the model including the construction schedule, the type of construction equipment required to build the Project, and emission factors for each piece of equipment. The approximate construction schedule was obtained from the Project Applicant. The number and types of construction equipment that would operate on any given day during each construction phase were based on South Coast Air Quality Management District accepted default values contained in the URBEMIS2007 program. The emission factors for each type of construction equipment and activity were obtained from CARB's EMFAC2007 model and OFFROAD2007 model, both of which are incorporated as part of the URBEMIS2007 model. The EMFAC2007 model generated emissions factors for on-road mobile sources (e.g., passenger vehicles) and the OFFROAD2007 model generates emission factors for off-road source (e.g., construction equipment). Other emission factors, such as for fugitive dust emissions, are based on South Coast Air Quality Management District-approved factors, also incorporated into the URBEMIS2007 model. All of the construction equipment and activities are assumed to operate during the workday between 6 and 8 hours with the exception of a rubber-tired dozer during demolition (1-hour) and a crane during building construction (4-hour). These operating estimates are conservative (i.e., an overestimate) and are based on South Coast Air Quality Management District surveys conducted on the number of hours construction equipment operate on typical construction sites in a given day. In reality, construction equipment often operates cyclically for only a fraction of each workday.

The emission calculations also assume the use of standard construction practices such as compliance with South Coast Air Quality Management District Rule 403 (Fugitive Dust) to minimize fugitive dust.

Compliance with Rule 403 is mandatory for all construction Projects. In the URBEMIS2007 model, the emission calculations take into account compliance with Rule 403 by incorporating the watering of exposed surfaces and unpaved roads three times daily, which is estimated to reduce fugitive dust emissions (both PM_{10} and $PM_{2.5}$) by a maximum of 61 percent per guidance from the South Coast Air Quality Management District. The emission calculations also take into account the use of soil stabilization measures during equipment loading and unloading, which is estimated to reduce fugitive dust emissions (both PM_{10} and $PM_{2.5}$) by a maximum of 69 percent per guidance from the South Coast Air Quality Management District. Rule 403 contains other best available control measures to minimize fugitive dust emissions; however, they are not accounted for in the URBEMIS2007 model.

Table 5.4-9, Estimated Unmitigated Project Construction Emissions, identifies the maximum daily emissions for each pollutant during each phase of Project construction. Construction emissions include all emissions associated with the construction equipment, grading and demolition activities, worker trips, and on-road diesel trucks. The emissions are considered to be conservative, that is, the emissions presented in **Table 5.4-9** likely over predict the actual emissions that would occur during Project construction due to the conservative South Coast Air Quality Management District construction equipment operating estimates described above. Accordingly, the use of South Coast Air Quality Management District default values is known to result in a conservative assessment.

Table 5.4-9
Estimated Unmitigated Project Construction Emissions

Construction Phase	Maximum Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition: December 2010 – February 2011						
Fugitive Dust	—	—	—	—	3.78	0.79
Off-Road Diesel	7.85	56.50	31.26	0.00	3.24	2.98
On-Road Diesel	0.32	4.27	1.64	0.00	0.20	0.17
Worker Trips	0.14	0.25	4.23	0.00	0.03	0.02
Maximum pounds per day:	*8.30*	*61.03*	*37.13*	*0.01*	*7.25*	*3.95*
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
Grading and Excavation: February 2010 – May 2010						
Fugitive Dust	—	—	—	—	10.89[1]	2.28[1]
Off-Road Diesel	10.02	80.32	42.64	0.00	3.95	3.64
On-Road Diesel	2.15	28.08	10.78	0.04	1.28	1.10
Worker Trips	0.11	0.20	3.41	0.00	0.03	0.02
Maximum pounds per day:	*12.29*	*108.60*	*56.83*	*0.04*	*16.15*	*7.03*
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	**YES**	NO	NO	NO	NO

Construction Phase	Maximum Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Building Construction: May 2010 – March 2011						
Bldg. Const. Off-Road Diesel	3.44	22.89	12.10	0.00	1.46	1.34
Bldg. Const. Vendor Trips	1.57	17.79	14.12	0.03	0.86	0.72
Bldg. Const. Worker Trips	1.68	3.15	54.44	0.07	0.52	0.28
Asphalt Off-Gas	0.14	—	—	—	—	—
Asphalt Off-Road Diesel	4.59	33.53	17.12	0.00	2.13	1.96
Asphalt On-Road Diesel	0.04	0.53	0.20	0.00	0.02	0.02
Asphalt Worker Trips	0.05	0.10	1.71	0.00	0.02	0.01
Maximum pounds per day:	*11.51*	*77.99*	*99.69*	*0.11*	*5.00*	*4.32*
SCAQMD Thresholds:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	NO	NO	NO	NO	NO	NO
Building Construction: March 2011 – October 2012						
Bldg. Const. Off-Road Diesel	3.21	21.68	11.70	0.00	1.36	1.25
Bldg. Const. Vendor Trips	1.44	15.87	13.05	0.03	0.78	0.64
Bldg. Const. Worker Trips	1.53	2.89	50.64	0.07	0.52	0.28
Arch. Coatings Off-Gas	14.85	—	—	—	—	—
Arch. Coatings Worker Trips	0.02	0.04	0.62	0.00	0.01	0.00
Asphalt Off-Gas	0.13	—	—	—	—	—
Asphalt Off-Road Diesel	2.34	14.35	8.99	0.00	1.24	1.14
Asphalt On-Road Diesel	0.04	0.44	0.17	0.00	0.02	0.02
Asphalt Worker Trips	0.05	0.10	1.82	0.00	0.02	0.01
Maximum pounds per day:	*23.61*	*55.37*	*86.99*	*0.11*	*3.94*	*3.34*
SCAQMD Thresholds:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	NO	NO	NO	NO	NO	NO

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in ***Appendix 5.4****.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *PM_{10} and $PM_{2.5}$ fugitive dust emissions reflect South Coast Air Quality Management District Rule 403 compliance.*

As shown, the significance threshold for NO_X during the grading phase of construction would be exceeded. The significance threshold for all other criteria pollutants would not be exceeded during any phase of construction for the proposed Project. Therefore, construction emissions would result in a significant impact with respect to NO_X emissions in the region.

Mitigation Measures

5.4-1: The Developer shall prepare a Construction Traffic Emission Management Plan to minimize emissions from vehicles including, but not limited to, scheduling truck deliveries to avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of 5 minutes.

5.4-2: The Contractor shall ensure that the use of all construction equipment is suspended during first-stage smog alerts.

5.4-3: The Contractor shall use electric or alternative fueled mobile equipment for on-site uses instead of diesel equipment if suitable equipment is commercially available and the necessary power and refueling infrastructure can reasonably be installed on site.

5.4-4: The Contractor shall maintain construction equipment by conducting regular tune-ups according to the manufacturers' recommendations.

5.4-5: The Contractor shall use electric welders to avoid emissions from gas or diesel welders if suitable equipment is commercially available and the necessary power infrastructure can reasonably be installed on site.

5.4-6: The Contractor shall use on-site electricity or alternative fuels rather than diesel-powered or gasoline-powered generators if suitable equipment is commercially available and the necessary power and refueling infrastructure can reasonably be installed on site.

5.4-7: The Project Applicant shall require on-site off-road construction equipment to meet EPA Tier 3 emissions standards (Model Year 2006 or later) at a minimum. This requirement will apply to any piece of equipment which is expected to operate on-site more than 15 days.

5.4-8: For equipment not covered by **Mitigation Measure 5.4-7** above, the Project Applicant shall evaluate the potential for reducing exhaust emissions from on-road and off-road construction equipment, and implement such measures. Control technologies to be considered may include particulate traps and filters, selective catalytic reduction, oxidation catalysts, air enhancement technologies, and the use of alternatively (non-diesel) fueled engines. Considerations will include commercial availability of appropriate California Air Resources Board verified technologies.

5.4-9: General contractors shall implement a fugitive dust control program pursuant to the provisions of South Coast Air Quality Management District Rule 403. The requirements of Rule 403 are as follows:

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and	• Mix backfill soil with water prior to moving
	01-2 Stabilize backfill material during handling; and	• Dedicate water truck or high capacity hose to backfilling equipment
	01-3 Stabilize soil at completion of activity.	• Empty loader bucket slowly so that no dust plumes are generated
		• Minimize drop height from loader bucket
Clearing and Grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and	• Maintain live perennial vegetation where possible
	02-2 Stabilize soil during clearing and grubbing activities; and	• Apply water in sufficient quantity to prevent generation of dust plumes
	02-3 Stabilize soil immediately after clearing and grubbing activities.	
Clearing Forms	03-1 Use water spray to clear forms; or	• Use of high pressure air to clear forms may cause exceedance of Rule requirements
	03-2 Use sweeping and water spray to clear forms; or	
	03-3 Use vacuum system to clear forms.	
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and	• Follow permit conditions for crushing equipment
	04-2 Stabilize material after crushing.	• Pre-water material prior to loading into crusher
		• Monitor crusher emissions opacity
		• Apply water to crushed material to prevent dust plumes
Cut and Fill	05-1 Pre-water soils prior to cut and fill activities; and	• For large sites, pre-water with sprinklers or water trucks and allow time for penetration
	05-2 Stabilize soil during and after cut and fill activities.	• Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and	• Apply water in sufficient quantities to prevent the generation of visible dust plumes
	06-2 Stabilize surface soil where support equipment and vehicles will operate; and	
	06-3 Stabilize loose soil and demolition debris; and	
	06-4 Comply with AQMD Rule 1403.	

Source Category	Control Measure	Guidance
Disturbed Soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	• Limit vehicular traffic and disturbances on soils where possible • If interior block walls are planned, install as early as possible • Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving Activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	• Grade each project phase separately, timed to coincide with construction phase • Upwind fencing can prevent material movement on site • Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Importing/Exporting of Bulk Materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least 6 inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	• Use tarps or other suitable enclosures on haul trucks • Check belly dump truck seals regularly and remove any trapped rocks to prevent spillage • Comply with track-out prevention/mitigation requirements • Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	• Apply water to materials to stabilize • Maintain materials in a crusted condition • Maintain effective cover over materials • Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes • Hydroseed prior to rain season
Road Shoulder Maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	• Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs • Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	• Dedicate water truck or high capacity hose to screening operation • Drop material through the screen slowly and minimize drop height • Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point

Source Category	Control Measure	Guidance
Staging Areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	• Limit size of staging area • Limit vehicle speeds to 15 miles per hour • Limit number and size of staging area entrances/exists
Stockpiles/Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than 8 feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	• Add or remove material from the downwind portion of the storage pile • Maintain storage piles to avoid steep sides or faces
Traffic Areas for Construction Activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	• Apply gravel/paving to all haul routes as soon as possible to all future roadway areas • Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	• Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching • Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck Loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds 6 inches (CVC 23114)	• Empty loader bucket such that no visible dust plumes are created • Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	• Haul waste material immediately off-site
Unpaved Roads/Parking Lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	• Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements

Source Category	Control Measure	Guidance
Vacant Land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Impact After Mitigation

The implementation of the mitigation measures above would reduce emissions of NOx as well as emissions of the other criteria pollutants analyzed above. Reductions of NOx associated with **Mitigation Measure 5.4-7** are quantified below for the grading and excavation phase in **Table 5.4-10, Estimated Mitigated Project Construction Emissions for NOx**. As shown below, construction emissions of NOx would be mitigated to a less than significant impact.

Table 5.4-10
Estimated Mitigated Project Construction Emissions for NOx

	Maximum Emissions in Pounds per Day
Construction Phase	**NOx**
Grading and Excavation: February 2010 – May 2010	
Off-Road Diesel	61.77
On-Road Diesel	28.08
Worker Trips	0.20
Maximum pounds per day:	*90.05*
SCAQMD Threshold:	**100**
Exceeds Threshold?	NO

*Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in **Appendix 5.4**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *PM_{10} and $PM_{2.5}$ fugitive dust emissions reflect South Coast Air Quality Management District Rule 403 compliance.*

Threshold 2: Would the Project's construction emissions exceed SCAQMD's localized significance thresholds?

The South Coast Air Quality Management District recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project site as a result of construction activities. This evaluation requires that anticipated ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to localized significance thresholds for PM_{10}, $PM_{2.5}$, NO_2, and CO.[20] The significance threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust), while the thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of the Project that would not cause or contribute to an exceedance of the relevant ambient air quality standards. The significance threshold for $PM_{2.5}$ is intended to constrain emissions so as to aid in progress toward attainment of the ambient air quality standards.[21] Since the Project is located in SRA 10, the localized significance thresholds are based on monitoring data for that area. The applicable thresholds are shown in **Table 5.4-11, SCAQMD Localized Significance Thresholds for SRA 10.**

Table 5.4-11
SCAQMD Localized Significance Thresholds for SRA 10

Pollutant	Averaging Period	LST Criteria		CAAQS/NAAQS[1]	
		µg/m³	ppm	µg/m³	ppm
Respirable Particulate Matter (PM_{10})	24 hours	10.4	NA	50	NA
Fine Particulate Matter ($PM_{2.5}$)	24 hours	10.4	NA	35	NA
Nitrogen Dioxide (NO_2)	1 hour	150	0.08	338	0.18
Carbon Monoxide (CO)	1 hour	18,310	16	23,000	20
Carbon Monoxide (CO)	8 hours	7,438	6.5	10,000	9.0

*Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). LST criteria for NO_2 and CO are based on highest concentrations during 2005-2007 (see **Appendix 5.4**).*

[1] *California has not adopted a 24-hour AAQS for $PM_{2.5}$; the 24-hour $PM_{2.5}$ AAQS shown is the national standard. All other standards are the California standards.*

20 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

21 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*.

Analysis

Per the recommendation of the South Coast Air Quality Management District, ambient NO_2, CO, PM_{10}, and $PM_{2.5}$ concentrations due to the construction of the Project were analyzed using methods described in its *Final LST Methodology*.[22] The South Coast Air Quality Management District-approved dispersion model, Industrial Source Complex – Short Term (ISCST3)[23] was used for the analysis to model the dispersion of the pollutants of concern.

Table 5.4-12, LST Analysis – Maximum Impacts at Residential Receptors, and **Table 5.4-13, LST Analysis – Maximum Impacts at Sensitive Receptors**, show the maximum PM_{10}, $PM_{2.5}$, NO_2, and CO concentrations associated with the Project at the nearest residential and sensitive receptors, respectively. The nearest residential communities to the Project site are located to the east of the Project site along Drusilla Way and to the south along Latium Way. The nearest sensitive receptor is Ybarra Elementary School, located approximately 0.34 mile (0.55 kilometer) to the north.

Table 5.4-12
LST Analysis – Maximum Impacts at Residential Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria1		Exceeds Threshold?
		µg/m³	ppm	µg/m³	ppm	
Respirable Particulate Matter (PM_{10})	24 hours	29.40	NA	10.4	NA	**YES**
Fine Particulate Matter ($PM_{2.5}$)	24 hours	12.45	NA	10.4	NA	**YES**
Nitrogen Dioxide (NO_2)	1 hour	58.54	0.03	150	0.08	NO
Carbon Monoxide (CO)	1 hour	370.02	0.32	18,310	16	NO
Carbon Monoxide (CO)	8 hours	260.31	0.23	7,438	6.5	NO

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in ***Appendix 5.4****.*

[1] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).
The maximum impacts were observed at the residential areas north and east of the Project site.

22 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*.

23 Lakes Environmental Software, *ISC-AERMOD View* (Version 5.9.0).

Table 5.4-13
LST Analysis – Maximum Impacts at Sensitive Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria[1]		Exceeds Threshold ?
		µg/m³	ppm	µg/m³	ppm	
Respirable Particulate Matter (PM_{10})	24 hours	0.81	NA	10.4	NA	NO
Fine Particulate Matter ($PM_{2.5}$)	24 hours	0.35	NA	10.4	NA	NO
Nitrogen Dioxide (NO_2)	1 hour	15.82	0.01	150	0.08	NO
Carbon Monoxide (CO)	1 hour	29.67	0.03	18,310	16	NO
Carbon Monoxide (CO)	8 hours	7.43	0.01	7,438	6.5	NO

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in ***Appendix 5.4****.*
[1] *South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).*
The maximum impacts were observed at Ybarra Elementary School, approximately 0.34 mile north of the Project site.

As shown in **Table 5.4-12** and **Table 5.4-13,** the construction of the Project would generate on-site emissions that would exceed the site-specific localized significance thresholds for PM_{10} and $PM_{2.5}$ for nearby residential receptors. These impacts would primarily result from earthmoving activities on the Project site. Construction of the Project would not generate on-site emissions in excess of the site-specific localized significance thresholds for NO_2 and CO for any residential receptor. The Project would also not exceed the localized significance thresholds for any pollutant for sensitive receptors. Therefore, based on this assessment, the localized impacts during construction of the Project would be significant for PM_{10} and $PM_{2.5}$.

Mitigation Measures

Mitigation Measure 5.4-9, already referenced, is required for this impacts.

Impact After Mitigation

The implementation of **Mitigation Measure 5.4-9** would reduce emissions of PM_{10} and $PM_{2.5}$. Reductions of PM_{10} and $PM_{2.5}$ associated with **Mitigation Measure 5.4-9** are quantified below for the grading and excavation phase in **Table 5.4-14, LST Analysis – Mitigated Impacts at Residential Receptors**. Compliance with South Coast Air Quality Management District Rule 403 would reduce the localized impacts of $PM_{2.5}$ to a less than significant level. Localized impacts of PM_{10} would remain significant and unavoidable.

Table 5.4-14
LST Analysis – Mitigated Impacts at Residential Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria1		Exceeds Threshold?
		µg/m³	ppm	µg/m³	ppm	
Respirable Particulate Matter (PM_{10})	24 hours	15.11	NA	10.4	NA	**YES**
Fine Particulate Matter ($PM_{2.5}$)	24 hours	9.11	NA	10.4	NA	NO

*Source: Impact Sciences, Inc., (2009). Emissions calculations are provided in **Appendix 5.4**.*
1 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).
The maximum impacts were observed at the residential area east of the Project site.

Threshold 3: Would the Project's operational emissions exceed any of SCAQMD's daily operational thresholds?

Impacts related to operational emissions associated with the proposed Project would be considered significant if the Project exceeds the limits specified in **Table 5.4-15, SCAQMD Daily Operation Emission Thresholds**.

The South Coast Air Quality Management District has established these thresholds, in part, based on Section 182(e) of the federal CAA that identifies 10 tons per year of volatile organic gases as the significance level for stationary sources of emissions in extreme nonattainment areas for O_3. As discussed earlier, VOC and NO_X undergo photochemical reactions in sunlight to form O_3, and, at the time these thresholds were established, the SoCAB was an extreme nonattainment area for O_3 in the United States. This emission threshold has been converted to a pound per day threshold for the operational phase of a Project. Thresholds for other emissions have been identified based on regulatory limits in the South Coast Air Quality Management District. Because they are converted from a CAA threshold, the South Coast Air Quality Management District has determined that these thresholds are based on scientific and factual data.[24] Therefore, the South Coast Air Quality Management District recommends that the following thresholds be used by lead agencies in making a determination of operation-related Project significance:

24 South Coast Air Quality Management District, CEQA Air Quality Handbook, (1993) 6-1.

Table 5.4-15
SCAQMD Daily Operation Emission Thresholds

Significance Threshold	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operation	55	55	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds, (2006).

Analysis

Project implementation would involve the operation of approximately 775 dwelling units in several multi-family buildings. Operational emissions would be generated by both stationary and mobile sources as a result of normal day-to-day activity on the Project site. Stationary emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment, and from the use of consumer products. Mobile emissions would be generated by motor vehicles traveling to and from the Project site. Daily operational emissions were calculated using the data and methodologies identified in the South Coast Air Quality Management District's *CEQA Air Quality Handbook* and the URBEMIS2007 program. URBEMIS2007 is a land use and transportation based computer model designed to estimate regional air emissions from new development Projects.

Trip generation rates used in URBEMIS2007 were obtained from data contained in the traffic report for the proposed Project.[25] For the purposes of the URBEMIS2007 model, all land uses associated with the Project consisted of the mid-rise apartments land use type with a daily trip rate of 6.72 trips per dwelling unit. In order to estimate emissions from existing land uses, the default URBEMIS2007 trip generation rate for the elementary school land use type was assumed, which is consistent with the rate used in the Traffic Impact Assessment prepared for the Project (and contained in **Appendix 5.7** to this Draft EIR). The anticipated operational emissions are based upon buildout of all land uses associated with the Project and are reflected in **Table 5.4-16, Estimated Unmitigated Operational Emissions**.

25 KHR Associates, *Canyon Residences Traffic Impact Analysis*, (2009).

Table 5.4-16
Estimated Unmitigated Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summertime Emissions[1]						
Operational (Mobile) Sources	36.31	43.99	411.35	0.48	77.34	15.07
Area/Stationary Sources	39.43	9.76	5.70	0.00	0.03	0.03
Summertime Emissions Total	75.74	53.75	417.05	0.48	77.37	15.10
Existing Summertime Total	5.49	6.28	55.32	0.04	7.03	1.38
Net Summertime Total	70.25	47.47	361.73	0.44	70.34	13.72
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**YES**	NO	NO	NO	NO	NO
Wintertime Emissions[2]						
Operational (Mobile) Sources	38.32	52.97	394.25	0.40	77.34	15.07
Area/Stationary Sources	39.31	9.74	4.15	0.00	0.02	0.02
Wintertime Emissions Total	77.63	62.71	398.40	0.40	77.36	15.09
Existing Wintertime Total	5.99	7.46	52.97	0.04	7.03	1.38
Net Wintertime Total	71.64	55.25	345.43	0.36	70.33	13.71
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**YES**	**YES**	NO	NO	NO	NO

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in ***Appendix 5.4****.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *"Summertime Emissions" are representative of the conditions that may occur during the ozone season (May 1 to October 31).*
[2] *"Wintertime Emissions" are representative of the conditions that may occur during the balance of the year (November 1 to April 30).*

As shown in **Table 5.4-16**, the Project at buildout and in full operation would generate net emissions that exceed the South Coast Air Quality Management District threshold for VOC during both summer and winter. Therefore, operational emissions of VOC would result in a significant impact on air quality in the region. The Project would result in estimated maximum daily emissions that are equal to the NO_X threshold during the winter. Because the emissions are equal to the threshold, this report conservatively concludes that the impact is considered to result in a significant impact on air quality in the region.

Mitigation Measures

Operational emissions generated by the Project would exceed the significance thresholds for VOCs and NO_x and would be considered a significant impact without mitigation. The Applicant shall implement the following mitigation measures that would help reduce emissions of VOCs and NO_x during Project operation.

5.4-10: The Project shall provide short-term and long-term bicycle parking facilities to meet peak season maximum demand.

5.4-11: The Project shall provide route information to residents.

5.4-12: The Project shall provide designated parking spaces for carpools and vanpools.

5.4-13: The Project shall maintain an information center for residents providing public transit, "para-transit," carpooling, and other relevant transportation-related information. The information center shall be designated in a convenient and accessible indoor location within the development. This information center shall be maintained by building management.

5.4-14: The Project shall provide information to residents on low-VOC containing consumer products, such as low-VOC paint and low-VOC cleaning products. This information shall be freely available and incorporated within the information center as described in **Mitigation Measure 5.4-13**.

5.4-15: The Project Applicant and/or Building Management shall use low-VOC containing paints for all exterior and interior applications.

5.4-16: The Project shall comply with the applicable provisions and requirements of the County of Los Angeles Green Building Program, including the Green Building Ordinance and the Drought-Tolerant Landscaping Ordinance. (This measure is identical to **Mitigation Measure 5.5-1** from **Section 5.5, Climate Change**.)

Impact After Mitigation

The implementation of the mitigation measures above would reduce emissions of VOC and NOx as well as emissions of the other criteria pollutants analyzed above. Reductions associated with **Mitigation Measures 5.4-15** and **5.4-16** are quantified below in **Table 5.4-17, Estimated Mitigated Operational Emissions for VOC and NOx**. As shown in **Table 5.4-17**, NOx impacts would be reduced to less than significant while VOC impacts would remain significant and unavoidable.

Table 5.4-17
Estimated Mitigated Operational Emissions for VOC and NOx

Emissions Source	Emissions in Pounds per Day	
	VOC	**NOx**
Summertime Emissions[1]		
Operational (Mobile) Sources	36.31	43.99
Area/Stationary Sources	39.32	8.30
Summertime Emissions Total	75.63	52.29
Existing Summertime Total	5.49	6.28
Net Summertime Total	70.14	46.01
SCAQMD Threshold	55	55
Exceeds Threshold?	**YES**	NO
Wintertime Emissions[2]		
Operational (Mobile) Sources	38.32	52.97
Area/Stationary Sources	39.20	8.28
Wintertime Emissions Total	77.52	61.25
Existing Wintertime Total	5.99	7.46
Net Wintertime Total	71.53	53.79
SCAQMD Threshold	55	55
Exceeds Threshold?	**YES**	NO

*Source: Impact Sciences, Inc., (2009). Emissions calculations are provided in **Appendix 5.4**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

[1] *"Summertime Emissions" are representative of the conditions that may occur during the ozone season (May 1 to October 31).*

[2] *"Wintertime Emissions" are representative of the conditions that may occur during the balance of the year (November 1 to April 30).*

Threshold 4: Would the Project meet any of the following SCAQMD secondary operational impact thresholds?

Impacts related to operation of the proposed Project would be considered significant when:

- the Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation;
- the Project could result in population increases within an area, which would be in excess of that Projected by SCAG in the AQMP, or increase the population in an area where SCAG has not Projected that growth for the Project's buildout year;
- the Project could generate vehicle trips that cause a CO hotspot or Project could be occupied by sensitive receptors that are exposed to a CO hotspot;
- the Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors;
- the Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety;
- the Project could emit a toxic air contaminant regulated by South Coast Air Quality Management District rules or that is on a federal or state air toxic list;
- the Project could be occupied by sensitive receptors within 0.25 mile of an existing facility that emits air toxics identified in the South Coast Air Quality Management District Rule 1401; or
- the Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

Analysis

The following section discusses the secondary operational impact thresholds of significance during operation of the proposed Project. The section is organized by first restating the individual threshold followed by an analysis of the impacts associated with that individual threshold.

- *The Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation.*

As previously discussed, operational emissions at the Project site would be generated by both stationary and mobile sources as a result of normal day-to-day activities on the Project site after buildout. Stationary emissions would be generated by the consumption of natural gas for space and water heating devices. Mobile emissions would be generated by the motor vehicles traveling to, from, and within the Project site.

The South Coast Air Quality Management District's *CEQA Air Quality Handbook* indicates that an air quality modeling analysis that identifies the Project's impact on ambient air quality would need to be performed.[26] In order for a Project to be found consistent, the analysis would have to demonstrate that the Project's emissions would not increase the frequency or the severity of existing air quality violations, or contribute to a new violation.[27] The CO analysis for traffic emissions described below in **Table 5.4-18** assesses the potential ambient air quality impacts with respect to this pollutant. With respect to the other criteria pollutants (NO_2, SO_2, PM_{10}, and $PM_{2.5}$), URBEMIS2007 is used to calculate Project emissions for comparison with the South Coast Air Quality Management District significance thresholds addressing regional significance. Emissions of NO_X and VOCs contribute to ozone; however, the effect of the Project's NO_X and VOC emissions on regional ozone concentrations cannot be determined for a single Project, that is, no model exists to estimate such impacts. While the Project's operational emissions exceed the significance thresholds for VOCs, the Project would not violate ambient air quality standards or contribute considerably to an existing or projected air quality violation if it is consistent with regional growth projections and the applicable AQMP, which is discussed under the next secondary impact criteria.

- *The Project could result in population increases within an area, which would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the Project's buildout year.*

The 2007 AQMP is designed to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of the South Coast Air Quality Management District, to achieve the federal 8-hour ozone standard by 2024 (if granted the bump-up to "extreme" nonattainment) and to minimize the impact on the economy. Projects that are considered to be consistent with the AQMP do not interfere with attainment and do not contribute to the exceedance of an existing air quality violation because this growth is included in the projections utilized in the formulation of the AQMP. Therefore, project land 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 South Coast Air Quality Management District's recommended thresholds. The following analysis discusses the Project's consistency with the AQMP. Projects that are consistent with growth forecasts identified by SCAG are considered consistent with the AQMP growth projections. This is because the growth projections by SCAG form the basis of the land use and transportation control portions of the AQMP.

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26 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 12-3.

27 Ibid.

The proposed Project is considered to be consistent with the future residential figures projected for the region. As discussed in **Section 5.16, Population, Housing, and Employment**, based on an average household size of 2.76 persons per unit within Census Tract 4033.04, the Project would provide housing for approximately 2,139 residents. Therefore, the Project would result in a total population increase of approximately 2,139 new residents in Rowland Heights. The population increase from the Project would account for approximately 8 percent of the expected increase from 2005 to 2010 (the data for the closest year to Project buildout) in the unincorporated San Gabriel Valley subregion population and is within SCAG's[28] projected population increase for the San Gabriel Valley region for 2012. Therefore, the Project would not increase population figures over those that have been planned for the area, would be consistent with the AQMP forecasts for this area, would be considered consistent with the air quality-related regional plans, and should not jeopardize attainment of state and federal ambient air quality standards in the SoCAB.

- *The Project could generate vehicle trips that cause a CO hotspot or Project could be occupied by sensitive receptors that are exposed to a CO hotspot.*

Motor vehicles are a primary source of pollutants within the Project site vicinity. Traffic congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO "hotspots." Such hot spots are defined as locations where the ambient CO concentrations exceed the state or federal ambient air quality standards. CO is produced in greatest quantities from vehicle combustion and is usually concentrated at or near ground level because it does not readily disperse into the atmosphere. As a result, potential air quality impacts to sensitive receptors are assessed through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create CO hotspots that exceed the state ambient air quality 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. The federal levels are less stringent than the state standards and are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition would occur based on the state standards prior to exceedance of the federal standard.

The Project was evaluated to determine if it would cause a CO hotspot utilizing a simplified CALINE4 screening model developed by the Bay Area Air Quality Management District (BAAQMD). The simplified model is intended as a screening analysis that identifies a potential CO hotspot. If a hotspot is identified, the complete CALINE4 model is then utilized to determine precisely the CO concentrations

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28 SCAG projects city level demographic trend projections using the housing unit method which consists of four procedures. First, occupied housing units are estimated by extrapolating the past trend of occupied housing units. Second, household population is estimated by multiplying occupied housing units by the projected average household size. Third, projected group quarters population is added to projected household population. Fourth, projected total population of local jurisdictions are adjusted or smoothed out in order to maintain its consistency with the projected county population.

predicted at the intersections in question. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway and 90 degrees to the secondary road, wind speed of less than 1 meter per second and extreme atmospheric stability) and provides a screening of maximum, worst-case, CO concentrations. This method is acceptable to the South Coast Air Quality Management District as long as it is used consistently with the *BAAQMD Guidelines*.[29] This model is utilized to predict future CO concentrations between 0 and 25 feet from the intersections in the study area based on projected traffic volumes from the intersections contained in the traffic study for the Project.[30] The intersections were determined in the Project Traffic Impact Analysis to operate at a level of service (LOS) between A through F. Intersections operating at a LOS of D, E, or F are considered to have the potential to create a CO hotspot;[31] therefore, for the purposes of this analysis, only intersections estimated to operate at LOS D, E, or F under future cumulative plus Project traffic conditions were analyzed.

Maximum future cumulative plus Project CO concentrations were calculated for peak hour morning and evening traffic volumes using the highest traffic volumes associated with the Project. Background CO concentrations were included in the analysis. The results of these CO concentration calculations are presented in **Table 5.4-18, Maximum 2012 Carbon Monoxide Concentrations – With Project**, for representative receptors located 0 and 25 feet from the intersection.

As shown, the CALINE4 screening procedure predicts that, under worst-case conditions, future CO concentrations at each intersection would not exceed the state 1-hour and 8-hour standards with the development of the proposed Project. No significant CO hotspot impacts would occur to sensitive receptors in the vicinity of these intersections. As a result, no significant Project-related impacts would occur relative to future carbon monoxide concentrations.

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29 Communication with Steve Smith, Program Supervisor, South Coast Air Quality Management District, and Impact Sciences, Inc., May 12, 2004.

30 KHR Associates, *Canyon Residences Traffic Impact Analysis*, (2009).

31 Institute of Transportation Studies, University of California, Davis, *Transportation Project-Level Carbon Monoxide Protocol*, (1997).

Table 5.4-18
Maximum 2012 Carbon Monoxide Concentrations – With Project

Intersection	0 Feet		25 Feet	
	1-Hour[1]	8-Hour[2]	1-Hour[1]	8-Hour[2]
Brea Canyon Cutoff Rd. and Colima Rd.	5.8	3.8	5.2	3.4
Fairway Dr. and SR-60 Westbound Ramps	5.8	3.8	5.1	3.3
Brea Canyon Cutoff Rd. and Pathfinder Rd.	5.9	3.8	5.1	3.3
Colima Rd. and Fullerton Rd.	6.3	4.1	5.5	3.6
Colima Rd. and Nogales St.	7.0	4.6	5.9	3.8
Fairway Dr. and Valley Blvd.	6.7	4.4	5.6	3.6
Brea Canyon Rd. and Golden Springs Dr.	6.6	4.3	5.6	3.6
Pathfinder Rd. and Fern Hollow Dr.	6.1	4.0	5.3	3.4
Exceeds state 1-hour standard of 20 ppm?	NO	—	NO	—
Exceeds federal 1-hour standard of 35 ppm?	NO	—	NO	—
Exceeds state 8-hour standard of 9.0 ppm?	—	NO	—	NO
Exceeds federal 8-hour standard of 9 ppm?	—	NO	—	NO

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in ***Appendix 5.4****.*
[1] *State standard is 20 parts per million. Federal standard is 35 parts per million.*
[2] *State standard is 9.0 parts per million. Federal standard is 9 parts per million.*

- *The Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors.*

The residential land uses associated with the proposed Project are not expected to be a source of persistent odors. Refuse associated with operation of the proposed Project will be disposed of in accordance with all applicable regulations. Additionally, the adjacent land uses are such that the Project residents would not be subjected to substantial sources of objectionable odors from any surrounding land use. Consequently, no significant impacts from odors are anticipated.

- *The Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety.*

The residential land uses associated with the proposed Project are not anticipated to use hazardous materials in appreciable quantities. The state regulates hazardous substances under the California Accidental Release Prevention (CalARP) Program. The Program applies to regulated substances in excess of specific quantity thresholds. The majority of the substances have thresholds in the range of 100 to 10,000 pounds. Residential land uses may contain very small, if any, amounts of these hazardous substances in household cleaners and other domestic products. However, it is clear that typical use of

these products would not result in quantities that exceed the thresholds. Moreover, significant amounts of hazardous substances would typically be expected at industrial, manufacturing, and complex water or wastewater treatment land uses.[32] Accordingly, no significant impacts with respect to the criteria listed above are expected to occur.

- *The Project could emit a toxic air contaminant regulated by SCAQMD rules or that is on a federal or state air toxic list.*

The residential land uses associated with the proposed Project are not anticipated to emit toxic air contaminants (TACs) in appreciable quantities. The South Coast Air Quality Management District has established thresholds for TACs. Emissions of TACs would be significant if sensitive receptors would be exposed to a carcinogenic risk that exceeds 10 in one million or a noncancer Hazard Index greater than 1.0. Sources of TACs from residential land uses may include household solvents and cleaners and motor vehicle emissions. However, residential land uses do not typically generate TAC emissions in quantities that would exceed the South Coast Air Quality Management District thresholds. Accordingly, no significant impacts with respect to the criteria listed above are expected to occur.

- *The Project could be occupied by sensitive receptors within 0.25 mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401.*

The proposed Project site is bounded by three commercial buildings along Colima Road on the north, the Royal Vista Golf Course, and multi-family residences along Drusilla Way, Esquiline Avenue, and Bithynia Way on the east, multi-family residences along Ostia Way and Latium Way on the south, and Brea Canyon Cutoff Road and single-family residences on the west. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road/Colima Road intersection. None of these land uses generates significant quantities of toxic air contaminants due to their day-to-day activities.[33]

Based on a survey of data obtained from the South Coast Air Quality Management District's Facility Information Detail (FIND)[34] system, several facilities that contain permitted equipment as required by Rule 1401 (New Source Review of Toxic Air Contaminants) are located within a 0.25 mile of the proposed Project site. These facilities include two laundromats/dry cleaners and two restaurants. None of these facilities has emitted air toxics, as defined in Rule 1401, above the South Coast Air Quality Management District Annual Emissions Report (AER) threshold in recent years. Therefore, while residents of the

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32 California Accidental Release Prevention, "Final CalARP Program Regulations," http://www.oes.ca.gov/Operational/OESHome.nsf/PDF/CalARPregs/$file/CalARPregs.pdf. 2004

33 South Coast Air Quality Management District, "Facility Information Detail (FIND)," http://www.aqmd.gov/webappl/fim/default.htm. 2007.

34 South Coast Air Quality Management District, "Facility Information Detail (FIND)."

proposed Project would be located within 0.25 mile of an existing facility that emits air toxics identified in Rule 1401, the concentrations would not reach significant levels due to emissions from these facilities.

The CARB *Air Quality and Land Use Handbook* recommends that lead agencies, where possible, avoid locating new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. The proposed residential Project is not located near to any freeway or urban roads with more than 100,000 vehicles per day or any rural roads with 50,000 vehicles per day.

Between April 2004 and March 2006, the South Coast Air Quality Management District conducted the Multiple Air Toxics Exposure Study III (MATES III), which is a follow up to previous air toxics studies conducted in the SoCAB. The MATES III study, based on actual monitored data throughout the SoCAB, consisted of several elements. These included a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize carcinogenic risk across the SoCAB from exposure to TACs. The MATES III study applied a 2-by-2-kilometer (1.24 x 1.24-mile) grid over the SoCAB and reported carcinogenic risk within each grid space (covering an area of 4 square kilometers or 1.54 square miles). The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the SoCAB equates to a cancer risk of approximately 1,200 in 1,000,000 primarily due to diesel exhaust. The MATES III study also concluded lower ambient concentrations of most of the measured air toxics compared to the levels measured in the previous MATES II study conducted during 1998 and 1999. Specifically, benzene and 1,3-butadiene, pollutants generated mainly from vehicles, were down 50 percent and 73 percent, respectively.[35] The reductions were attributed to air quality control regulations and improved emission control technologies.

Based on the MATES III study, the proposed Project is located in an area with an approximate carcinogenic risk range of 1,088 to 1,108 in 1,000,000 (the Project site is located near the border of two grids).[36] Accordingly, based on the MATES III data, the impacts would not be any higher than those experienced by the general population, having an approximate carcinogenic risk range of 1,200 in 1,000,000 as stated in the above paragraph. Therefore, it is not anticipated that the Project would expose sensitive receptors to substantial increases in health risks and pollutant concentrations relative to the general population. No significant impacts with respect to this criteria are expected to occur.

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35 South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES III) – Draft Report*, (2008) ES-2.

36 The SCAQMD provides an online MATES III carcinogenic risk interactive map, which may be viewed here: http://www2.aqmd.gov/webappl/matesiii/. The interactive map displays the modeled grids and associated risk within each grid.

- *The Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.*

The residential land uses associated with the proposed Project are not anticipated to emit individual or cumulative TACs in appreciable quantities. Equipment or processes that emit a substantial amount of TACs are required to be permitted by the South Coast Air Quality Management District. No such equipment or processes are proposed for the Project. Accordingly, no significant impacts with respect to the criteria listed above are expected to occur.

Mitigation Measures

Mitigation measures are required and discussed above.

CUMULATIVE IMPACTS

Project impacts would have a cumulatively considerable contribution to cumulatively significant impacts when the average daily trips exceed the rate of growth in population defined in South Coast Air Quality Management District's AQMP.

In large part, the South Coast Air Quality Management District 2007 AQMP was prepared to accommodate growth, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. According to the South Coast Air Quality Management District *CEQA Air Quality Handbook*, projects that are within the emission thresholds identified above should be considered less than significant unless there is other pertinent information to the contrary.[37]

If a Project is not within the emission thresholds above, the South Coast Air Quality Management District *CEQA Air Quality Handbook* identifies three possible methods to determine the cumulative significance of land use Projects.[38] The South Coast Air Quality Management District's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the 2007 AQMP. However, one method is no longer recommended and supported by the South Coast Air Quality Management District and another method is not applicable as the South Coast Air Quality Management District repealed the underlying regulation (Regulation XV) after the *CEQA Air Quality Handbook* was published. Therefore, the only viable South Coast Air Quality Management District method is based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

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37 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 9–12.

38 Written communication with Steve Smith, South Coast Air Quality Management District, November 20, 2003.

The South Coast Air Quality Management District method employed for this Project is whether the rate of growth in average daily trips exceeds the rate of growth in population. This method differs from the methodology used in other sections of this EIR in which all foreseeable future development within a given service boundary or geographical area is predicted and its impacts measured. The South Coast Air Quality Management District has not identified thresholds to which the total emissions of all cumulative development can be compared. Instead, the South Coast Air Quality Management District's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the AQMP.

As discussed in **Section 5.16, Population, Housing, and Employment**, the proposed Project would house approximately 2,139 residents. Population data for Los Angeles County were based on SCAG Projections.[39] These figures, along with the Project Average Daily Trip (ADT) volume included in the traffic impact analysis prepared for the Project and traffic data for Los Angeles County obtained from the EMFAC2007 on-road motor vehicle emissions model developed by CARB, were used to calculate and compare the ratio of Project ADT to anticipated ADT and the ratio of the Project population to the anticipated population in the County. As shown in **Table 5.4-19, Comparison of ADT to Population Growth at Project Buildout**, the ADT ratio is less than the population ratio at Project buildout in 2012. As such, cumulative impacts would be less than significant based on this criterion.

Table 5.4-19
Comparison of ADT to Population Growth at Project Buildout

Population Comparison	ADT	Population
Project Population[1, 2]	5,208	2,139
Los Angeles County[3, 4]	43,729,800	10,876,313
Ratio of Project to Los Angeles County	**0.00012**	**0.00020**

Source: Impact Sciences, Inc., (2008).

[1] *Estimated ADT is based on URBEMIS2007 and the traffic report for the Project.*

[2] ***Section 5.16, Population, Housing, and Employment.***

[3] *Estimated ADT in Los Angeles County in 2012 (Project occupancy year) as determined by EMFAC2007.*

[4] *Southern California Association of Governments, "City Projections," http://www.scag.ca.gov/forecast/downloads/2004GF.xls. 2008. Population was interpolated for 2012.*

In addition to the cumulative significance methodologies contained in South Coast Air Quality Management District's *CEQA Air Quality Handbook*, the South Coast Air Quality Management District staff has suggested that the emissions-based thresholds be used to determine if a Project's contribution to

[39] Southern California Association of Governments, "City Projections," http://www.scag.ca.gov/forecast/downloads/2004GF.xls. 2008.

regional cumulative emissions is cumulatively considerable.[40] Individual Projects that exceed the South Coast Air Quality Management District-recommended daily thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment. As shown in **Table 5.4-6**, the Project's construction emissions, prior to mitigation, would exceed the Project-level significance threshold for NO_X, however, NO_X impacts would be reduced to a less than significant level upon implementation of **Mitigation Measure 5.4-7**. As shown in **Table 5.4-13**, the Project's net operational emissions after mitigation would exceed the Project-level significance thresholds for VOC. Therefore, the Project would result in regional emissions that are cumulatively considerable for VOC and NO_X and would therefore result in significant cumulative impacts with respect to this criterion.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The recommended mitigation measures would reduce the magnitude of the significant NO_X construction impacts, the significant VOC operational impacts, and the related cumulative impacts. The Project's construction and operational emissions of NO_X would be mitigated to a less than significant impact. The Project's operational emissions of VOC are considered significant and unavoidable air quality impacts. The Project would result in regional cumulative emissions that are cumulatively considerable for VOC and NO_X. The cumulative impacts for NO_X would be mitigated to a less than significant level. The cumulative impacts for VOC would be significant and unavoidable. The Project's localized impacts during construction would be mitigated to less than significant for $PM_{2.5}$; however, localized PM_{10} impacts would be significant and unavoidable.

40 Personal communication with Steve Smith, Program Supervisor, South Coast Air Quality Management District, Diamond Bar, California, with David Deckman, Impact Sciences, April 19, 2006.

5.5 CLIMATE CHANGE

SUMMARY

This section describes the current state of the regulations and programs that have been implemented to address greenhouse gas (GHG) emissions and global climate change in California. This section also identifies the plans and policies developed by federal, state, and local authorities to reduce GHG emissions. Inventories of GHG emissions associated with implementation of the proposed Project are identified and discussed. Potential global climate change impacts associated with the Project are evaluated and mitigation measures are identified to reduce potential impacts.

Construction of the proposed Project would result in one-time GHG emissions associated with on-site construction equipment, haul trucks, and worker vehicles. Operation of the proposed Project would result in annual GHG emissions associated with electricity and natural gas consumption, water demand, wastewater generation, solid waste generation, and transportation. While no state or local agency has formally adopted numerical significance thresholds related to GHG emissions applicable to the Project, the California Air Resources Board (CARB) has released its Scoping Plan that discusses the strategies and measures the California Air Resources Board is intending to adopt for the state to achieve The Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). These strategies, along with other strategies recommended by other state and local agencies, are primarily used to evaluate the Project's significance with respect to GHG emissions and global climate change.

The Project is estimated to emit a maximum of 10,629 metric tons of carbon dioxide equivalents ($MTCO_2e$) per year without the implementation of GHG-reducing project design features and mitigation measures, which includes one-time construction emissions amortized over the Project lifetime, which is defined as 30 years. The Project would reduce GHG emissions by complying with the County of Los Angeles Green Building Program, providing housing near existing commercial and employment centers thereby reducing overall vehicle miles traveled, and incorporating measures that conserve water and other resources. Based on the findings that the Project incorporates objectives and GHG reduction measures that are generally consistent with the overall goals, strategies, and control measures established under AB 32, State Office of Planning and Research (OPR) Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Program, the Project would have a less than significant project-level and cumulative impact on global climate change and would not result in cumulatively considerable GHG emissions.

INTRODUCTION

This section describes the current state of the regulations and programs that have been implemented to address GHG emissions and global climate change. In addition, inventories of GHG emissions related to

development of the proposed Project are identified and discussed. This section also identifies the plans and policies developed to reduce GHG emissions. Potential global climate change impacts associated with the Project are evaluated and mitigation measures are identified to reduce potential impacts. Sources utilized in this discussion include the U.S. Environmental Protection Agency, the U.S. Energy Information Administration (U.S. EIA), the California Energy Commission (CEC), the California Climate Action Registry (CCAR), OPR, the County of Los Angeles Green Building Program, the South Coast Air Quality Management District's *California Environmental Quality Act (CEQA) Air Quality Handbook*, and other GHG and global climate change data. Emission calculations conducted for the Project are contained within **Appendix 5.5** of this Draft Environmental Impact Report (EIR).

METHODOLOGY

Emissions of GHGs due to construction and operation of the Project are presented in this analysis. Construction emissions consist of on-site construction activity and off-site hauling, vendor trips, and worker trip emissions. Operational emissions consist of natural gas and electricity consumption, transportation, water demand, wastewater, and solid waste generation. The tools used to evaluate the GHG impacts associated with construction and operation of the proposed Project include the URBEMIS2007 Environmental Management Software,[1] and information provided in the *Software User's Guide [for] URBEMIS2007 for Windows*[2] and calculation algorithms supported by the sources listed above. In addition, the traffic impact analysis for the Project was used to determine transportation emissions associated with Project-generated trips.

EXISTING CONDITIONS

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period of time (i.e., decades, or longer).[3] Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of GHG and other gases to the atmosphere from volcanic eruptions); and
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

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1 Rimpo and Associates, "URBEMIS2007 for Windows," http://www.urbemis.com. 2008.

2 Ibid.

3 United States Environmental Protection Agency, "Glossary of Climate Change Terms," http://www.epa.gov /climatechange/glossary.html#Climate_change. 2008.

Greenhouse Effect

Heat retention within the atmosphere is an essential process to sustain life on Earth. The natural process through which heat is retained in the troposphere[4] is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a three-fold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit this long-wave radiation into space and toward the Earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. Without the greenhouse effect, the Earth's average temperature would be approximately -18 degrees Celsius (°C) (0°Fahrenheit [F]) instead of its present 14°C (57°F).[5] The most abundant GHGs are water vapor and carbon dioxide (CO_2). Many other trace GHGs have a greater ability to absorb and re-radiate long-wave radiation than water vapor or CO_2; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long-wave radiation. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over a specified period (typically 100 years) with respect to its ability to absorb and re-radiate long-wave radiation. The use of GWP allows GHG emissions to be reported using CO_2 as a baseline. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). This essentially means that one metric ton of a GHG with a GWP of 10 is equivalent to 10 metric tons of CO_2 over a specified period.

Greenhouse Gases

Primary Greenhouse Gases

State law defines GHGs to include the following compounds:[6]

- *Carbon Dioxide (CO_2).* Carbon dioxide primarily is generated by fossil fuel combustion from stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources over the past

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4 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers). In general, day-to-day weather is confined to the troposphere (e.g., clouds, rain, convection, etc.)

5 National Climatic Data Center, "Global Warming Frequently Asked Questions," http://www.ncdc.noaa.gov /oa/climate/globalwarming.html. 2008.

6 All GWPs are given as 100-year GWP. Unless noted otherwise, all GWPs were obtained from the Intergovernmental Panel on Climate Change. *Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*. Cambridge (UK): Cambridge University Press, 1996.

250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent.[7] Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of one) for determining the GWPs of other GHGs. In 2004, 83.8 percent of California's GHG emissions were carbon dioxide.[8]

- *Methane (CH_4)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation.[9] Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

- *Nitrous Oxide (N_2O)*. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- *Hydrofluorocarbons (HFCs)*. HFCs typically are used as refrigerants in both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing particularly as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.

- *Nitrogen Trifluoride (NF_3).* Nitrogen trifluoride is one of several gases used during the manufacture of liquid crystal flat-panel displays, thin-film solar cells, and microcircuits. The Global Warming Potential of NF_3 is 17,200.

- *Perfluorocarbons (PFCs).* Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).[10] The GWPs of PFCs range from 5,700 to 11,900.

- *Sulfur Hexafluoride (SF_6)*. Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the IPCC with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio, as compared to carbon dioxide (four parts per trillion [ppt] of SF_6 in 1990 versus 365 parts per million [ppm] of CO_2).[11]

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7 United States Environmental Protection Agency, "Inventory of US Greenhouse Gas Emissions and Sinks 1990-2006," http://www.epa.gov/climatechange/emissions/usinventoryreport.html. 2008.

8 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*. Figure 2. http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF. 2006.

9 United States Environmental Protection Agency, "Methane: Sources and Emissions," http://www.epa.gov/methane/sources.html. n.d.

10 Energy Information Administration, "Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride," http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html. n.d.

11 United States Environmental Protection Agency, "High GWP Gases and Climate Change," http://www.epa.gov/highgwp/scientific.html#sf6. n.d.

Contributions to Greenhouse Gas Emissions

Global

Global GHG emissions are separated into Annex 1 (i.e., industrialized countries) and Non-Annex 1 (i.e., developing countries) countries. Worldwide anthropogenic (man-made) GHG emissions as of 2005 (i.e., the latest year for which data are available for Annex I countries) totaled approximately 37,408 million metric tons of CO_2e ($MMTCO_2e$).[12,13] Five countries and the European Union accounted for approximately 52 percent of the total global GHG emissions in 2005 (See **Table 5.5-1, Top Five GHG Producer Countries and the European Union**). The GHG emissions in more recent years may differ from the inventories presented in **Table 5.5-1**; however, the data is representative of currently available inventory data.

Table 5.5-1
Top Five GHG Producer Countries and the European Union

Emitting Countries	GHG Emissions ($MMTCO_2e$)
China	7,250
United States	7,098
European Union (EU), 27 Member States	5,342
Russian Federation	1,992
India	1,863
Japan	1,383
Total	**24,928**

Source: World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2009. Excludes emissions and removals from land use, land-use change and forestry (LULUCF).

12 World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2009. Excludes emissions and removals from land use, land-use change and forestry (LULUCF).

13 The CO_2 equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent ($MMTCO_2E$)" The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that $MMTCO_2E$ = (million metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of CO_2.

United States

As noted in **Table 5.5-1**, the United States was the number two producer of greenhouse gas emissions as of 2005. The primary greenhouse gas emitted by human activities in the United States was CO_2, representing approximately 84 percent of total greenhouse gas emissions.[14] Carbon dioxide from fossil fuel combustion, the largest source of U.S. GHG emissions, accounted for approximately 80 percent of U.S. GHG emissions.[15]

State of California

CARB compiles GHG inventories for the State of California. Based upon the 2006 GHG inventory data (i.e., the latest year for which data are available) compiled by CARB for the California 1990 greenhouse gas emissions inventory, California emitted 484 $MMTCO_2e$, including emissions resulting from out-of-state electrical generation.[16] Based on the CARB inventory and GHG inventories for countries contributing to the worldwide GHG emissions inventory compiled by the World Resources Institute for 2005, California's total GHG emissions rank second in the United States (Texas is number one) with emissions of 434 $MMTCO_2e$ excluding emissions related to imported power.[17]

A CEC emissions inventory report placed CO_2 produced by fossil fuel combustion in California as the largest source of GHG emissions in 2004, accounting for 80 percent of the total GHG emissions.[18] CO_2 emissions from other sources contributed 3.1 percent of the total GHG emissions; methane emissions 6.4 percent; nitrous oxide emissions 7.6 percent; and the remaining 3.2 percent was composed of emissions of high-GWP gases.[19] These high GWP gases are largely composed of refrigerants, with small contributions of SF_6 used in connection with insulating materials for electricity transmission and distribution.

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 5.5-2, GHG Emissions in California** provides a

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14 United States Environmental Protection Agency, "Inventory of US Greenhouse Gas Emissions."

15 Ibid.

16 California Air Resources Board, "California Greenhouse Gas 2000-2006 Inventory by IPCC Category – Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2009.

17 World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2009.

18 California Energy Commission, "Revisions to the 1990-2004 Greenhouse Gas Emissions Inventory Report, Published in December 2006," http://www.energy.ca.gov/2006publications/CEC-600-2006-013/2007-01-23_GHG_INVENTORY_REVISIONS.PDF. 2007.

19 Ibid.

summary of GHG emissions reported in California in 1990 and 2006 separated by categories defined by the Intergovernmental Panel on Climate Change.

Table 5.5-2
GHG Emissions in California

Source Category	1990 ($MMTCO_2e$)	Percent of Total	2006 ($MMTCO_2e$)	Percent of Total
ENERGY	**386.41**	**89.2%**	**419.32**	**86.7%**
Energy Industries	157.33	36.3%	160.82	33.2 %
Manufacturing Industries and Construction	24.24	5.6%	19.03	3.9 %
Transport	150.02	34.6%	184.78	38.2%
Other (Residential/Commercial/Institutional)	48.19	11.1%	48.36	10.0%
Non-Specified	1.38	0.3%	0.00	0.0%
Fugitive Emissions from Oil and Natural Gas	2.94	0.7%	3.25	0.7%
Fugitive Emissions from Other Energy Production	2.31	0.5%	2.03	0.4%
INDUSTRIAL PROCESSES AND PRODUCT USE	**18.34**	**4.2%**	**30.22**	**6.2%**
Mineral Industry	4.85	1.1%	5.92	1.2%
Chemical Industry	2.34	0.5%	0.37	0.1%
Non-Energy Products from Fuels and Solvent Use	2.29	0.5%	1.85	0.4%
Electronics Industry	0.59	0.1%	0.77	0.2%
Substitutes for Ozone Depleting Substances	0.04	0.0%	13.38	2.8%
Other Product Manufacture and Use	3.18	0.7%	1.67	0.3%
Other	5.05	1.2%	6.25	1.3%
AGRICULTURE, FORESTRY, AND OTHER LAND USE	**19.11**	**4.4%**	**25.10**	**5.2%**
Livestock	11.67	2.7%	15.68	3.2%
Land	0.19	0.0%	0.19	0.0%
Aggregate Sources and Non-CO_2 Sources on Land	7.26	1.7%	9.24	1.9%
WASTE	**9.42**	**2.2%**	**9.23**	**1.9%**
Solid Waste Disposal	6.26	1.4%	6.31	1.3%
Wastewater Treatment and Discharge	3.17	0.7%	2.92	0.6%
EMISSIONS SUMMARY				
Gross California Emissions	433.29		483.87	
Sinks from Forests and Rangelands	-6.69		-4.07	
Net California Emissions	426.60		479.80	

Sources:

[1] *California Air Resources Board, "California Greenhouse Gas 1990–2004 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/ inventory/archive/archive.htm. 2007.*

[2] *California Air Resources Board, "California Greenhouse Gas 2000–2006 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/ inventory/data/data.htm. 2009.*

Between 1990 and 2006, the population of California grew by approximately 7.3 million (from 29.8 to 37.1 million).[20] This represents an increase of 24.5 percent from 1990 population levels. In addition the California economy, measured as gross state product, grew from $788 billon in 1990 to $1.7 trillion in 2006 representing an increase of approximately 116 percent (over twice the 1990 gross state product).[21] Despite the population and economic growth, California's net GHG emissions only grew by 12 percent. The CEC attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.[22]

Indication of Anthropogenic Influences

The impact of anthropogenic activities on global climate change is readily apparent in the observational record. For example, surface temperature data shows that 11 of the 12 years from 1995 to 2006 rank among the 12 warmest since 1850, the beginning of the instrumental record for global surface temperature.[23] In addition, the atmospheric water vapor content has increased since at least the 1980s over land, sea, and in the upper atmosphere, consistent with the capacity of warmer air to hold more water vapor; ocean temperatures are warmer to depths of 3,000 feet; and a marked decline has occurred in mountain glaciers and snowpack in both hemispheres, and in polar ice and ice sheets in both the arctic and Antarctic regions.[24]

Influences of Industrialization

Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of carbon dioxide, methane, and nitrous oxide from before the start of the industrialization, around 1750, to over 650,000 years ago. For that period, it was found that carbon dioxide concentrations ranged from 180 ppm to 300 ppm. For the period from around 1750 to the present, global carbon dioxide concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period

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20 U.S. Census Bureau, "Data Finders," http://www.census.gov/. 2009; California Department of Finance, "E-5 City/County Population and Housing Estimates, 2008, Revised 2001-2007, with 2000 Benchmark," http://www.dof.ca.gov/research/demographic/reports/estimates/e-5_2001-06/. 2008.

21 California Department of Finance, "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. 2009. Amounts are based on current dollars as of the data of the report (June 2, 2009).

22 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, (2006).

23 Intergovernmental Panel on Climate Change, "Climate Change 2007."

24 Ibid.

range.[25] Global methane and nitrous oxide concentrations show similar increases for the same period (see **Table 5.5-3, Comparison of Global Pre-Industrial and Current GHG Concentrations**).

Table 5.5-3
Comparison of Global Pre-Industrial and Current GHG Concentrations

Greenhouse Gas	Early Industrial Period Concentrations (ppm)	Natural Range for Last 650,000 Years (ppm)	2005 Concentrations (ppm)
Carbon Monoxide (CO)	280	180 to 300	379
Methane (CH_4)	715	320 to 790	1774
Nitrous Oxide (N_2O)	270	NA	319

Source: Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, (2007).*

Effects of Global Climate Change

The primary effect of global climate change has been a rise in the average global tropospheric temperature of 0.2°C per decade, determined from meteorological measurements worldwide between 1990 and 2005.[26] Climate change modeling using 2000 emission rates shows that further warming is likely to occur, which would induce further changes in the global climate system during the current century.[27] Changes to the global climate system and ecosystems and to California would include, but would not be limited to

- declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[28]
- rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[29]

25 Intergovernmental Panel on Climate Change, "Climate Change 2007."

26 Ibid.

27 Ibid.

28 Ibid.

29 Ibid.

- changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[30]

- declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[31]

- increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century;[32] and

- increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[33]

REGULATORY SETTING

International

Kyoto Protocol

The original Kyoto Protocol (Protocol) was negotiated in December 1997 and came into force on February 16, 2005. For the Protocol to have entered into force, no less than 55 countries must have ratified the treaty and these minimum of 55 needed to together accounted for at least 55 percent of the total carbon dioxide emissions for 1990 of industrialized countries, referred to as Annex I countries. Participating nations are separated into Annex 1 (i.e., industrialized countries) and Non-Annex 1 (i.e., developing countries) countries, each with differing requirements for GHG reductions. The United States has not ratified the Protocol.

The goal of the Protocol is to achieve overall emissions reduction targets for six primary GHGs by the period 2008 to 2012: carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, HFCs, and PFCs. Each nation has an emissions reduction target under which they must reduce GHG emissions by a certain percentage below levels that occurred in 1990 (e.g., 8 percent reduction for the European Union; 6 percent reduction for Japan). The average reduction target for nations participating in the Kyoto Protocol is approximately 5 percent below 1990 levels.[34] Although the United States has not ratified the Protocol, it

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30 Intergovernmental Panel on Climate Change, "Climate Change 2007."

31 California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. 2006.

32 Ibid.

33 Ibid.

34 Pew Center on Global Climate Change, "Bush Policy vs. Kyoto," http://www.pewclimate.org/what_s_being_done/in_the_world/bush_intensity_targe_2.cfm. n.d.

is aiming to reduce its GHG emissions intensity by 18 percent by 2012.[35] Greenhouse gas intensity is the ratio of GHG emissions to economic output (i.e., gross domestic product). In addition, on July 8, 2008, President Bush, and other members of the Group of 8 (i.e., Japan, Germany, Britain, France, Italy, Canada, and Russia) pledged to cut current GHG emissions in half by 2050.

Intergovernmental Panel on Climate Change

The World Meteorological Organization (WMO) and United Nations Environmental Program (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. The goal of the IPCC is to evaluate the risk of climate change caused by human activities. Rather than performing research or monitoring climate, the IPCC relies on peer-reviewed and published scientific literature to make its assessment. The IPCC assesses information (i.e., scientific literature) regarding human-induced climate change, impacts of human-induced climate change, and options for adaptation and mitigation of climate change. The IPCC reports its evaluations in special reports called "assessment reports." The latest assessment report (i.e., Fourth Assessment Report, consisting of three working group reports and a synthesis report based on the first three reports) was published in 2007.[36] In its 2007 report, the IPCC stated that global temperature increases since the mid-20th century was "very likely" attributable to man-made activities (greater than 90 percent certainty).

Federal

In *Massachusetts vs. EPA,* the Supreme Court held that the U.S. Environmental Protection Agency (EPA) has the statutory authority under Section 202 of the Clean Air Act (CAA) to regulate GHGs from new motor vehicles. The Court did not hold that the U.S. EPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs from motor vehicles cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. Upon the final decision, the President signed Executive Order 13432 on May 14, 2007, directing the U.S. EPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. The order requires the U.S. EPA to coordinate closely with other federal agencies and to consider the President's Twenty-in-Ten plan in this process, which would establish a new alternative fuel standard that would require the use of 35 billion gallons of alternative and renewable fuels by 2017.

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35 The White House, "Addressing Global Climate Change," http://www.whitehouse.gov/ceq/global-change.html. n.d.

36 The IPCC's Fourth Assessment Report is available online at http://www.ipcc.ch/.

In December 2007, the President signed the Energy Independence and Security Act of 2007, which sets a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022 and sets a national fuel economy standard of 35 miles per gallon by 2020. The Act also contains provisions for energy efficiency in lighting and appliances and for the implementation of green building technologies in federal buildings.

On July 11, 2008, the U.S. EPA issued an Advanced Notice of Proposed Rulemaking (ANPRM) on regulating GHGs under the Clean Air Act. The ANPRM reviews the various CAA provisions that may be applicable to the regulation of GHGs and presents potential regulatory approaches and technologies for reducing GHG emissions. On April 10, 2009, the U.S. EPA published the Proposed Mandatory Greenhouse Gas Reporting Rule in the *Federal Register*.[37] The rule was adopted on September 22, 2009, and covers approximately 10,000 facilities nationwide, accounting for 85 percent of U.S. GHG emissions. On September 15, 2009, the U.S. EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon. By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

While these findings do not impose any requirements on industry or other entities, this action is a prerequisite to finalizing the U.S. EPA's proposed GHG emissions standards for light-duty vehicles, which were jointly proposed by the U.S. EPA and the NHTSA.

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37 U.S. Environmental Protection Agency, "Climate Change," http://www.epa.gov/climatechange/. 2009.

State

Title 24 Building Standards Code

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions were adopted in 2008 and became effective on January 1, 2010.

Assembly Bill 1493

In response to the transportation sector's contribution of more than half of California's CO_2 emissions, Assembly Bill 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 requires CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is noncommercial personal transportation. CARB adopted the standards in September 2004. The new standards would phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22 percent in greenhouse gas emissions compared to the emissions from the 2002 fleet, while the midterm (2013–2016) standards will result in a reduction of about 30 percent.

These regulations were challenged in federal court by the Alliance of Automobile Manufacturers, who claimed that the law regulated vehicle fuel economy, a duty assigned to the federal government. The case had been put on hold by a federal judge in Fresno pending the U.S. Supreme Court's decision in *Massachusetts v. EPA*. The U.S. Supreme Court's ruling in favor of the State of Massachusetts has been interpreted as a likely vindication of state efforts to control GHG emissions. In December 2007, the U.S. District Court for the Eastern District dismissed the case against the AB 1493 regulations by the Alliance of Automobile Manufacturers.

However, before these regulations may go into effect, the U.S. EPA must grant California a waiver under the federal Clean Air Act, which ordinarily preempts state regulation of motor vehicle emission standards. Following the issuance of the *Massachusetts v. EPA* decision, the U.S. EPA announced that it would decide whether to grant California a waiver by December 2007. On December 19, 2007, the U.S. Environmental Protection Agency denied the waiver citing the need for a national approach to reducing greenhouse gas emissions, the lack of a "need to meet compelling and extraordinary conditions," and the

benefits to be achieved through the Energy Independence and Security Act of 2007.[38] The California Attorney General subsequently filed suit in January 2008 to overturn the Administrator's decision. In 2009, the President issued an Executive Order requiring the U.S. EPA to reconsider granting the waiver. On June 30, 2009, the U.S. EPA formally approved California's waiver request. However, in light of the September 15, 2009 announcement by the U.S. EPA and NHTSA regarding the national program to reduce vehicle GHG emissions, California—and states adopting California emissions standards—have agreed to defer to the proposed national standard through model year 2016 if granted a waiver by the U.S. EPA. The 2016 endpoint of the two standards is similar, although the national standard ramps up slightly more slowly than required under California's Pavley standards. The Pavley standards require additional reductions in CO_2 emissions beyond 2016. Nonetheless, California and other states adopting the California standards will not toughen standards beyond the proposed national standard until at least the 2017 model year.

Executive Order S-3-05 and the Climate Action Team

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (Cal/EPA) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the CEC, and the President of the Public Utilities Commission.

Representatives from each of the aforementioned agencies comprise the Climate Action Team. The Cal/EPA secretary is required to submit a biannual progress report from the Climate Action Team to the governor and state legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and reporting possible mitigation and adaptation plans to combat these impacts. The Climate Action Team has fulfilled both of these report requirements through its March 2006 Climate Action Team Report to Governor Schwarzenegger and the Legislature (2006 CAT Report).[39] Some strategies currently being implemented

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38 Letter to Governor Arnold Schwarzenegger from U.S. Environmental Protection Agency Administrator Stephen L. Johnson, December 19, 2007.

39 California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. 2006.

by state agencies include CARB introducing vehicle climate change standards and diesel anti-idling measures, the Energy Commission implementing building and appliance efficiency standards, and the Cal/EPA implementing their green building initiative. The Climate Action Team also recommends future emission reduction strategies, such as using only low-GWP refrigerants in new vehicles, developing ethanol as an alternative fuel, reforestation, solar power initiatives for homes and businesses, and investor-owned utility energy efficiency programs. According to the report, implementation of current and future emission reduction strategies have the potential to achieve the goals set forth in Executive Order S-3-05.

Assembly Bill 32

In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance.

CARB is responsible for carrying out and developing the programs and requirements necessary to achieve the goals of AB 32—the reduction of California's GHG emissions to 1990 levels by 2020. The first action under AB 32 resulted in CARB's adoption of a report listing three specific early action greenhouse gas emission reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. These early action GHG reduction measures are to be adopted and enforced before January 1, 2010, along with 32 other climate-protecting measures CARB is developing between now and 2011. The early action measures are divided into three categories:

- Group 1 - GHG rules for immediate adoption and implementation
- Group 2 - Several additional GHG measures under development
- Group 3 - Air pollution controls with potential climate co-benefits

The original three adopted early action regulations meeting the narrow legal definition of "discrete early action GHG reduction measures" include:

- A low-carbon fuel standard to reduce the "carbon intensity" of California fuels;
- Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants; and
- Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early action regulations adopted on October 25, 2007, also meeting the narrow legal definition of "discrete early action GHG reduction measures," include:

- Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology;
- Reduction of auxiliary engine emissions of docked ships by requiring port electrification;
- Reduction of perfluorocarbons from the semiconductor industry;
- Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products);
- Require that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency; and
- Restriction on the use of sulfur hexafluoride (SF_6) from non-electricity sectors if viable alternatives are available.

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 $MMTCO_2e$. The inventory revealed that in 1990, transportation, with 35 percent of the State's total emissions, was the largest single sector, followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; and commercial uses, 3 percent (these figures represent the 1990 values, compared to **Table 5.5-2**, which represent 2006 values). AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 threshold by 2020.

In addition to the 1990 emissions inventory, CARB also adopted regulations requiring the mandatory reporting of GHG emissions for large facilities on December 6, 2007. The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of greenhouse gas emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of carbon dioxide each year from on-site stationary combustion sources. Transportation sources, which account for 38 percent of California's total greenhouse gas emissions, are not covered by these regulations but will continue to be tracked through existing means. Affected facilities will begin tracking their emissions in 2008, to be reported beginning in 2009 with a phase-in process to allow facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 may be based on best available emission data. Beginning in 2010, however, emissions reporting requirements will be more rigorous and will be subject

to third-party verification. Verification will take place annually or every three years, depending on the type of facility.

As indicated above, AB 32 requires CARB to adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. After receiving public input on their discussion draft of the Proposed Scoping Plan released in June 2008, CARB released the Climate Change Proposed Scoping Plan in October 2008 that contains an outline of the proposed state strategies to achieve the 2020 greenhouse gas emission limits. The CARB Governing Board approved the Scoping Plan on December 11, 2008. Key elements of the Scoping Plan include the following recommendations:

- expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- achieving a statewide renewable energy mix of 33 percent;
- developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

Under the Scoping Plan, approximately 85 percent of the state's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. The emissions cap incorporates a margin of safety whereas the 2020 emissions limit will still be achieved even in the event that uncapped sectors do not fully meet their anticipated emission reductions. Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reduction from this cap-and-trade program will account for a large portion of the reductions required by AB 32.

Table 5.5-4, AB 32 Scoping Plan Measures, lists CARB's preliminary recommendations for achieving greenhouse gas reductions under AB 32 along with a brief description of the requirements and applicability.

Table 5.5-4
AB 32 Scoping Plan Measures

Scoping Plan Measure	Description
SPM-1: California Cap-and-Trade Program linked to Western Climate Initiative	Implement a broad-based cap-and-trade program that links with other Western Climate Initiative Partner programs to create a regional market system. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms. Capped sectors include transportation, electricity, natural gas, and industry. Projected 2020 business-as-usual emissions are estimated at 512 $MTCO_2e$; preliminary 2020 emissions limit under cap-and-trade program are estimated at 365 $MTCO_2e$ (29 percent reduction).
SPM-2: California Light-Duty Vehicle GHG Standards	Implement adopted Pavley standards and planned second phase of the program. AB 32 states that if the Pavley standards (AB 1493) do not remain in effect, the California Air Resources Board shall implement equivalent or greater alternative regulations to control mobile sources.
SPM-3: Energy Efficiency	Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts. The Scoping Plan considers green building standards as a framework to achieve reductions in other sectors, such as electricity.
SPM-4: Renewables Portfolio Standard	Achieve 33 percent Renewables Portfolio Standard by both investor-owned and publicly owned utilities.
SPM-5: Low Carbon Fuel Standard	Develop and adopt the Low Carbon Fuel Standard (LCFS). The California Air Resources Board identified the LCFS as a Discrete Early Action item and is developing a regulation for Board consideration in late 2008. In January 2007, Governor Schwarzenegger issued Executive Order S-1-07, which called for the reduction of the carbon intensity of California's transportation fuels by at least 10 percent by 2020.
SPM-6: Regional Transportation-Related Greenhouse Gas Targets	Develop regional greenhouse gas emissions reduction targets for passenger vehicles. SB 375 requires the California Air Resources Board to develop, in consultation with metropolitan planning organizations (MPOs), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. SB 375 requires MPOs to prepare a sustainable communities strategy to reach the regional target provided by the California Air Resources Board.
SPM-7: Vehicle Efficiency Measures	Implement light-duty vehicle efficiency measures. The California Air Resources Board is pursuing fuel-efficient tire standards and measures to ensure properly inflated tires during vehicle servicing.
SPM-8: Goods Movement	Implement adopted regulations for port drayage trucks and the use of shore power for ships at berth. Improve efficiency in goods movement operations.
SPM-9: Million Solar Roofs Program	Install 3,000 MW of solar-electric capacity under California's existing solar programs.

Scoping Plan Measure	Description
SPM-10: Heavy/Medium-Duty Vehicles	Adopt heavy- and medium-duty vehicle and engine measures. Measures targeting aerodynamic efficiency, vehicle hybridization, and engine efficiency are recommended.
SPM-11: Industrial Emissions	Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
SPM-12: High Speed Rail	Support implementation of a high-speed rail (HSR) system. This measure supports implementation of plans to construct and operate a HSR system between Northern and Southern California serving major metropolitan centers.
SPM-13: Green Building Strategy	Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
SPM-14: High GWP Gases	Adopt measures to reduce high global warming potential gases. The Scoping Plan contains six measures to reduce high GWP gases from mobile sources, consumer products, stationary sources, and semiconductor manufacturing.
SPM-15: Recycling and Waste	Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.
SPM-16: Sustainable Forests	Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The federal government and California's Board of Forestry and Fire Protection have the regulatory authority to implement the Forest Practice Act to provide for sustainable management practices. This measure is expected to play a greater role in the 2050 goals.
SPM-17: Water	Continue efficiency programs and use cleaner energy sources to move water. California will also establish a public goods charge for funding investments in water efficiency that will lead to as yet undetermined reductions in greenhouse gases.
SPM-18: Agriculture	In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020. Increase efficiency and encourage use of agricultural biomass for sustainable energy production. The California Air Resources Board has begun research on nitrogen fertilizers and will explore opportunities for emission reductions.

Source: California Air Resources Board, Climate Change Scoping Plan, (2008).

Senate Bill 1368

Two days after signing AB 32, Governor Schwarzenegger signed Senate Bill 1368 (SB 1368, Perata) into law. SB 1368 required the CEC and the California Public Utilities Commission (CPUC) to develop and

adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. The CEC adopted its standard on May 23, 2007 and the CPUC adopted its standard on January 25, 2007. SB 1368 includes measures that protect energy customers from financial risks by allowing new capital investments in power plants with GHG emissions that are as low as or lower than new combined-cycle natural gas plants, requiring imported electricity from out-of-state to meet GHG performance standards in California, and requiring that the standards be developed and adopted in a public process.[40]

Executive Order S-1-07

On January 18, 2007, California further solidified its dedication to reducing GHGs by setting a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2-equivalent gram per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The LCFS will apply to refiners, blenders, producers, and importers of transportation fuels and will use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods. The Executive Order requires the Secretary of Cal/EPA to coordinate with the CEC, CARB, the University of California, and other agencies to develop a protocol to measure the "life-cycle carbon intensity" of transportation fuels. CARB released a draft version of the LCFS in October 2008 and adopted the final regulation on April 23, 2009.

Senate Bill 97

In August 2007, as part of the legislation accompanying the state budget negotiations, the legislature enacted SB 97 (Dutton), which directs the Governor's OPR to develop guidelines under CEQA for the mitigation of greenhouse gas emissions. OPR submitted the *Proposed Draft CEQA Guideline Amendments for Greenhouse Gas Emissions* to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency conducted formal rulemaking in 2009 and adopted the CEQA Guideline Amendments on December 30, 2009.[41]

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[40] The adopted SB 1368 regulations are available on the California Energy Commission's website at: http://www.energy.ca.gov/emission_standards/regulations/index.html.

[41] The CEQA Guideline Amendments may be found at the following website: http://ceres.ca.gov/ceqa/guidelines/.

On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents.[42] This technical advisory is intended to provide informal guidance to be used by lead agencies until OPR and the Resources Agency fulfill their SB 97 obligations. The technical advisory notes that CEQA compliance, for purposes of greenhouse gas emissions, requires (1) the identification and quantification of GHG emissions including those associated with vehicular traffic, energy consumption, water usage, and construction activities; (2) an assessment of the Project's impact on climate change; and (3) if the Project is found to be individually or cumulatively significant, the identification and consideration of Project alternatives and/or mitigation measures. The advisory did not recommend a specific threshold of significance—either quantitative or qualitative—leaving this to the lead agency's judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.

Senate Bill 375

The California Legislature passed SB 375 (Steinberg) on September 1, 2008. SB 375 requires CARB to set regional greenhouse gas reduction targets after consultation with local governments. The target must then be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy. SB 375 also requires each region's Regional Housing Needs Assessment (RHNA) to be adjusted based on the Sustainable Communities Strategy in its RTP. Additionally, SB 375 reforms the environmental review process to create incentives to implement the strategy, especially transit priority projects. The Governor signed SB 375 into law on September 30, 2008. CARB is not expected to issue regional GHG reduction targets to local governments until 2010.

California Climate Action Registry

The California Climate Action Registry (CCAR) is a private non-profit organization formed by the State of California and serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations. Senate Bill 1771 (SB 1771, Sher) formally established the CCAR with technical changes made to the statute in SB 527, which finalized the structure for the California Registry. The CCAR began with 23 Charter Members and currently has over 300 corporations, universities, cities and counties, government agencies and environment organizations voluntarily measuring, monitoring, and publicly reporting their GHG emissions using the CCAR protocols. The CCAR has published a General Reporting Protocol, as well as project- and industry-specific protocols for landfill activities, livestock

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42 Office of Planning and Research, *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, (2008).

activities, the cement sector, the power/utility sector, and the forest sector. The protocols provide the principles, approach, methodology, and procedures required for participation in the CCAR.

Due to the growth of the CCAR, it now operates under the Climate Action Reserve,[43] which is a national offsets program for the United States carbon market. As part of this transition, the California Climate Action Registry was instrumental in establishing The Climate Registry, with the mission of expanding the California Registry's emissions reporting work to include all of North America.[44] Emissions inventory reporting is being transitioned to The Climate Registry, and reports for the 2009 reporting year will be the last the California Registry will accept. However, even after that year, the California Registry will continue to represent its members' emissions reports to the State of California.

CAPCOA CEQA and Climate Change White Paper

The California Air Pollution Control Officers Association (CAPCOA) prepared a white paper on CEQA and Climate Change in January 2008. The white paper contains a disclaimer that states the paper is intended to be used as a resource by lead agencies when considering policy options and not as a guidance document. The disclaimer also states that it "is not intended, and should not be interpreted, to dictate the manner in which an air district or lead agency chooses to address GHG emissions in the context of its review of projects under CEQA."[45] Specifically, the white paper discusses three possible approaches to evaluating the significance of GHG emissions and possible mitigation measures; however, CAPCOA does not endorse any particular approach. The three alternative significance approaches are: (1) not establishing a significance threshold for GHG emissions; (2) setting the GHG emission threshold at zero; and (3) setting the GHG emission threshold at some non-zero level. The white paper evaluates potential considerations and pitfalls associated with the three approaches. At the end of the white paper, CAPCOA provides a list of potential mitigation measures and discusses each in terms of emissions reduction effectiveness, cost effectiveness, and technical and logistical feasibility.

California Air Resources Board Proposal for Significance Thresholds for GHGs under CEQA

On October 24, 2008, CARB staff released a draft and preliminary proposal for determining whether the emissions related to proposed new projects are significant impacts under CEQA. While the proposal is

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43 Additional information about the Climate Action Reserve may be obtained at the following website: http://www.climateactionreserve.org/.

44 Additional information about The Climate Registry may be obtained at the following website: http://www.theclimateregistry.org/.

45 California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, (2008).

focused on helping lead agencies determine under which conditions a project may be found exempt from the preparation of an EIR, the proposal also provides a guide for establishing significance thresholds for projects for which EIRs would be prepared regardless of the project's climate change impact. According to this proposal, the threshold for determining whether a project's emissions are significant is not zero emissions, but must be a stringent performance-based threshold to meet the requirements of AB 32. If the project meets certain specific yet to be developed performance standards for several categories of emissions, including construction emissions, building energy use, water use, solid waste, and transportation, and the project emits no more than a certain to be determined amount of metric tons of carbon equivalents per year, the project's impact would not be significant. According to CARB, CEC Tier II building energy use standards are proposed to be used, which generally require a reduction in energy usage of 30 percent beyond Title 24 building code requirements. CARB has also proposed a 7,000 $MTCO_2e$ threshold for industrial projects, but has not yet proposed thresholds for residential and commercial projects. The annual threshold does not explicitly include emissions associated with construction- and transportation-related activities. CARB has not yet indicated a timeline for approving and adopting the significance threshold.

Local

County of Los Angeles Green Building Program

In January 2007, the Los Angeles County Board of Supervisors adopted the Countywide Energy and Environmental Policy (Policy), which provides guidelines for sustainability and green building design within County departments. The Policy states that the County will join the CCAR to establish goals for reducing GHG emissions. The Policy also incorporates a sustainable building program into County capital improvement Projects and seeks to integrate energy efficient and sustainable designs into future County building plans.[46]

In addition, the court settlement in August 2007 regarding the lack of GHG mitigation strategies in the San Bernardino County General Plan prompted Los Angeles County to pursue more immediate and formal mitigation strategies. Accordingly, the County prepared its "Report on the Impact of the State Action Against San Bernardino County Regarding its General Plan Update," which contains numerous recommendations[47] for future requirements to combat global warming.[48] The report has four main sections: (1) energy efficiency and water efficiency program; (2) green buildings/low impact development program; (3) environmental stewardship program; and (4) public outreach and education program.

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46 Documents relating to this County Policy are available online at http://lacounty.info/bos/sop/supdocs/29480.pdf and http://lacounty.info/bos/sop/supdocs/29932.pdf.

47 Los Angeles County Planning and Zoning Code, Title 22.

48 This report is available online at http://planning.co.la.ca.us/docOfficial.htm.

On January 16, 2007, the County Board of Supervisors instructed the Directors of Regional Planning and Public Works to create a program that would require the incorporation of green building standards into industrial, commercial, and residential development Projects within unincorporated County areas. An inter-departmental Task Force was formed and developed the Green Building Program, which includes a green building ordinance, a low-impact development ordinance addressing stormwater management, and a drought-tolerant landscape ordinance. These ordinances were approved by the Board on November 18, 2008, and became effective on January 1, 2009.[49]

The green building ordinance requires the incorporation of green building practices in the construction of new projects. The green building practices are intended to: (1) conserve energy, water, and natural resources; (2) divert waste from landfills; (3) minimize impacts to existing infrastructure; and (4) promote a healthier environment.

The low impact development (LID) ordinance requires the use of LID principles in development projects. LID encourages site sustainability and smart growth in a manner that respects and preserves the characteristics of the County's watersheds, drainage paths, water supplies, and natural resources. Additionally, development projects shall comply with the following:

- Where development results in an alteration to 50 percent or more of the impervious surfaces of a previously existing development, the entire development shall comply with the standards and requirements of this ordinance;

- Where development results in an alteration to less than 50 percent of the impervious surfaces of a previously existing development, only the alteration must meet the standards and requirements of this ordinance; and

- Where development results in an alteration to less than 50 percent of the impervious surfaces of a previously existing residential development of four units or less, the development is exempt from the standards and requirements of this ordinance.

The drought-tolerant landscaping ordinance establishes minimum standards for the design and installation of landscaping using drought-tolerant and native plants that require minimal use of water. The requirements ensures that the County conserves water resources by requiring landscaping that is appropriate to the region's climate and nature of the use.

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[49] Los Angeles County Department of Regional Planning, L.A. County Green Building Program, http://planning.lacounty.gov/green.

ENVIRONMENTAL IMPACTS

Project Improvements

The proposed Project involves the redevelopment of the approximately 15.7-acre property located at 1920 Brea Canyon Cutoff Road. The existing Southlands Christian Church and Southlands Christian School structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, recreational facilities for residents, parking structures and on-grade parking containing 1,544 parking spaces, and landscaping throughout the Project site.

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of a portion of the site for below-grade parking, and construction of the new buildings, parking areas, and related improvements. This process would occur over an approximately 36-month period.

The Project is scheduled to be in operation in 2012. At this time, the Project would contribute to the GHG inventory on an annual basis. Though Project lifetimes can vary substantially, a 30-year time frame is often used to represent average Project lifetimes. Annual GHG emissions occurring in 2012 would tend to be the worst-case scenario as advanced technologies would be implemented in the future in such areas as energy generation, water conservation, and transportation.

Thresholds of Significance

The County of Los Angeles has not adopted significance thresholds for impacts related to global climate change. While direct GHG emissions can be calculated, the emissions cannot be precisely correlated with specific impacts based on currently available science. Climate change is a global phenomenon, making it difficult to develop scientific tools and policy needed to determine a CEQA significance threshold for climate change or GHG emissions. CEQA grants agencies with the general authority to adopt criteria for determining whether a given impact is "significant."[50] "The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data."[51] When no guidance exists under

50 See Cal. Pub. Resources Code Sec. 21082.

51 *CEQA Guidelines* Section 15064(b).

CEQA, the agency may look to and assess general compliance with comparable regulatory schemes.[52]

The Natural Resources Agency adopted the CEQA Guideline Amendments to include criteria for evaluating GHG emissions December 30, 2009. According to the adopted amendments, a project would have a significant effect on the environment if it would:

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

The first criteria may be evaluated by performing a direct calculation of the GHG emissions from the project. However, the County of Los Angeles, CARB, and the SCAQMD, have not adopted numerical significance thresholds for GHG emissions. The second criteria may be evaluated by demonstrating compliance with plans and programs adopted by local governments to curb GHG emissions. According to the Natural Resources Agency:

> *Provided that such plans contain specific requirements with respect to resources that are within the agency's jurisdiction to avoid or substantially lessen the agency's contributions to GHG emissions, both from its own projects and from private projects it has approved or will approve, such plans may be appropriately relied on in a cumulative impacts analysis.*[53]

The County of Los Angeles has not yet adopted a plan or program that demonstrates reductions in GHG emissions that would not result in a significant environmental impact under CEQA. Therefore, the second threshold may not be explicitly applied. Currently, there are four existing potentially applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions that may be used to evaluate the project's significance: (1) AB 32 guidance and the Attorney General's recommended mitigation measures, (2) the 2006 CAT Report, (3) the OPR technical advisory, and (4) the Los Angeles County Green Building Program. While not a specific component of AB 32, the California Attorney General has been active issuing comment letters and other documents concerning proposed development projects and encouraging the use of certain mitigation measures for those projects to reduce GHG

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52 See *Protect Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th 1099, 1107 ["[A] lead agency's use of existing environmental standards in determining the significance of a project's environmental impacts is an effective means of promoting consistency in significance determinations and integrating CEQA environmental review activities with other environmental program planning and resolution."]. Lead agencies can, and often do, use regulatory agencies' performance standards. A project's compliance with these standards usually is presumed to provide an adequate level of protection for environmental resources. See, e.g., *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 99 (upholding use of regulatory agency performance standard).

53 Natural Resources Agency, *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*, (2009) 15.

emissions.[54] Although these measures are not a part of a regulatory scheme at this time, they provide a tool to assess general compliance with the standards of AB 32.

The regulations required to meet the goal under AB 32 of reducing emissions to 1990 levels by 2020 have yet to be implemented – they are scheduled to be implemented no later than January 1, 2012. The list of discrete early action measures that can be adopted and implemented before January 1, 2010, was adopted by CARB in June 2007. The early action measures focus on major statewide contributing sources and industries, not on individual development projects or practices. At this time, there is no single relevant criterion by which the implementation of the Proposed Project can be judged to support or hinder attainment of the state's goals.

Neither federal, state, nor local authorities have yet formally established project-level significance thresholds for GHG emissions applicable to the Project. OPR has issued the following guidelines to consider in determining significance:

- Lead agencies must describe the existing environmental conditions or setting, without the project, which normally constitutes the baseline physical conditions for determining whether a project's impacts are significant;
- Lead agencies' determination of significant impacts must be consistent with available guidance and current CEQA practice;
- Although global climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.[55]

The State of California, through its governor and its legislature, has established a comprehensive framework for the substantial reduction of GHG emissions over the next 40 plus years. This will occur primarily through the implementation of AB 32 and Executive Order S-3-05, which will address GHG emissions on a statewide cumulative basis. In addition, the Secretary of Cal/EPA created the Climate Action Team, which, in March 2006, published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (2006 CAT Report). The 2006 CAT Report identifies a recommended list of strategies that the state could pursue to reduce climate change GHG emissions.

The Los Angeles County Green Building Program also does not establish any thresholds for determining significance of GHG emissions. Instead, as discussed above, the program details various broad goals and actions, focusing on promoting energy efficiency, conserving natural resources, and reducing waste.

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54 California Attorney General, The California Environmental Quality Act," Addressing Global Warming Impacts At The Local Agency Level," http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf.

55 Governor's Office of Planning and Research, *Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review,* (2008).

In the absence of adopted thresholds, this analysis applies a threshold of significance where the proposed Project would be found to not have a significant impact on global climate change if the proposed Project is generally consistent with the overall goals, strategies, and control measures established under AB 32 and associated guidance, 2006 CAT Report, any general OPR guidance regarding emissions, and the Los Angeles County Green Building Ordinance, and the Los Angeles County Drought-Tolerant Landscaping Ordinance. These goals, strategies, and control measures represent the current state and local efforts (and regulatory schemes) to mitigate and reduce the County of Los Angeles and the State of California's impacts on global climate change. Thus, the proposed Project would be considered to have a significant impact with regards to global climate change, either on a project-specific basis or with respect to its contribution to a cumulative impact on global climate change if it is generally inconsistent with the goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Program.

Impact Analysis

Threshold 1: **Is the Project consistent with the overall goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Program?**

Analysis

Construction Impacts

The Project would result in one-time emissions of GHGs during Project construction. These emissions, primarily CO_2, CH_4, and N_2O, are the result of fuel combustion from construction equipment and motor vehicles. The other primary GHGs (perfluorocarbons and sulfur hexafluoride) are associated with specific industrial sources, such as aluminum production, semiconductor manufacturing, and electrical insulation in high voltage equipment, and are not expected to be emitted by the proposed Project.

The one-time emissions of CO_2, the primary greenhouse gas associated with construction of the Project, were estimated using URBEMIS2007 using the same construction phasing, equipment, and hauling assumptions in **Section 5.4, Air Quality**, of the Draft EIR. In addition to criteria pollutant emissions, URBEMIS2007 calculates CO_2 emissions for land use project. The following adjustments were used to convert the calculated CO_2 emissions to GHG emissions on a carbon dioxide equivalent basis:

- Construction diesel trucks and equipment: The CO_2 emissions associated with off-road and on-road equipment were multiplied by a factor based on the assumption that CO_2 represents approximately

99.4 and 99.0 percent, respectively, of the CO_2e emissions. These assumptions were derived from the California Climate Action Registry[56] and the California Energy Commission.[57]

- Motor vehicles: The CO_2 emissions associated with Project-generated trips were multiplied by a factor based on the assumption that CO_2 represents 95 percent of the CO_2e emissions associated with passenger vehicles, which account for most of the Project-related trips.[58]

The estimated one-time GHG emissions associated with construction of the Project are shown in **Table 5.5-5, Estimated One-Time Greenhouse Gas Emissions**. The South Coast Air Quality Management District recommends annualizing construction-related GHG emissions over a project's lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. The South Coast Air Quality Management District has defined a project lifetime to be a 30-year period. In accordance with this methodology, the proposed Project's construction GHG emissions have been annualized over a 30-year period and are included in the annualized operational total discussed in the next section.

Unlike federally and state-regulated criteria pollutants, which predominantly affect local and regional air quality, GHGs tend to remain in the atmosphere for longer periods of time and can have global impacts. As previously explained, the current recommended methodology for evaluating the global warming potential of GHGs is to allow prediction of the warming potential of CO_2 over a 100-year period as a baseline. Although GHGs are generated during project-related construction and are accordingly considered one-time emissions, it is important to include construction-related GHG emissions when assessing all of the long-term GHG emissions associated with a project.

This is in contrast to the current recommended methodology for the evaluation of Project-related criteria pollutants, which predominantly affect local and regional (not global) air quality, and mitigation measures are developed and applied accordingly (as needed). (See **Section 5.4, Air Quality**, of the Draft EIR for further discussion of these impacts and mitigation measures). The South Coast Air Quality Management District's method of including construction-related GHG emissions in long-term operational assessments is consistent with current CEQA practice.

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56 California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse as Emissions* Version 3.0, (2008) 95-96.

57 California Energy Commission, *Diesel Use in California*, Remarks by Commissioner James D. Boyd, (2002).

58 U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *Greenhouse Gas Emissions from a Typical Passenger Vehicle (EPA420-F-05-004)*, (2005) 4.

Table 5.5-5
Estimated One-Time Greenhouse Gas Emissions

GHG Emissions Source	Emissions (Metric Tons CO_2e/year)
One-Time Emissions:	
Construction Year 2009	63.72
Construction Year 2010	1,406.27
Construction Year 2011	1,625.15
Construction Year 2012	1,344.19
One-Time Total GHG Emissions	**4,439.33**
Annualized over Project Lifetime	**147.98**

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in ***Appendix 5.5****.*
Totals in table may not appear to add exactly due to rounding.

Operational Impacts

At full buildout, the Project would result in direct annual emissions of GHGs during Project operation. These emissions, primarily CO_2, CH_4, and N_2O, are the result of fuel combustion from building heating systems and motor vehicles. Building and motor vehicle air conditioning systems may use HFCs (and HCFCs and CFCs to the extent that they have not been completely phased out at later dates); however, these emissions are not quantified since they would only occur through accidental leaks. It is not possible to estimate the frequency of accidental leaks without some level of speculation. It should be noted that CARB has proposed a draft regulation that would reduce emissions of these refrigerants from stationary refrigeration and air-conditioning systems by requiring persons subject to the rule to reclaim, recover, or recycle refrigerant and to properly repair or replace faulty refrigeration and air conditioning equipment.

The direct emissions of CO_2, the primary greenhouse gas associated with operation of the Project, were estimated using URBEMIS2007 with the following adjustments to convert CO_2 emissions to GHG emissions on a carbon dioxide equivalent basis:

- Area sources (natural gas combustion from heating, water heaters, etc.): The CO_2 emissions from natural gas consumption for the Project were adjusted based on emission factors for CO_2, CH_4, and N_2O for natural gas combustion from URBEMIS2007 and the California Climate Action Registry[59].

59 California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions* Version 3.0, (2008) 97-99.

- Motor vehicles: The CO_2 emissions associated with Project-generated trips were multiplied by a factor based on the assumption that CO_2 represents 95 percent of the CO_2e emissions associated with passenger vehicles, which account for most of the Project-related trips.[60]

The estimated natural gas demand for the Project was obtained from factors in the URBEMIS2007 model. However, this factor was adjusted to account for increased energy efficiencies due to more stringent Title 24 Building Code standards. The SCAQMD *CEQA Air Quality Handbook*, published in 1993, provides a natural gas consumption factor of 4,011.5 cubic feet per unit per month.[61] Because the factor was developed prior to the adoption of the Title 24 (2005) standard, it was assumed that the factor is not representative of natural gas demand given the increases in energy efficiency since 1993. According to the CEC, the Title 24 (2005) standards would reduce multi-family residential natural gas demand by 15.7 percent compared to the previous Title 24 (2001) standard.[62] This factor was taken into account in the calculations.

The inclusion of motor vehicle emissions may overstate the GHG emissions attributable to the Project since the Project will largely reallocate already existing vehicle trips associated with other existing residential land uses elsewhere in the region and, unlike the evaluation of criteria pollutant contributions to air quality at the local and regional level in **Section 5.4, Air Quality,** of this Draft EIR, GHG analysis considers contributions to the atmosphere on a global scale. A portion of the occupants of the Project will likely comprise people already living and commuting in the region. Therefore, some of the GHG emissions from motor vehicles attributed to the Project are existing emissions. In addition, the Project's location in proximity to commercial uses and public transportation will further reduce vehicle miles traveled, and, consequently, motor vehicle emissions. Nonetheless, the full extent of the motor vehicle emissions are calculated and included for the Project, which provides a conservative estimate.

The Project would also result in indirect GHG emissions from various off-site sources. These include emissions due to the electricity demands, water demands, wastewater generation, and solid waste generation of the Project. Emission factors for GHGs due to electrical demand from the Project's land uses were obtained from CARB's *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, which contains GHG emission factors from utility providers in California.[63] The cited factors in the CARB report are based on data collected by the CCAR. The emission factors take into account the current mix of energy sources used to generate electricity and the relative

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60 U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *Greenhouse Gas Emissions from a Typical Passenger Vehicle* (EPA420-F-05-004), (2005) 4.

61 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) Table A9-12-A, Page A9-117.

62 California Energy Commission, *Impact Analysis: 2005 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings*, (2003).

63 California Air Resources Board, *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, Version 1.0, (2008) 174.

carbon intensities of these sources, and includes natural gas, coal, nuclear, large hydroelectric, and other renewable sources of energy.

The estimated annual electrical demand for the Project was obtained from factors in the *CEQA Air Quality Handbook*. However, this factor was adjusted to account for increased energy efficiencies due to more stringent Title 24 Building Code standards. The SCAQMD *CEQA Air Quality Handbook*, published in 1993, provides an electricity consumption factor of 5,625.50 kilowatt-hours per unit per year.[64] Because the factor was developed prior to the adoption of the Title 24 (2005) standard, it was assumed that the electrical demand factor is not representative of electricity demand given the increases in energy efficiency since 1993. According to the CEC, the Title 24 (2005) standards would reduce multi-family residential electricity demand by 24.3 percent compared to the previous Title 24 (2001) standard.[65] This factor was taken into account in the calculations.

In addition to electrical demand, the Project would also result in indirect GHG emissions due to water demand, wastewater treatment, and solid waste generation. GHG emissions from water demand are due to the electricity needed to convey, treat, and distribute potable water. GHG emissions from wastewater are due to the electricity needed to treat wastewater and the treatment process itself, which primarily releases CH_4 into the atmosphere. GHG emissions from solid waste generation are due to the decomposition of organic material, which releases CH_4 into the atmosphere. The annual electrical demand factor for water demand[66] was obtained from the California Energy Commission. GHG emission factors for wastewater treatment[67] and solid waste generation[68] were obtained from the U.S. EPA.

The estimated maximum annual GHG emissions associated with operation of the Project are shown in **Table 5.5-6, Estimated Annual Greenhouse Gas Emissions**.

64 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) Table A9-12-A, Page A9-114.

65 California Energy Commission, *Impact Analysis: 2005 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings*, (2003).

66 California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report* (CEC-500-2006-118), (2006) 22. Prepared by Navigant Consulting, Inc.

67 U.S. Environmental Protection Agency, *Compilation of Air Pollutant Emission Factors, AP-42,* Fifth Edition, Volume I, Chapter 4.3.5, (1998).

68 U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Greenhouse Gas Emission Factors for Management of Selected Materials in Municipal Solid Waste* (EPA-530-R-98-013), (1998).

Table 5.5-6
Estimated Annual Greenhouse Gas Emissions

GHG Emissions Source	Emissions (Metric Tons CO_2e/year)
Annualized One-Time GHG Emissions over Project Lifetime (Including Construction)	**147.98**
Annual Emissions:	
Motor Vehicles	7,853.77
Area Sources (Natural Gas Consumption for Heating, Water Heaters, and Landscape Maintenance)	1,740.88
Electricity Consumption	1,022.49
Solid Waste Generation	24.13
Water Supply	200.91
Wastewater Treatment	58.03
Annual GHG Emissions	**10,900.21**
Existing Land Use GHG Emissions	1,003.44
Net Annual GHG Emissions	**9,896.77**
Net Total Annualized GHG Emissions over Project Lifetime (Including Construction)	**10,044.75**

Source: Impact Sciences, Inc., (2009). Emissions calculations are provided in ***Appendix 5.5****.*
Totals in table may not appear to add exactly due to rounding.

Comparison with Equivalent California Housing Stock

While it is necessary to determine the Project's one-time and annual greenhouse gas emissions, no applicable quantitative threshold has been formally adopted with which to determine the Project's significance under CEQA based on these emissions. The increased accumulation of GHGs in the atmosphere is the major concern with respect to global climate change. Due to the complex physical, chemical, and atmospheric mechanism involved in global climate change, it is not possible to predict the specific impact, if any, to global climate change from one project's relatively small incremental increase in emissions.

As a result, in order to determine Project-specific impacts, this section analyzes whether the Project is generally consistent with the overall emission reduction goals, strategies and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Ordinance, and the Los Angeles County Drought-Tolerant Landscaping Ordinance. In order to help determine the Project's consistency with these emission reduction goals,

strategies, and control measures, the Project's GHG emissions associated with energy consumption (i.e., electricity and natural gas) was compared to the GHG emissions associated with the average energy consumption from the equivalent number of dwelling units in the current housing stock in the State of California. Because the electricity consumption data obtained for the housing stock in California was based on retail electricity sales to the residential sector, energy consumption associated with water and wastewater were not included in this comparison. Additionally, GHG emission factors for the housing stock in California were based on statewide average factors from the California Climate Action Registry. Emission factors for the proposed Project were based on data contained in CARB's *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, as discussed above.

The results of this comparison are shown in **Table 5.5-7, Comparison of GHG Inventory from Housing Stock Between Proposed Project and State of California Average.** The results show that the proposed Project would result in a roughly 29 percent decrease in GHG emissions from energy consumption compared to the equivalent number of dwelling units in the average California housing stock. It should be noted that this comparison provides only a rough estimate and that the actual results could vary based on factors such as actual levels of GHG reductions achieved from Project design features and mitigation measures, actual energy demands of the residents upon operation, and accuracy of the emission factor data.

Table 5.5-7
Comparison of GHG Inventory from Housing Stock Between Proposed Project and State of California Average

Source	GHG Emissions ($MTCO_2e$/year)		
	Electricity	Natural Gas	Total
Proposed Project[1]	1,022.49	1,740.42	**2,762.91**
California Average[2]	2,154.51	1,710.96	**3,865.47**
Improvement over California Average	53 percent	-2 percent	**29 percent**

*Source: Impact Sciences, Inc., (2009). Emissions calculations are provided in **Appendix 5.5**.*

[1] *The natural gas emissions for the proposed Project do not include emissions from landscaping equipment, as listed under "Area Sources" in **Table 5.5-6**.*

[2] *The "California Average" natural gas emissions calculation is based on statewide residential natural gas combustion divided by the statewide population. However, not all residential units in the state use natural gas as a primary fuel, which results in a lower average statewide natural gas factor. Homes that do not use natural gas (or use very limited natural gas) use more electricity, which explains why the statewide electricity factor is much higher.*

While AB 32 requires GHG emission reductions to 1990 levels, it did not establish any quantitative thresholds for use in CEQA. Nonetheless, OPR recommends projects determine their GHG emissions

using best available data. The GHG emissions for the Project were calculated with reasonably conservative estimates and do not include any specific GHG reductions associated with Project design features or mitigation measures. The comparison below is based on the total Project GHG emissions associated with energy use, and does not account for net reductions from existing land uses.

Los Angeles County Green Building Program GHG Emission Reductions

As adopted by the County Board of Supervisors, the County's Green Building Program took effect January 1, 2009. The Project would be exempt from the LID ordinance since an exception applies for any complete development application filed with the Department of Regional Planning prior to January 2009. The GHG emissions presented above in **Table 5.5-6** and **Table 5.5-7** do not incorporate any GHG reductions that would be present in a Project complying with the Green Building Program or other "green" building measures; therefore, the emissions represent an overestimation. The Project Applicant has committed to implement Project design features that would reduce emissions of GHGs. The specific measures are presented later under **subsection, Cumulative Impacts**. While the GHG reductions from some of the Project design features are not readily quantifiable, it is possible to quantify the reductions associated with the Project's energy reduction features, which shall achieve a minimum 15 percent reduction in energy consumption as compared to California energy standards. **Table 5.5-8, Estimated Annual Greenhouse Gas Emissions (with Reduced Energy Consumption)**, provides an estimate of the Project's GHG emissions with a 15 percent reduction in energy consumption. **Table 5.5-9, Comparison of GHG Inventory from Housing Stock between Proposed Project and State of California Average (with Reduced Energy Consumption)**, provides a comparison of the Project's GHG emissions with a 15 percent reduction in energy consumption to the State of California average.

Table 5.5-8
Estimated Annual Greenhouse Gas Emissions (with Reduced Energy Consumption)

GHG Emissions Source	Emissions (Metric Tons CO_2e/year)
Annualized One-Time GHG Emissions over Project Lifetime	**147.98**
Annual Emissions:	
Motor Vehicles	7,853.77
Area Sources (Natural Gas Consumption for Heating, Water Heaters [Reduced], and Landscape Maintenance)	1,479.82
Electricity Consumption – Reduced	869.11
Solid Waste Generation	24.13
Water Supply	200.91
Wastewater Treatment	58.03

GHG Emissions Source	Emissions (Metric Tons CO_2e/year)
Annual GHG Emissions	**10,485.77**
Existing Land Use GHG Emissions	1,003.44
Net Annual GHG Emissions	**9,482.33**
Net Total Annualized GHG Emissions over Project Lifetime	**9,630.31**

*Source: Impact Sciences, Inc., (2009). Emissions calculations are provided in **Appendix 5.5**.*
Totals in table may not appear to add exactly due to rounding.

With the lack of adopted quantitative significance thresholds for use in CEQA analyses, this Draft EIR evaluates the Project's consistency with the goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Program. The Project incorporates several design features that would reduce criteria pollutant emissions, as well as GHG emissions, relative to "business as usual," which is defined as the level of GHG emissions that would occur absent regulations and programs that would reduce GHG emissions, such as green building programs. The specific Project design features are discussed below in **subsection, Cumulative Impacts**. The Cumulative Impacts section that follows discusses how the Project would be consistent with applicable GHG reduction measures and strategies recommended by OPR, the Climate Action Team, the Office of the State Attorney General, the County of Los Angeles, and the AB 32 Scoping Plan upon implementation of the "green" Project design features.

Table 5.5-9
Comparison of GHG Inventory from Housing Stock between Proposed Project and State of California Average (with Reduced Energy Consumption)

Source	GHG Emissions ($MTCO_2e$/year)		
	Electricity	Natural Gas	Total
Proposed Project[1]	869.11	1,479.36	**2,348.47**
California Average[2]	2,154.51	1,710.96	**3,865.47**
Improvement over California Average	60 percent	14 percent	**39 percent**

*Source: Impact Sciences, Inc., (2009). Emissions calculations are provided in **Appendix 5.5**.*

[1] *The natural gas emissions for the proposed Project do not include emissions from landscaping equipment, as listed under "Area Sources" in **Table 5.5-8**.*

[2] *The "California Average" natural gas emissions calculation is based on statewide residential natural gas combustion divided by the statewide population. However, not all residential units in the state use natural gas as a primary fuel, which results in a lower average statewide natural gas factor. Homes that do not use natural gas (or use very limited natural gas) use more electricity, which explains why the statewide electricity factor is much higher.*

Project GHG Emission Impacts

While the proposed Project would result in emissions of GHGs, no applicable guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. Global climate change models are not sensitive enough to be able to predict the effect of a single Project on global temperatures and the resultant effect on climate; therefore, they cannot be used to evaluate the significance of a Project's impact.

The emissions associated with the proposed Project likely represent a conservative assessment of the actual GHG emissions that would result from development. As shown in **Table 5.5-8**, GHG emissions from motor vehicles represent over half of the total emissions associated with the Project. Neither the state nor the federal government currently regulates tailpipe GHG emissions. However, several proposed regulatory actions have taken place at the federal and state level that would reduce GHG emissions from motor vehicles. As previously discussed, the U.S. EPA and the NHTSA issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. CARB has also adopted the Low Carbon Fuel Standard and the Tire Pressure Program as discrete early action items under AB 32. The air quality models do not take into account reductions associated with these transportation-related GHG reduction measures. Additionally, the state is aggressively pursuing GHG reductions in the energy sector by mandating that both investor-owned and publicly owned utilities achieve a statewide energy mix that includes 33 percent renewable energy by 2020. The additional reductions from increased renewable energy sources above today's level were also not taken into account in the air quality models. For these, reasons, the Project's emissions in **Table 5.5-8** represent a conservative estimate.

It is generally the case that an individual Project of this size is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.[69] GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.[70] In addition, man-made GHG emissions from the State of California as of 2006 totaled approximately 484 $MMTCO_2e$ (including GHG emissions associated with imported electricity). The state's GHG emissions inventory in more recent years may differ; however, the data presented reflects the currently available emissions data. Assuming state GHG emissions of 484 $MMTCO_2e$, the proposed project would contribute approximately 0.0020 percent to the annual state GHG inventory. As presented in **Table 5.5-9**, the Project would emit 39 percent less GHG emissions due

69 California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, (2008) 35.

70 Ibid.

to energy consumption than the average California housing stock. For the reasons discussed in this section, the Project's GHG emissions would have a less than significant impact.

CUMULATIVE IMPACTS

Threshold: **Is the Project consistent with the overall goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Program?**

Project impacts would have a cumulatively considerable contribution to global climate change impacts if the Project is not generally consistent with the emissions reduction goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Program. The Project's contribution to state, national, and global GHG emission inventories and the resultant effect on global climate should be evaluated on a cumulative basis. As the Project would generate GHG emissions, it could potentially result in cumulative impacts of GHG emissions on the global climate.

Under Section 15064(h)(1) of the *State CEQA Guidelines*, a project must be assessed to determine if it would have a cumulatively considerable effect on a resource, where cumulatively considerable is defined as "… the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."[71] Section 15064(h)(4) further states, "The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."[72] Therefore, the fact that the proposed Project would result in emissions of GHGs (chiefly carbon dioxide), and that global GHGs emissions contribute to the greenhouse effect and the resultant impacts on global climate, does not necessarily mean that the Project would have a cumulatively considerable impact on global climate.

A Project's consistency with the implementing programs and regulations to achieve the statewide GHG emission reduction goals established under AB 32 cannot be evaluated explicitly because they are still under development. In June 2008, the California Air Resources Board issued the AB 32 Draft Scoping Plan, and the Final Scoping Plan was adopted in December 2008. Consistency with the applicable measures is assessed to determine if the Project's contribution to cumulative GHG emissions is considerable.

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71 *California Environmental Quality Act (CEQA) Guidelines*, California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, Section 15064.

72 Ibid.

Table 5.5-10, Consistency of Sustainable Strategies with AB 32 Proposed Scoping Plan Measures, lists all pertinent measures included in the California Air Resources Board's Scoping Plan for the state's compliance with AB 32, and presents the goals, strategies, targets, project design features, and mitigation measures in this EIR that comply with the Scoping Plan measures.

Table 5.5-10
Consistency of Sustainable Strategies with AB 32 Proposed Scoping Plan Measures

Scoping Plan Measure	Project Design Feature/Mitigation Measure
SPM-1: California Cap-and-Trade Program linked to Western Climate Initiative	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-2: California Light-Duty Vehicle GHG Standards	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-3: Energy Efficiency	*Compatible Feature(s):* The Project constitutes infill development within an urban growth boundary and in close proximity to jobs, services, and public transit. Since access to these uses would facilitate a reduction in vehicle miles traveled, this land use arrangement would maximize energy conservation. Further, the Project would support energy conservation by incorporating environmentally sensitive and sustainable design features such that the Project may qualify for certification under the *Build It Green* program, a collection of development standards developed by a non-profit collaborative dedicated to promoting sustainable, energy-efficient development in California. Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling. Additionally, Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas.
SPM-4: Renewables Portfolio Standard	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

Scoping Plan Measure	Project Design Feature/Mitigation Measure
SPM-5: Low Carbon Fuel Standard	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-6: Regional Transportation-Related Greenhouse Gas Targets	*Compatible Feature(s):* The proposed Project represents infill within an urbanized area of Rowland Heights. The Project site is in close proximity to neighborhood-serving retail and commercial stores at the intersection of Colima Road and Brea Canyon Cutoff Road, placing Project residents within a short walking distance of a wide variety of services. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road and Colima Road intersection. Accordingly, this would encourage Project residents to walk from the Project site to the various surrounding land uses and services. Through the provision of landscaped areas and streetscape upgrades, the Project also would provide a pedestrian-friendly environment and would encourage walking between adjacent land uses. The Project site is located close to public bus service and the Metrolink commuter rail station in the City of Industry. As a result, the proposed Project has the potential to reduce automobile emissions and greenhouse gases as future residents would have the opportunity to utilize alternative modes of transportation. The Project will provide housing in an area served by mass transit to reduce Project-related vehicle trips. Further, the Project Applicant will provide bicycle parking facilities, and will provide residents with information regarding local and regional public transportation services.
SPM-7: Vehicle Efficiency Measures	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-8: Goods Movement	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-9: Million Solar Roofs Program	No solar facilities are proposed as part of the Project. See the response to SPM 13 below for discussion of other energy conservation features proposed as part of the Project. However, the Project will install electrical conduits from the roofs of the podium and wrap buildings to the electrical rooms to aid in future solar panel installation.
SPM-10: Heavy/Medium-Duty Vehicles	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-11: Industrial Emissions	*Not Applicable:* The project does not contain any industrial land uses or industrial sources of emissions.
SPM-12: High Speed Rail	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

Scoping Plan Measure	Project Design Feature/Mitigation Measure
SPM-13: Green Building Strategy	*Compatible Feature(s):* The Project would support energy conservation by incorporating environmentally sensitive and sustainable design features such that the Project may qualify for certification under the *Build It Green* program, a collection of development standards developed by a non-profit collaborative dedicated to promoting sustainable, energy-efficient development in California. Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling. Additionally, Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas. Finally, the Project constitutes infill development within an urban growth boundary and in close proximity to jobs, services, and public transit. Since access to these uses would facilitate a reduction in vehicle miles traveled, this land use arrangement would maximize energy conservation.
SPM-14: High GWP Gases	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
SPM-15: Recycling and Waste	*Compatible Feature(s):* The Project Applicant shall recycle and/or salvage for reuse a minimum of 65 percent of non-hazardous construction and demolition debris by weight. The Project will also include on-site recycling for residents.
SPM-16: Sustainable Forests	*Not Applicable:* The project does not contain any forested lands.

Scoping Plan Measure	Project Design Feature/Mitigation Measure
SPM-17: Water	*Compatible Feature(s):* The Project Applicant would ensure drought-tolerant landscaping complies with all requirements within Title 22 Part 21 of Chapter 22.523, and would install a smart irrigation controller for any area that is landscaped or designated for future landscaping. Additionally, the Project will reduce water consumption through the use of drought-tolerant landscaping and reclaimed water as provided by the Water District for landscape irrigation. The Project would also include 2.0-gallon-per-minute shower heads for bathrooms, flow limiters on all faucets, and high-efficiency toilets.
SPM-18: Agriculture	*Not Applicable:* The Project does not contain any agricultural land uses or agricultural sources of emissions.

Source: Impact Sciences, Inc., (2008).

As illustrated in the preceding section, the proposed Project is generally consistent with the goals, strategies, and control measures established under AB 32.

The Attorney General has published a list of GHG reduction measures that can be included as project design features, required changes to the project, or mitigation measures. The measures are intended to provide recommendations to lead agencies that may be helpful in carrying out their duties under CEQA with respect to greenhouse gases and climate change impacts. As listed below in **Table 5.5-11, Consistency with Attorney General's Recommended "Project Level" Measures**, the proposed Project would be generally consistent with applicable Attorney General recommended measures.

Table 5.5-11
Consistency with Attorney General's Recommended "Project-Level" Measures

ID	Measure	Project Feature/Mitigation Measure
Energy Efficiency		
AG-1	Design buildings to be energy-efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.	**Project is Consistent:** • The Project would support energy conservation by incorporating environmentally sensitive and sustainable design features such that the Project may qualify for certification under the *Build It Green* program, a collection of development standards developed by a non-profit collaborative dedicated to promoting sustainable, energy-efficient development in California.

ID	Measure	Project Feature/Mitigation Measure
Energy Efficiency (continued)		
		• Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling. • Additionally, Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas. • The Project Applicant will plant and arrange for the maintenance of a minimum of one 15-gallon tree per every 5,000 square feet of gross lot area, at least 50 percent of which shall be selected from the drought-tolerant approved plant list. • The Project will reduce water consumption through the use of drought-tolerant landscaping, high-efficiency irrigation systems, reclaimed water as provided by the Water District for all landscape irrigation, 2.0-gallon-per-minute shower heads for bathrooms, flow limiters on all faucets, and high-efficiency toilets.

ID	Measure	Project Feature/Mitigation Measure
Energy Efficiency (continued)		
		• Project design would incorporate energy-conserving features as part of its proposed green building design, such that the building performance would exceed Title 24 (2005) requirements. • The Project will reduce electrical demand by installing energy efficient refrigerators and dishwashers as well as garage ventilations fans that are controlled by carbon monoxide sensors. • The proposed Project would include landscaping throughout the site, and the currently proposed landscaping program includes compliance with the County's Drought-Tolerant Landscaping Ordinance and includes such elements as shade trees, flowers, landscape lighting, landscaped building setbacks, and streetscape amenities. Street trees would enhance the streetscape along Brea Canyon Cutoff Road, as well as provide a buffer between the sidewalk and roadway traffic.
AG-2	Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.	**Project is Consistent:** • High-intensity-discharge (HID) lamps, light-emitting diode (LED), or other energy efficient lighting shall be installed for all outdoor lighting to reduce electricity consumption. • Project design would incorporate energy-conserving features as part of its proposed green building design, such that the building performance would exceed Title 24 (2005) requirements.
AG-3	Install light colored "cool" roofs, cool pavements, and strategically placed shade trees.	**Project is Partially Consistent:** See measures discussed above in AG-1.
AG-4	Provide information on energy management services for large energy users.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
AG-5	Install energy efficient heating and cooling systems, appliances and equipment, and control systems.	**Project is Consistent:** See measures discussed above in AG-1.
AG-6	Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.	**Project is Consistent:** See measures discussed above in AG-2.

ID	Measure	Project Feature/Mitigation Measure
Energy Efficiency (continued)		
AG-7	Limit the hours of operation of outdoor lighting.	**Project is Consistent:** See measures discussed above in AG-1 and -2. The Project would limit hours of operation of outdoor lighting to the extent feasible while maintaining proper levels of illumination for security purposes.
AG-8	Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.	**Project Partially Consistent:** • The Project will install energy-efficient pumps and motors for pools and spas.
AG-9	Provide education on energy efficiency.	**Project is Consistent:** • The Project Applicant shall provide educational materials on energy conservation in the leasing office or other similarly accessible area.
Renewable Energy		
AG-10	Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives.	**Project is Partially Consistent:** • No solar or wind power systems or tankless hot water heaters are proposed as part of the Project. However, although specific design criteria have not yet been identified, the Project would incorporate environmentally sensitive and sustainable design features such that the Project may potentially qualify for *Build It Green* certification. • Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling.

ID	Measure	Project Feature/Mitigation Measure
Renewable Energy (continued)		
		• Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas. • The Project will reduce electrical demand by installing energy-efficient appliances, refrigerators, and dishwashers as well as garage ventilations fans that are controlled by carbon monoxide sensors. • The Project will install electrical conduits from the roofs of the podium and wrap buildings to the electrical rooms to aid in future solar panel installation.
AG-11	Install solar panels on carports and over parking areas.	**Project is Not Consistent:** No solar panels are proposed as part of the Project.
AG-12	Use combined heat and power in appropriate applications.	*Not Applicable:* The Project does not propose to construct a power-generating facility. Therefore, this measure is beyond the scope of the proposed Project.
Water Conservation and Efficiency		
AG-13	Create water-efficient landscapes.	**Project is Consistent:** • The Project will reduce water consumption through the use of drought-tolerant landscaping and high-efficiency irrigation systems. Additionally, the Project will use reclaimed water as provided by the Water District for all landscape irrigation.
AG-14	Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.	**Project is Consistent:** • The Project Applicant shall install a smart irrigation controller for any area that is landscaped or designated for future landscaping. • The Project Applicant shall ensure landscaped areas comply with all applicable requirements contained Title 22, Chapter 22.523, Part 21 of the Los Angeles County Planning and Zoning Code.

ID	Measure	Project Feature/Mitigation Measure
Water Conservation and Efficiency (continued)		
AG-15	Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.	**Project is Consistent:** See measures discussed above in AG-13.
AG-16	Design buildings to be water-efficient. Install water-efficient fixtures and appliances.	**Project is Consistent:** • The proposed Project would comply with the Los Angeles County Green Building program and implement measures to qualify for *Build It Green* certification, such as reducing water consumption by specifying the use of drought-tolerant landscaping, reclaimed water as provided by the Water District for landscape irrigation, high-efficiency irrigation systems, 2-gallon-per-minute shower heads for bathrooms, flow limiters on all faucets, and high-efficiency toilets.
AG-17	Use gray water. (Gray water is untreated household wastewater from bathtubs, showers, bathroom washbasins, and water from clothes washing machines.) For example, install dual plumbing in all new development allowing gray water to be used for landscape irrigation.	**Project is Consistent:** • The Project would not use gray water, but proposes to use reclaimed water as provided by the Water District for landscape irrigation.
AG-18	Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.	**Project is Consistent:** • As discussed in **Section 5.2, Hydrology, Drainage, and Water Quality**, the Applicant would be required to implement a Standard Urban Storm Water Mitigation Plan (SUSMP) to ensure that potential stormwater pollution is addressed by Best Management Practice (BMP) features incorporated into project design. The proposed storm drain improvements would include a network of above-ground gutters and catch basins that would direct and capture all surface runoff. Following filtration and/or detention, all runoff generated on the Project site would be discharged into the existing 72-inch storm drain beneath the site. Additionally, although periodic cleaning and maintenance of the parking surfaces would still contribute pollutants to runoff, all post-Project runoff would be treated on site before entering the County storm drain system.
AG-19	Restrict the use of water for cleaning outdoor surfaces and vehicles.	**Project is Consistent:** See measures discussed above in AG-18.

ID	Measure	Project Feature/Mitigation Measure
Water Conservation and Efficiency (continued)		
AG-20	Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining stormwater runoff on site can drastically reduce the need for energy-intensive imported water at the site.)	**Project is Consistent:** See the measures discussed above in AG-18.
AG-21	Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.	**Project is Consistent:** See measures discussed above in AG-13 and AG-16, and below in AG-22.
AG-22	Provide education about water conservation and available programs and incentives.	**Project is Consistent:** • The Project Applicant will provide educational materials about environmental conservation measures, the benefits of high density development, ways to reduce GHG emissions, and waste reduction. The educational materials shall be available to residents in the leasing office or other similarly accessible area.
Solid Waste Measures		
AG-23	Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).	**Project is Consistent:** • The Project Applicant will recycle and/or salvage for reuse a minimum of 65 percent of non-hazardous construction and demolition debris by weight.
AG-24	Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.	**Project is Consistent:** • The Project would comply with the diversion goals of the County's Source Reduction and Recycling Element, which is required to achieve the State's mandates of 50, 60, and 75 percent waste disposal reductions for the years 2000, 2015, and 2020, respectively. • The Project will include on-site recycling for residents.
AG-25	Recover by-product methane to generate electricity.	*Not Applicable:* This is beyond the scope of the proposed Project.
AG-26	Provide education and publicity about reducing waste and available recycling services.	**Project is Consistent:** See measures discussed above in AG-22.

ID	Measure	Project Feature/Mitigation Measure
Land Use Measures		
AG-27	Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of services and goods.	**Project is Consistent:** • The Project would provide housing in an area served by mass transit, which would reduce Project-related vehicle trips. • The Project constitutes infill development on currently underutilized property within an urbanized area of Rowland Heights. The proposed Project is an infill project located in close proximity to neighborhood-serving retail and commercial stores at the intersection of Colima Road and Brea Canyon Cutoff Road, placing Project residents within a short walking distance of a wide variety of uses. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road and Colima Road intersection. Accordingly, this would encourage Project residents to walk from the Project site to the various surrounding uses and services. • Through the provision of landscaped areas and streetscape upgrades, the Project also would provide a pedestrian-friendly environment and would encourage walking between adjacent uses. • The Project site is located close to public bus service and the Metrolink commuter rail station in the City of Industry. As a result, the proposed Project has the potential to reduce automobile emissions and greenhouse gases as future residents would have the opportunity to utilize alternative modes of transportation. • The Project Applicant will provide sufficient bicycle parking facilities. The Project Applicant will also provide residents with information regarding local and regional public transportation services.
AG-28	Educate the public about the benefits of well-designed, higher density development.	**Project is Consistent:** See measures discussed above in AG-22.
AG-29	Incorporate public transit into project design.	**Project is Consistent:** See measures discussed above in AG-27.

ID	Measure	Project Feature/Mitigation Measure
Land Use Measures (continued)		
AG-30	Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.	**Project is Consistent:** • The Project site contains three coast live oak trees, one of which is a heritage tree. The three oak trees would be removed as part of the Project. However, consistent with the requirements outlined in the Oak Tree Report for the Project, this impact shall be mitigated through compliance with County Code Section 22.56.2050 et seq., which provides for the replacement of affected oak trees at a ratio of 2:1 for non-heritage oak trees and a ratio of 10:1 for heritage oak trees (County Code Section 22.56.2180) or a payment into the Oak Forestry Special Fund in an amount equivalent to the oak resource loss if the County Forester determines that replacement or relocation on site is inappropriate (County Code Section 22.56.2140). • The proposed Project would include abundant landscaping throughout the site, and the currently proposed landscaping program includes compliance with the County's Drought-Tolerant Landscaping Ordinance and includes such elements as shade trees, flowers, landscaping lighting, landscaped building setbacks, and streetscape amenities. Street trees would enhance the streetscape along Brea Canyon Cutoff Road, as well as provide a buffer between the sidewalk and roadway traffic.
AG-31	Develop "brownfields" and other underused or defunct properties near existing public transportation and jobs.	**Project is Consistent:** See measures discussed above in AG-27.
AG-32	Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.	**Project is Consistent:** See measures discussed above in AG-27.

ID	Measure	Project Feature/Mitigation Measure
Transportation and Motor Vehicles		
AG-33	Limit idling time for commercial vehicles, including delivery and construction vehicles.	**Project is Consistent:** The proposed Project would comply with current State law, which restricts diesel truck idling to 5 minutes or less.
AG-34	Use low or zero-emission vehicles, including construction vehicles.	**Project is Consistent:** The medium- and heavy-duty vehicles used during construction and operation of the proposed Project would comply with applicable California Air Resources Board and/or U.S. Environmental Protection Agency emission standards.
AG-35	Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride-sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and providing a web site or message board for coordinating rides.	**Project is Consistent:** See measures discussed above in AG-27.
AG-36	Create car-sharing programs. Accommodations for such programs include designating parking spaces for the car-share vehicles at convenient locations accessible by public transportation.	**Project is Consistent:** See measures discussed above in AG-27. Additionally, mitigation in **Section 5.4, Air Quality**, would require the Project to provide designate parking spaces for carpools and vanpools.
AG-37	Create local "light vehicle" networks, such as neighborhood electric vehicle (NEV) systems.	*Not Applicable:* This is beyond the scope of the proposed Project.
AG-38	Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
AG-39	Increase the cost of driving and parking private vehicles by, e.g., imposing tolls and parking fees.	**Project is Consistent:** The cost of all parking stalls allocated to residential units are included as part of the rental fee.
AG-40	Build or fund a transportation center where various public transportation modes intersect.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
AG-41	Provide shuttle service to public transit.	*Not Applicable:* This is beyond the scope of the proposed Project.
AG-42	Provide public transit incentives such as free or low-cost monthly transit passes.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
AG-43	Promote "least polluting" ways to connect people and goods to their destinations.	**Project is Consistent:** See measures discussed above in AG-27.

ID	Measure	Project Feature/Mitigation Measure
Transportation and Motor Vehicles (continued)		
AG-44	Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.	**Project is Consistent:** See measures discussed above in AG-27.
AG-45	Incorporate bicycle-friendly intersections into street design.	**Project is Consistent:** See measures discussed above in AG-27.
AG-46	For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.	*Not Applicable:* The proposed Project would not consist of commercial uses.
AG-47	Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	**Project is Consistent:** See measures discussed above in AG-27.
AG-48	Work with the school district to restore or expand school bus services.	*Not Applicable:* This is beyond the scope of the proposed Project.
AG-49	Institute a telecommute work program. Provide information, training, and incentives to encourage participation. Provide incentives for equipment purchases to allow high-quality teleconferences.	*Not Applicable:* This is beyond the scope of the proposed Project.
AG-50	Provide information on all options for individuals and businesses to reduce transportation-related emissions. Provide education and information about public transportation.	**Project is Consistent:** See measures discussed above in AG-27.

Source: Department of Justice, "The California Environmental Quality Act – Addressing Global Warming Impacts at the Local Agency Level," http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf. 2008.

OPR, in collaboration with the California Resources Agency, the Cal/EPA, and CARB, has published a technical advisory containing informal guidance for public agencies addressing global climate change within CEQA documents. The technical advisory provides OPR's perspective on the issue and precedes the development of draft implementing regulations for CEQA, in accordance with Senate Bill 97. As listed below in **Table 5.5-12, Consistency with OPR's Recommended Measures**, the proposed Project would be generally consistent with applicable OPR recommended measures.

Table 5.5-12
Consistency with OPR's Recommended Measures

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Land Use and Transportation		
OPR-1	Implement land use strategies to encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density development along transit corridors. Encourage compact, mixed-use projects, forming urban villages designed to maximize affordable housing and encourage walking, bicycling and the use of public transit systems.	**Project is Consistent:** • The Project will locate housing in an area served by mass transit to reduce Project-related vehicle trips. • The Project would provide streetscape improvements that enhance the visual environment of the neighborhood and encourage pedestrian activity within the Project site, and between the Project site and nearby retail and commercial land uses. • The Project Applicant would provide sufficient interior and exterior bicycle parking facilities. The Project Applicant would also provide residents with information regarding local and regional public transportation services. • The Project would improve land use management, energy conservation, and transportation planning on the Project site. The proposed Project would be an infill project located within an urbanized area of Rowland Heights. • The Project site is in close proximity to neighborhood-serving retail and commercial stores at the intersection of Colima Road and Brea Canyon Cutoff Road, placing Project residents within a short walking distance to a wide variety of uses. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road and Colima Road intersection. Accordingly, this location would encourage Project residents to walk from the Project site to the various surrounding uses and services and would reduce reliance on vehicles. • Through the provision of landscaped areas and streetscape improvements, the Project would provide a pedestrian-friendly environment and would encourage walking to adjacent retail uses.

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Land Use and Transportation (continued)		
		• The Project site is located close to public bus service and is within a short driving distance of the Metrolink commuter rail station in the City of Industry. • As stated in mitigation contained in **Section 5.4, Air Quality**, the Project would designate parking spaces for carpools and vanpools. • The proposed Project has the potential to reduce automobile emissions as future residents would have the opportunity to utilize alternative modes of transportation. • The Project also proposes a housing density of up to 50 dwelling units per acre. • The Project would have a transportation kiosk and provide educational material (regarding environmental and energy conservation measures, ways to reduce GHG emissions, and reduce waste) in the leasing office or other similarly accessible area.
OPR-2	Encourage infill, redevelopment, and higher density development, whether in incorporated or unincorporated settings.	**Project is Consistent:** See measures discussed above in OPR-1.
OPR-3	Encourage new developments to integrate housing, civic and retail amenities (jobs, schools, parks, shopping opportunities) to help reduce VMT resulting from discretionary automobile trips.	**Project is Consistent:** See measures discussed above in OPR-1.
OPR-4	Apply advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-5	Incorporate features into project design that would accommodate the supply of frequent, reliable and convenient public transit.	**Project is Consistent:** See measures discussed above in OPR-1.

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Land Use and Transportation (continued)		
OPR-6	Implement street improvements that are designed to relieve pressure on a region's most congested roadways and intersections.	**Project is Consistent:** • The Project Applicant will contribute the Project's fair-share cost towards the construction of an additional southbound through lane at the intersection of Brea Canyon Cutoff Road and Colima Road. This improvement can be accomplished by striping changes and minor median modifications. • With implementation of **Mitigation Measures 5.7-2** through **5.7-5,** the Project's contribution to cumulatively significant traffic impacts would be reduced to less than significant. Please see **Section 5.7** for more information.
OPR-7	Limit idling time for commercial vehicles, including delivery and construction vehicles.	**Project is Consistent:** The proposed Project would comply with current State law, which restricts diesel truck idling to 5 minutes or less.
Urban Forestry		
OPR-8	Plant trees and vegetation near structures to shade buildings and reduce energy requirements for heating/cooling.	**Project is Consistent:** • The Project Applicant shall plant and arrange for the maintenance of a minimum of one 15-gallon tree per every 5,000 square feet of gross lot area, at least 50 percent of which shall be selected from the drought-tolerant approved plant list. • The proposed Project would include landscaping throughout the site, and the currently proposed landscaping program includes compliance with the County's Drought-Tolerant Landscaping Ordinance and includes such elements as shade trees, flowers, landscape lighting, landscaped building setbacks, and streetscape amenities. Street trees would enhance the streetscape along Brea Canyon Cutoff Road, as well as provide a buffer between the sidewalk and roadway traffic.
OPR-9	Preserve or replace on-site trees (that are removed due to development) as a means of providing carbon storage.	**Project is Consistent:** See measures discussed above in OPR-8.

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Green Buildings		
OPR-10	Encourage public and private construction of LEED (Leadership in Energy and Environmental Design) certified (or equivalent) buildings.	**Project is Consistent:** • The Project would support energy conservation by incorporating environmentally sensitive and sustainable design features such that the Project may qualify for certification under the *Build It Green* program, a collection of development standards developed by a non-profit collaborative dedicated to promoting sustainable, energy-efficient development in California. • Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling. • Additionally, Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas.

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Energy Conservation Policies and Actions		
OPR-11	Recognize and promote energy saving measures beyond Title 24 requirements for residential and commercial projects.	**Project is Consistent:** See measures discussed above in OPR-10.
OPR-12	Where feasible, include in new buildings facilities to support the use of low/zero carbon-fueled vehicles, such as the charging of electric vehicles from green electricity sources.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-13	Educate the public, schools, other jurisdictions, professional associations, business, and industry about reducing GHG emissions.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-14	Replace traffic lights, streetlights, and other electrical uses to energy efficient bulbs and appliances.	**Project is Consistent:** • High-intensity-discharge (HID) lamps, light-emitting diode (LED), or other energy efficient lighting shall be installed for all outdoor lighting on the Project site to reduce electricity consumption.
OPR-15	Purchase Energy Star equipment and appliances for public agency use.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-16	Incorporate on-site renewable energy production, including installation of photovoltaic cells or other solar options.	**Project is Not Consistent:** • The Project will not include on-site renewable energy production. • The Project will install electrical conduits from the roofs of the podium and wrap buildings to the electrical rooms to aid in future solar panel installation.
OPR-17	Execute an Energy Savings Performance Contract with a private entity to retrofit public buildings. This type of contract allows the private entity to fund all energy improvements in exchange for a share of the energy savings over a period of time.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-18	Design, build, and operate schools that meet the Collaborative for High Performance Schools (CHPS) best practices.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-19	Retrofit municipal water and wastewater systems with energy efficient motors, pumps and other equipment, and recover wastewater treatment methane for energy production.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-20	Convert landfill gas into energy sources for use in fueling vehicles, operating equipment, and heating buildings.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Energy Conservation Policies and Actions (continued)		
OPR-21	Purchase government vehicles and buses that use alternatives fuels or technology, such as electric hybrids, biodiesel, and ethanol. Where feasible, require fleet vehicles to be low emission vehicles. Promote the use of these vehicles in the general community.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-22	Offer government incentives to private businesses for developing buildings with energy and water efficient features and recycled materials. The incentives can include expedited plan checks and reduced permit fees.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-23	Offer rebates and low-interest loans to residents that make energy-saving improvements on their homes.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-24	Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	**Project is Consistent:** See measures discussed above in OPR-1.
Programs to Reduce Vehicle Miles Traveled		
OPR-25	Offer government employees financial incentives to carpool, use public transportation, or use other modes of travel for daily commutes.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
OPR-26	Encourage large businesses to develop commute trip reduction plans that encourage employees who commute alone to consider alternative transportation modes.	*Not Applicable:* The proposed Project would not consist of commercial uses.
OPR-27	Develop shuttle systems around business district parking garages to reduce congestion and create shorter commutes.	*Not Applicable:* The proposed Project does not propose commercial uses.
OPR-28	Create an online ridesharing program that matches potential carpoolers immediately through email.	**Project is Not Consistent:** The proposed Project does not propose a ridesharing program.
OPR-29	Develop a Safe Routes to School program that allows and promotes bicycling and walking to school.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Measures	Master Plan Policy/Project Feature/Mitigation Measure
Programs to Reduce Solid Waste		
OPR-30	Create incentives to increase recycling and reduce generation of solid waste by residential users.	**Project is Consistent:** • The proposed Project would comply with the diversion goals of the County's Source Reduction and Recycling Element, which is required to achieve the state's mandates of 50, 60, and 75 percent waste disposal reductions for the years 2000, 2015, and 2020, respectively. • The Project will include on-site recycling for residents.
OPR-31	Implement a Construction and Demolition Waste Recycling Ordinance to reduce the solid waste created by new development.	**Project is Consistent:** • The Project Applicant shall recycle and/or salvage for reuse a minimum of 65 percent of non-hazardous construction and demolition debris by weight.
OPR-32	Add residential/commercial food waste collection to existing greenwaste collection programs.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

Source: Office of Planning and Research, "CEQA and Climate Change: Addressing Climate Change Through CEQA Review," http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf. 2008.

The 2006 Climate Action Team Report contains recommendations and strategies to reduce emissions of GHGs and associated impacts. As previously discussed, some strategies are currently being developed and/or implemented by state agencies such as the Cal/EPA and the Resources Agency. As listed below in **Table 5.5-13, Consistency with the 2006 Climate Action Team Report**, the Proposed Project would be generally consistent with the applicable recommended measures.

Table 5.5-13
Consistency with the 2006 Climate Action Team Report

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Cal/EPA/California Air Resources Board		
CAT-1	Vehicle Climate Change Standards: With the passage of AB 1493, Pavley, Chapter 200, Statutes of 2002, California moved to the forefront of reducing vehicle climate change emissions. This bill required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Cal/EPA/California Air Resources Board (continued)		
CAT-2	Diesel Anti-Idling: In July 2004 the ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	**Project is Consistent:** The proposed Project would comply with current state law, which restricts diesel truck idling to 5 minutes or less.
CAT-3	Other New Light Duty Vehicle Technology Improvements: New standards would be adopted to phase in beginning in the 2017 model year (following up on the existing mid-term standards that reach maximum stringency in 2016).	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-4	HFC Reduction Strategies: California Air Resources Board staff has identified five possible measures to reduce HFC emissions from vehicular and commercial refrigeration systems. 1. Ban the retail sale of hydrofluorocarbon (HFC) in small (mostly 12-oz.) cans. 2. Require that only low-GWP refrigerants be used in new vehicular systems. 3. Adopt specifications for new commercial refrigeration. 4. Add refrigerant leak-tightness to the "pass" criteria for vehicular Inspection and Maintenance programs (all vehicles) and adopt an "inspect and repair" measure for commercial systems. 5. Enforce the federal ban on releasing HFCs.	**Project is Consistent:** This strategy applies to vehicular and commercial refrigeration systems. The systems used by the proposed Project and its occupants would comply with the applicable measures that are in effect at the time of manufacture.
CAT-5	Transport Refrigeration Units Electrification, Off-road Electrification, Port Electrification (ship to shore).	**Project is Consistent:** Transportation refrigerator units and off-road engines used by the proposed Project and its occupants would comply with the applicable measures that are in effect.
CAT-6	Manure Management.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-7	Semi Conductor Industry Targets (PFC Emissions).	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-8	Alternative Fuels: Biodiesel Blends. The California Air Resources Board would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Cal/EPA/California Air Resources Board (continued)		
CAT-9	Alternative Fuels: Ethanol. Increase use of E-85 fuel.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-10	Heavy-Duty Vehicle Emission Reduction Measures: Climate change emissions can be reduced with improved aerodynamics, climate engine-based improved efficiency, vehicle weight reduction, and rolling and inertia resistance improvements.	**Project is Consistent:** The medium- and heavy-duty vehicles used during construction and operation of the proposed Project would comply with applicable standards.
CAT-11	Reduced Venting and Leaks in Oil and Gas Systems: A model rule would be developed to be considered for adoption by the Air Pollution Control Districts.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-12	Hydrogen Highway: The California Hydrogen Highway Network (CA H2 Net) is a state initiative to promote the use of hydrogen as a means of diversifying the sources of transportation energy in order achieve a secure energy future, address environmental, public health, and economic challenges, and work in partnership with other State programs to advance energy efficiency and renewable energy. The CA H2 Net mission is to assure that hydrogen infrastructure is in place as fuel cells and other hydrogen technologies reach commercial readiness.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
Implementing Agency: Cal/EPA/Integrated Waste Management Board		
CAT-13	Achieve 50 percent Statewide Recycling Goal: Achieving the state's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills.	**Project is Consistent:** • The Project Applicant shall recycle and/or salvage for reuse a minimum of 65 percent of non-hazardous construction and demolition debris by weight. • The proposed Project would continue to improve waste diversion efforts to comply with the diversion goals of the County's Source Reduction and Recycling Element, which is to achieve the state's mandates of 50, 60, and 75 percent waste disposal reductions for the years 2000, 2015, and 2020, respectively. • The Project will include on-site recycling for residents.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Cal/EPA/Integrated Waste Management Board (continued)		
CAT-14	Landfill Methane Capture: Landfills can install direct gas use projects or electricity projects with backup flare systems to capture and use methane.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-15	Zero Waste—High Recycling: Additional recovery of recyclable materials from landfills will reduce the climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. Transforming organics/biomass and plastic waste into marketable products will also reduce the amount of material going to landfill, and therefore will further reduce climate change emissions.	**Project is Consistent:** See measures discussed above in CAT-13.
Implementing Agency: Resources Agency/Department of Forestry		
CAT-16	Forest Management: Strategies for storing more carbon through forest management activities can involve a range of management activities such as increasing either the growth of individual trees, the overall age of trees prior to harvest, or dedicating land to older aged trees.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-17	Forest Conservation: Conservation projects are designed to minimize/prevent the climate change emissions that are associated with the conversion of forestland to non-forest uses by adding incentives to maintain an undeveloped forest landscape.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-18	Fuels Management/Biomass: Fire management and biomass development projects could be accelerated by establishing a new state goal of thinning, removing, and treating public and privately owned forestland.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-19	Urban Forestry: This strategy would expand the State Urban Forestry Program. A new state-wide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	**Project is Consistent:** The Project Applicant shall plant and arrange for the maintenance of a minimum of one 15-gallon tree per every 5,000 square feet of gross lot area, at least 50 percent of which shall be selected from the drought-tolerant approved plant list.
CAT-20	Afforestation/Reforestation: Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Resources Agency/Department of Water Resources		
CAT-21/25	Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Saving water saves energy. Saving water that gets treated as wastewater saves more energy. Saving water that gets heated or additionally pressurized saves still more.	**Project is Consistent:** • The Project will reduce water consumption through the use of drought-tolerant landscaping, high-efficiency irrigation systems including a smart irrigation controller for any area that is landscaped or designated for future landscaping, and reclaimed water as provided by the Water District for landscape irrigation. • The Project Applicant will ensure landscaped areas comply with all requirements within Title 22 Part 21 of Chapter 22.523. • The Project would incorporate 2.0-gallon-per-minute shower heads for bathrooms, flow limiters on all faucets, and high efficiency toilets.
Implementing Agency: Resources Agency/Energy Commission		
CAT-22/26	Building Energy Efficiency Standards in Place and in Progress: The Energy Action Plan and the Integrated Energy Policy Report both call for ongoing updating of the standards, including meeting energy efficiency goals, addressing demand response, and promoting the combination of solar photovoltaics and high-energy efficiency buildings. As part of the process of updating the Building Energy Efficiency Standards, the Energy Commission evaluates new and emerging technology for possible inclusion in the standards.	**Project is Consistent:** • The Project would support energy conservation by incorporating environmentally sensitive and sustainable design features such that the Project may qualify for certification under the *Build It Green* program, a collection of development standards developed by a non-profit collaborative dedicated to promoting sustainable, energy-efficient development in California. • Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Resources Agency/Energy Commission (continued)		
		• Additionally, Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas. • The Project will install electrical conduits from the roofs of the podium and wrap buildings to the electrical rooms to aid in future solar panel installation.
CAT-23	Appliance Energy Efficiency Standards in Place and in Progress: The Energy Commission adopts new standards for a variety of appliances. As part of the process of updating the Appliance Energy Efficiency Standards, the CEC evaluates new and emerging technology for increasing the energy efficiency of appliances and equipment for possible inclusion in the standards.	**Project is Consistent:** See measures discussed above in CAT-22.
CAT-24	Fuel-Efficient Replacement Tires & Inflation Programs: State legislation established a statewide program to encourage the production and use of more efficient tires.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-25	See CAT-21.	**Project is Consistent:** See measures discussed above in CAT-21.
CAT-26	See CAT-22.	**Project is Consistent:** See measures discussed above in CAT-22.
CAT-27	Cement Manufacturing: This strategy involves cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-28	Municipal Utility Energy Efficiency Programs/ Demand Response: The Energy Commission and the California PUC are collaborating on additional energy efficiency programs beyond those programs already adopted.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Resources Agency/Energy Commission (continued)		
CAT-29	Municipal Utility Renewable Portfolio Standard: Achieve the 20 percent goal by 2010 and 33 percent goal by 2020.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-30	Municipal Utility Combined Heat and Power: This strategy constitutes cost-effective reductions from fossil fuel consumption in the commercial and industrial sector through application of on-site power production to meet both heat and electricity loads.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-31	Municipal Utility Electricity Sector Carbon Policy: The Energy Commission and the CPUC are collaborating on additional programs to address ways to transition investor-owned utilities away from carbon-intensive electricity sources.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-32	Alternative Fuels: Non-Petroleum Fuels: This strategy involves increasing the use of non-petroleum fuels in California's transportation sector.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
Implementing Agency: Business, Transportation, and Housing Agency		
CAT-33	Measures to Improve Transportation Energy Efficiency: This strategy builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	**Project is Consistent:** • The Project will locate housing in an area well served by mass transit to reduce Project-related vehicle trips. • The Project will provide streetscaping improvements that enhance the visual environment of the neighborhood and encourage pedestrian activity within the Project site, and between the Project site and nearby retail and commercial land uses. • The Project Applicant will provide sufficient interior and exterior bicycle parking facilities. The Project Applicant will also provide residents with information regarding local and regional public transportation services. • The Project would improve land use management, energy conservation, and transportation planning on the Project site, as the proposed Project would be an infill project located within an urbanized area of Rowland Heights.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Business, Transportation, and Housing Agency (continued)		
		• The Project site is in close proximity to neighborhood-serving retail and commercial stores at the intersection of Colima Road and Brea Canyon Cutoff Road, placing Project residents within a short walking distance to a wide variety of uses. Shopping centers occupy three of the four corners of the Brea Canyon Cutoff Road and Colima Road intersection. Accordingly, such location would encourage Project residents to walk from the Project site to the various surrounding uses and services and would reduce reliance on vehicles. • Through the provision of landscaped areas and streetscape improvements, the Project also would provide a pedestrian-friendly environment and would encourage walking to adjacent retail uses. • The Project site is also located close to public bus service and is located within a short driving distance to the Metrolink commuter rail station in the City of Industry. • The Project would designate parking spaces for carpools and vanpools. • The proposed Project has the potential to reduce automobile emissions as future residents would have the opportunity to utilize alternative modes of transportation. • The Project also proposes a housing density of up to 50 dwelling units per acre. • The Project would have a transportation kiosk and provide educational material (regarding environmental and energy conservation measures, ways to reduce GHG emissions, and reduce waste) in the leasing office or other similarly accessible area.
CAT-34	Smart Land Use and Intelligent Transportation: Strategies include: Promoting jobs and housing proximity and transit-oriented development; Encouraging high density residential/commercial development along transit/rail corridor; Valuing and congestion pricing; Implementing intelligent transportation systems, traveler information/ traffic control, incident management; Accelerating the development of broadband infrastructure; and Comprehensive, integrated, multimodal/intermodal transportation planning.	**Project is Consistent:** See measures discussed above in CAT-33.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Department of Food and Agriculture		
CAT-35	Conservation tillage/cover crops: Conservation tillage and cover crops practices are increasingly being used by California farmers for a variety of reasons, including improved soil tilth, improved water use efficiency, reduced tillage requirements, saving labor and fuel, and reduced fertilizer inputs.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-36	Enteric Fermentation: To reduce climate change emissions resulting from enteric fermentation, feed adjustments may be made that improve milk and meat productivity.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
Implementing Agency: State and Consumer Services Agency		
CAT-37	Green Buildings Initiative: Executive Order, S-20-04, sets an ambitious goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.	**Project is Consistent:** • The Project would support energy conservation by incorporating environmentally sensitive and sustainable design features such that the Project may qualify for certification under the *Build It Green* program, a collection of development standards developed by a non-profit collaborative dedicated to promoting sustainable, energy-efficient development in California. • Examples of features that may qualify on the *Build It Green* program's "GreenPoint checklist" include: construction on an urban infill site; the provision of alternative transportation; the inclusion of outdoor gathering places in Project design; construction and demolition waste management; the use of recycled aggregate; the use of "cool site" techniques (e.g., the use of light-colored paving materials); the use of drought-tolerant landscaping; light pollution reduction; the use of reduced Portland cement in concrete; the use of high-quality insulation; the use of water-efficient fixtures; air conditioning with non-HCFC refrigerants; garage ventilation; building performance that exceeds Title 24 (2005); and recycling.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: State and Consumer Services Agency (continued)		
		• Additionally, Project buildings would be designed to consume at least 15 percent less electricity and natural gas than allowed under the 2005 Update to the California Energy Commission's Building Energy Efficiency Standards, as required by the County Green Building ordinance. Those standards rate energy consumption, and calculate energy savings, according to the "Time Dependent Valuation" (TDV) methodology, which takes into consideration the hourly, daily, and seasonal times of use for electricity and the seasonal time of use for natural gas.
Implementing Agency: Public Utilities Commission		
CAT-38	Accelerated Renewable Portfolio Std to 33 percent by 2020 (includes load-serving entities).	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-39	California Solar Initiative: The solar initiative includes installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses.	**Project is Not Consistent:** No solar facilities are proposed as part of the Project. See the response to CAT-22/26 and CAT-37 above for discussion of other energy conservation features proposed as part of the Project.
CAT-40	Investor Owned Utility Energy Efficiency Programs: In September 2004, the PUC adopted aggressive savings targets for the investor-owned utility energy efficiency programs through 2013.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-41	Investor-Owned Utility (IOU) Additional Energy Efficiency Programs/Demand Response: In September 2004, the PUC adopted aggressive savings targets for the IOUs' energy efficiency programs through 2013.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.
CAT-42	IOU Combined Heat and Power Initiative: This strategy encourages the installation of on-site power production to meet both heat and electricity loads, known as combined heat and power projects (CHP).	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

ID	Strategy	Master Plan Policy/Project Feature/Mitigation Measure
Implementing Agency: Public Utilities Commission (continued)		
CAT-43	IOU Electricity Sector Carbon Policy: The PUC is currently investigating various strategies and incentives to encourage the IOUs to make cost-effective procurement decisions that are based in part on reducing climate change emissions.	*Not Applicable:* This is beyond the scope of the proposed Project, and beyond the control of the Project Applicant.

Source: California Environmental Protection Agency, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature*, (2006).*

While the proposed Project would result in emissions of GHGs, no applicable guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate for the proposed Project. In the absence of adopted quantitative thresholds, the analysis uses consistency with adopted programs and policies that reduce GHG emissions to evaluate the significance of the proposed Project. Many of the strategies in the adopted programs and policies discussed in this section are preliminary or under development. Thus, consistency may only be determined in a general manner.

The proposed Project would reduce GHG emissions by implementing the measures described above in **Table 5.5-10**, **Table 5.5-11**, **Table 5.5.-12**, and **Table 5.5-13**. These measures are generally consistent with the overall goals, strategies, and control measures established under the frameworks presented above: Los Angeles County Green Building Program, AB 32 Scoping Plan, OPR technical advisory, 2006 Climate Action Team Report, and the Attorney General's recommended measures. In addition, the proposed Project includes numerous resource conservation and energy efficiency measures, green building standards, and would reduce dependency on automobiles by encouraging public transportation and pedestrian activity. Additionally, the Project would comply with the County's Green Building Program. While the full magnitude of the GHG reductions cannot be determined at this point, based on compliance with the Green Building Program, the proposed Project would reduce its contribution to GHG emissions and global climate change relative to "business as usual." The Project would result in at least 15 percent fewer GHG emissions associated with energy consumption (natural gas and electricity) and less GHG emissions associated with water demand. In addition, the proposed Project includes the following Project objectives that would result in decreased GHG emissions:

- Provide housing in proximity to existing employment centers in the eastern San Gabriel Valley;
- Encourage pedestrian activity and minimize vehicle use by providing housing in proximity to existing neighborhood-serving retail and commercial uses;

- Implement design features that incorporate the *California Build It Green Multi-Family GreenPoint Checklist* of sustainable, green design principles into site design, building construction techniques, and building materials;

- Provide streetscaping improvements that enhance the visual environment of the neighborhood and encourage pedestrian activity within the Project site, and between the site and nearby retail and commercial land uses; and

- Locate housing in an area served by mass transit to reduce Project-related vehicle trips.

As shown in **Table 5.5-8** the Project would result in unmitigated annualized GHG emissions of approximately 9,630.30 $MTCO_2e$ per year (0.010 $MMTCO_2e$ per year), including compliance with the County's Green Building Ordinance. It is generally not appropriate to compare a project's emissions with the cumulative emissions from nearby projects. The South Coast Air Quality Management District has not identified a distance from a project with which to compare emissions in order to assess cumulative air quality impacts. Rather, the South Coast Air Quality Management District recommends addressing cumulative impacts using an air basin-wide approach by assessing consistency with applicable air quality management plans. In the case of GHG emissions, state and local agencies have also not identified a distance from a project with which to assess cumulative GHG emissions, as GHG emissions from the entire state have the potential to impact global climate. Therefore, the potential for cumulative GHG impacts are addressed at the state and regional levels. Compared to the estimated GHG for all sources in California (484 $MMTCO_2e$ per year, including out-of-state electrical generation), the Project's contribution to global climate would be imperceptible. Based on these calculations, the Project would add approximately 0.0020 percent to the State of California GHG emissions inventory. As stated above, no applicable quantitative emission thresholds or similar criteria have been established to evaluate the cumulative impact of a single project on global climate. However, the Project is generally consistent with the overall goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Ordinance, and the Los Angeles County Drought-Tolerant Landscaping Ordinance. Therefore, the Project would have a less than significant cumulative impact on global climate change and would not result in cumulatively considerable GHG emissions. Despite the less than significant determination, Project design features/mitigation measures would be incorporated to ensure general consistency with identified Scoping Plan, OPR, and Attorney General project design features/mitigation measures.

Project Design Features

5.5-1 The Project shall comply with the applicable provisions and requirements of the County of Los Angeles Green Building Ordinance and the Drought-Tolerant Landscaping Ordinance.

5.5-2 The Project shall comply with the GHG reduction measures identified in **Table 5.5-10**, **Table 5.5-11**, **Table 5.5-12, and Table 5.5-13** of this EIR.

UNAVOIDABLE SIGNIFICANT IMPACTS

With the implementation of the design features listed in this section, the proposed Project would have a less than significant impact on global climate change as it would be generally consistent with the overall emission reduction goals, strategies, and control measures established under AB 32, OPR Guidance, the 2006 Climate Action Team Report, and the Los Angeles County Green Building Ordinance, and the Los Angeles County Drought-Tolerant Landscaping Ordinance.

5.6 VISUAL QUALITY

SUMMARY

The Project site is presently developed with Southlands Christian Church and Southlands Christian School, and is surrounded by commercial and residential uses. The proposed Canyon Residences Project (Project) would replace the existing uses on the Project site with three- and four-story buildings containing approximately 775 for-lease residential units and recreational amenities for residents. Additionally, 1,544 parking spaces in subterranean and above-grade parking structures as well as at-grade surface parking spaces would be developed. Drought-tolerant, native, and non-native landscaping would be incorporated throughout the Project site. The Project would introduce new residential land uses that would substantially increase density and building heights on the Project site relative to existing and surrounding land uses. For these reasons, the proposed Project would not be visually consistent with the surrounding uses or community. However, the Project would comply with the setback requirements for development along Brea Canyon Cutoff Road and would incorporate several design features to ease the transition between the proposed uses and adjacent uses. Additionally, the Project would not be visible from a state-designated scenic highway or local hiking and riding trails, and would not introduce new sources of light or glare such that significant impacts would result. Nonetheless, because the Project would represent a substantial change in the existing visual character of the site and cast shadows over shade-sensitive uses due to building height and massing, impacts would be significant and unavoidable.

INTRODUCTION

New development can impact the aesthetic quality of a community. This section addresses the existing visual character and views of the Project site and surroundings and evaluates the changes in visual quality that would result from the proposed Project. Such analysis includes potential impacts that result from the proposed Project with regard to aesthetics, views, light and glare, and shade/shadow.

The following analysis is based on architectural renderings of the Project provided by the Project architect; field observations; the Los Angeles County General Plan; the Rowland Heights Community General Plan; and the Rowland Heights Community Standards District. The methodology for analyzing the Project's shadow impacts was provided by the *Los Angeles CEQA* (California Environmental Quality Act) *Thresholds Guide*. Potentially significant visual impacts associated with the Project were evaluated by documenting and characterizing existing visual conditions as well as those associated with implementation of the Project.

EXISTING CONDITIONS

Existing Visual Environment

Rowland Heights

The Project area is generally characterized by gently rolling topography to the south and east, with steeper hills beginning approximately 0.25 mile south of the Project site, and is generally flat to the north and west. The immediate neighborhood is largely suburban in character, with commercial uses north of the Project site and lining Colima Road. The Royal Vista Golf Course is located east of the Project site and extends north of Colima Road to the freeway, and is the largest area of open space in the vicinity. The Project site lies at a point of visual transition between the commercial Colima Road corridor to its north, and the multi-family residential neighborhood to the south and east, and single-family residences to the west.

Rowland Heights contains a mix of residential neighborhoods ranging from very low densities (1 dwelling unit per acre) up to 35 dwelling units per acre. Both older residential neighborhoods and more contemporary subdivisions are found in the community. Within the older neighborhoods, streets are laid out in a grid with houses generally set back at consistent distances from the street, often with extensive front yard landscaping and parkways. These neighborhoods were typically built during the 1930 through the 1950s and exhibit a diversity of architectural styles. Within the more contemporary suburban-style subdivisions, residences are located on lots along a curvilinear street pattern, often with cul-de-sacs. Houses within each subdivision generally exhibit a single architectural type with limited variety. Many of these homes are fronted by the garage with the housing unit oriented inward away from the street. More recent residential subdivision developments have expanded into the hillsides south of Pathfinder Road. Rowland Heights also contains Schabarum Regional County Park, the Royal Vista Golf Course, and several neighborhood parks, all of which provide green space and visual relief from the built environment.

Project Site

As shown in **Figure 5.6-1, On-Site Photo Locations**, and **Figures 5.6-2** through **5.6-6, On-Site Photos**, the church and school currently occupying the Project site consist of nine single-story buildings, a two-story gymnasium with several below-grade classrooms, two paved surface parking lots, and an athletic field. Approximately 70 percent (11 acres) of the Project site is currently developed with buildings or pavement, and approximately 30 percent (4.7 acres) is unpaved. The buildings associated with the church and school were constructed between 1970 and 2002. Existing vegetation on the Project site consists of predominantly ornamental shrubs and trees in planters, and the turf grass athletic field. Three coast live

oak trees are present on the Project site and are located in the pre-school parking lot, north of the pre-school building in the play area, and near the southeast corner of the elementary school building. The oak tree in the play area is a Heritage tree, a designation that applies to trees with diameters of at least 36 inches at a height of 4.5 feet above ground level. The oak tree in the pre-school parking lot is in declining physical condition with broken or dead limbs and sparse foliage.

The Project site generally slopes to the northwest with cut slopes along the property line adjacent to Ostia Way, the Royal Vista Golf Course, as well as the southern and eastern edges of the existing athletic field. The cut slope rises up to approximately 11 feet in height with a gradient of 2:1. The total elevation differential across the Project site is approximately 56 feet.

Area Immediately Surrounding Project Site

Development adjacent to the Project site includes a senior housing complex and three commercial buildings along Colima Road to the north; the Royal Vista Golf Course and multi-family residences along Drusilla Way, Esquiline Avenue and Bithynia Way to the east; multi-family residences along Ostia Way and Latium Way to the south; and Brea Canyon Cutoff Road and single family residences to the west. The senior housing complex is two to three stories above grade, while the three commercial buildings are one story above grade. The south building of the senior housing complex contains balconies overlooking the playfields on the Project site. The multi-family residences to the east and south are configured as one- and two-story garden apartments with abundant landscaping, covered parking, and pedestrian corridors between complexes. The single-family residences to the west include large-lot, rural-style homes along Reedview Drive, a curvilinear road with unimproved curbs, and smaller, bungalow-style homes along Sand Spring Drive. Most of these residences are single-story. Low-rise retail and business centers occupy the four corners of the Brea Canyon Cutoff Road/Colima Road intersection. Surrounding vegetation includes street trees, residential landscaping, and golf course landscaping. No particular architectural style characterizes the Project vicinity.

Existing Viewsheds

Views are characterized by visual access from public or otherwise designated vantage points, or scenic highways, to specific focal points or panoramic vistas. **Figure 5.6-7, Off-Site Photo Locations**, identifies the locations of vantage points selected to provide representative views of the Project site from nearby land uses and from higher elevations along the Brea Canyon Cutoff corridor into the Puente Hills. The Brea Canyon Cutoff corridor is designated as scenic in the Rowland Heights Community General Plan; no other designated scenic highways offer views of the Project site (see **Regulatory Setting**, below, for information on locally designated scenic routes).

The photos identified in **Figures 5.6-8** through **5.6-10, Off-Site Photos,** illustrate short-range views of the Project site from the segment of Brea Canyon Cutoff Road between Colima Road and Balan Road/Esquiline Avenue, as well as from the off-site parking lot directly north of the Project site, and Esquiline Avenue, a residential street located east and south of the Project site. These vantage points are at approximately the same elevation as the Project site. As these photos indicate, the Project site is currently visible from the portion of Brea Canyon Cutoff Road adjacent to the Project site and from Colima Road immediately north of the Project site. However, the Project site is not presently visible from Esquiline Avenue due to intervening buildings and vegetation.

The photos identified in **Figures 5.6-11** through **5.6-13, Off-Site Photos,** illustrate long-range views of the Project site. **Figure 5.6-11** depicts east-facing views from Reedview Drive, a residential street west of the Project site. Reedview Drive rises to 630 feet above mean sea level (ASL), while the Project site ranges from approximately 580 to 630 feet ASL. Additionally, **Figure 5.6-12** (top photo) identifies the view facing the Project site from Oakleaf Canyon Road, a residential street southwest of the Project site. Oakleaf Canyon Road rises up to 920 feet ASL, approximately 290 to 340 feet higher than the Project site. Although these vantage points are located at higher elevations, views of the Project site from Reedview Drive and Oakleaf Canyon Road are blocked by existing houses and vegetation. Similarly, other residential roadways extending from Brea Canyon Cutoff Road, including Cristo Lane, Holcroft Drive, and Bickford Drive, do not offer views of the Project site due to intervening houses and vegetation.

Although public roadways, other than Brea Canyon Cutoff Road, do not offer substantial views of the Project site due to intervening houses, vegetation and topography, the Project site is likely visible from several private residences located on these streets. **Figure 5.6-12** (bottom photo) identifies the view of the Project site from the westernmost alignment of Evening Breeze Drive, a residential street located across the Royal Vista Golf Course immediately east of the Project site. This portion of Evening Breeze Drive is situated between 700 and 710 feet ASL, and is therefore at least 70 feet higher than the Project site. Views of the Project site from Evening Breeze Drive itself are not normally available due to intervening houses and vegetation. However, this photo depicts the view over a vacant residential lot on Evening Breeze Drive, and therefore characterizes the typical west-facing view of a private residence on this portion of Evening Breeze Drive. This view contains, with increasing distance, a strip of the golf course, residences along Esquiline Avenue, portions of the Project site, and the undeveloped hillside on the west side of Brea Canyon Cutoff Road. Intervening trees, especially those within the golf course, partially obstruct most views of the Project site.

SOURCE: Impact Sciences, Inc. – June 2009

FIGURE **5.6-1**

On-Site Photo Locations

291-006•06/09

Photo 1 – View North Across Southwest End of Site

Photo 2 – View Northeast Across Southwest End of Site

SOURCE: Impact Sciences, Inc. - December 2008

FIGURE **5.6-2**

On-Site Photos

Photo 3 – View Northwest From the Southeast End of Site

Photo 4 – View East From West End of the South Parking Lot

SOURCE: Impact Sciences, Inc. - December 2008

FIGURE **5.6-3**

On-Site Photos

Photo 5 – View North From the South End of Site

Photo 6 – View Northeast Across Southwestern End of Athletic Field Towards Senior Housing

SOURCE: Impact Sciences, Inc. - December 2008

FIGURE **5.6-4**

On-Site Photos

Photo 7 – View Northwest From Mid-Site

Photo 8 – View West Across Mid-Site Towards Senior Housing and Bo Sing Shopping Center

SOURCE: Impact Sciences, Inc. - December 2008

FIGURE **5.6-5**

On-Site Photos

Photo 9 – View Southeast on the Property Line Between Royal Vista Golf Course and Project Site

Photo 10 – View East From West End of the North Parking Lot

SOURCE: Impact Sciences, Inc. - December 2008

FIGURE **5.6-6**

On-Site Photos

SOURCE: Impact Sciences, Inc. – June 2009

FIGURE **5.6-7**

Off-Site Photo Locations

291-006•06/09

Photo 11 - View of Project Site from Northwest Corner of Brea Canyon Cutoff Road and Balan Road

Photo 12 - View from Esquiline Avenue Facing North Toward Project Site

SOURCE: Impact Sciences, Inc. - June 2009

FIGURE **5.6-8**

Off-Site Photos

Photo 13 - View of Project Site from Northwest Corner of Brea Canyon Cutoff Road and Reedview Drive

Photo 14 - View of North End of Project Site from Northwest Corner of Brea Canyon Cutoff Road and Sand Spring Drive

SOURCE: Impact Sciences, Inc. - June 2009

FIGURE **5.6-9**

Off-Site Photos

Photo 15 - View from Southwest Corner of Brea Canyon Cutoff Road and Colima Road Facing Southeast Toward Project Site

Photo 16 - View of Project Site from Off-Site Parking Lot to the North

SOURCE: Impact Sciences, Inc. - June 2009

FIGURE **5.6-10**

Off-Site Photos

291-006•06/09

Photo 17 - View from Reedview Drive Near Debann Place Facing East Toward Project Site

Photo 18 - View from Reedview Drive Facing East Toward Project Site

SOURCE: Impact Sciences, Inc. - June 2009

FIGURE **5.6-11**

Off-Site Photos

Photo 19 - View from Oakleaf Canyon Road Facing North Toward Project Site

Photo 20 - View from Evening Breeze Drive Across Vacant Lot Facing West Toward Project site

SOURCE: Impact Sciences, Inc. - June 2009

FIGURE **5.6-12**

Off-Site Photos

Photo 21 - View from Reagan Park Facing Northwest Toward Project Site

Photo 22 - View from Pathfinder Road Near South Hillrise Drive Facing North Toward Project Site

SOURCE: Impact Sciences, Inc. - June 2009

FIGURE **5.6-13**

Off-Site Photos

Reagan Park, located in the City of Diamond Bar at the intersection of Pathfinder Road and Peaceful Hills Road, is the nearest public park with potential views of the Project site. This 6-acre park is located approximately 0.7 mile uphill (south) of the Project site, and has an elevation of up to 1,000 feet ASL, which is between 370 and 420 feet above the Project site. As shown in **Figure 5.6-13** (top photo), although Reagan Park is situated on the ridgeline, downhill views of the Project site and its surroundings are obstructed by the rows of trees lining both sides of Pathfinder Road and by the houses on Missionary Ridge Street. Therefore, the Project site is not visible from Reagan Park. Additionally, **Figure 5.6-13** (bottom photo) illustrates the view from Pathfinder Road west of Brea Canyon Cutoff Road near South Hillside Drive. This vantage point is situated 930 feet ASL, approximately 300 to 350 feet higher than the Project site. This segment of Pathfinder Road permits views of the San Gabriel Valley to the north; however, the Project site is not visible due to intervening houses, vegetation, and topography.

Based on the views depicted in these photos, the Project site is partially visible from certain private vantage points within the north-facing slopes and ridgelines of the Puente Hills uphill from the Project site. However, private views of the Project site are intermittent and either limited or completely obstructed, due to intervening residential tracts, vegetation, and hilly topography. Residential development south of the Project site extends all the way up the hillsides, obstructing or blocking north-facing views from hillside roadways and open space corridors along local trails. Public roadways, other than Brea Canyon Cutoff Road immediately west of the Project site, do not offer views of the Project site due to intervening residential tracts, vegetation, and hilly topography.

Existing Light, Glare and Shadows

Light and Glare

The effects of nighttime lighting are contextual and depend upon the light source's intensity, its proximity to light-sensitive land uses, which include sensitive receptors such as residential units and schools, and the existing lighting environment in the vicinity of a project site. Adverse lighting impacts may occur when project-related lighting is visually prominent and decreases available views, alters the nature of community or neighborhood character, or illuminates a sensitive land use. Nighttime illumination of sensitive receptors may adversely affect certain land use functions, such as residences, since such uses are typically occupied during evening hours and can be disturbed by bright lights.

Daytime glare is typically caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Reflective surfaces are generally associated with buildings clad with broad expanses of highly polished surfaces, such as glass or metals, or with broad, light-colored areas of paving. Daytime glare is generally most pronounced during early morning and late afternoon hours when the sun is at a low angle

and the potential exists for intense reflected light to interfere with vision and driving conditions. Nighttime glare refers to direct, intense, focused light, as well as reflected light, and hampers visibility.

As is typical in urbanized environments with nighttime activity, Rowland Heights is generally brightly illuminated at night, with the greatest concentration of light sources (e.g., commercial land uses and street lighting) found along major roadways and at intersections such as Brea Canyon Cutoff Road and Colima Road. Nighttime light levels are generally lower in the hillsides forming the southern portion of the community, which is less densely developed and contains fewer major roadways. The Project site presently does not generate a substantial amount of light or glare. Sources of nighttime illumination on the Project site include pole-mounted lighting within the two parking lots and security lighting. Surrounding uses generate varying degrees of nighttime light levels. Security and other types of outdoor lighting on commercial and residential properties, commercial surface parking illumination, illuminated commercial signage, street lighting along Brea Canyon Cutoff Road, Colima Road, and local streets in the surrounding residential neighborhoods all contribute to the ambient light environment in the Project vicinity. Additionally, the Project site and the vicinity do not contain any highly reflective or light-colored surfaces that generate substantial glare.

Shadows

For purpose of this analysis, shading refers to the placement of sensitive land uses in shade by off-site shadows cast by project-related buildings or structures, thereby preventing direct access to sunlight. The consequences of shadows on land uses may be positive, including cooling effects during warm weather, or negative, such as the loss of natural light necessary for solar energy purposes or the loss of warming influences during cool weather. Shadow effects are dependent upon several factors, including the local topography, the height, and bulk of a project's structural elements, the shade sensitivity of adjacent land uses, the season, and consequent length of shadows, and the duration of shadow projection. Facilities and operations sensitive to the effects of shading include residential, recreational, and institutional (e.g., schools, nursing homes); commercial, pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; plant nurseries; and existing solar collectors. These uses are considered sensitive because sunlight is important to function, physical comfort, or commerce.

A project's potential for shading adjacent land uses is determined by identifying the height and bulk of proposed project components, such as buildings and trees; mapping the "footprint" (location, shape, and size) of the project components of concern on the project site; and calculating and diagramming the shadows that would be cast by those components during the most extreme, or conservative, conditions: Winter Solstice (December 21) when the sun is at its lowest point in the sky and shadows are the longest, and Summer Solstice (June 21) when the sun is at its highest point and shadows are the shortest. Shadow

length and bearing (the direction in which they are cast) is dependent on the location (latitude and longitude) of the project site, which dictates the angle of the sun relative to the project site; in the Los Angeles area, the maximum shadow a building can cast is equivalent to three times its height, during the Winter Solstice.

The shade-sensitive land uses nearest to the Project site are the multi-family residential uses located along Ostia Way, Drusilla Way, and Latium Way, which abut the east and south sides of the Project site, and the senior housing complex, which abuts the Project site to the north. Existing structures on the Project site do not cast substantial off-site shadows due to their elevations (one to two stories) and setbacks from sensitive uses. No shadows from the Project site are cast onto the senior housing complex to the north since no buildings are currently located in the north portion of the Project site, which is occupied by a playing field and surface parking lot.

REGULATORY SETTING

Los Angeles County General Plan

California law contains provisions for the protection of the visual corridors surrounding highways which traverse scenic areas. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The Los Angeles County Board of Supervisors has adopted a Scenic Highways Element for the entire County which designates scenic highways throughout the County, three of which are in Rowland Heights: Fullerton Road, the Pomona Freeway, and the Orange Freeway. The new draft Los Angeles County General Plan recommends removal of the segment of the Pomona Freeway between Fullerton Road and Brea Canyon Cutoff Road from scenic highway status. However, as discussed below, the Rowland Heights Community General Plan designates Brea Canyon Cutoff Road as a limited secondary highway for its scenic views of the adjacent landscape, particularly the hills.

Rowland Heights Community Standards District

The Rowland Heights Community Standards District (CSD) (Section 22.44.132 of the Los Angeles County Code) is established to implement the Rowland Heights Community General Plan. The CSD provides development standards and outlines review processes to ensure that new development retains the residential character of the Rowland Heights community. Additionally, the CSD is established to ensure that commercial development, signs in commercial areas, landscaping, and setbacks are appropriate for the community and are implemented to protect the community's health, safety, and welfare. The

boundaries of the CSD are coterminous with the boundaries of the Rowland Heights Community General Plan.

According to the CSD, all properties within its boundaries shall be neatly maintained, and yard areas that are visible from the street shall be free of debris, trash, lumber, overgrown or dead vegetation, broken or discarded furniture, and household equipment such as refrigerators, stoves, and freezers. The CSD also contains zone-specific standards. The majority of the standards only apply to properties that are zoned C-1, C-2, C-3, A-1, A-2, and R-A or R-1. The following two standards apply to development in Zone A-1, the designation that currently applies to the Project site:

- A minimum of 50 percent of the required front yard area shall contain landscaping consisting of grass, shrubs, trees, and other similar plant materials. Paved or all-gravel surfaces may not be included as part of the required landscaped area.
- Trash containers and dumpsters stored in the front or side yard areas shall be screened from view from streets, walkways, and adjacent residences.

There are no zone-specific standards in the CSD that apply to the Residential Planned Development (RPD) zoning designation, which is the proposed zoning designation for the Project site.

Rowland Heights Community General Plan

The Rowland Heights Community General Plan establishes policies and standards for future development in Rowland Heights, setting forth broad guidelines for the extent and nature of growth. The Community General Plan contains the following applicable policies related to visual character.[1]

Land Use Chapter:

6. Design multiple family developments to minimize their impacts on surrounding neighborhoods and adjacent dwellings. The design shall adhere to the following guidelines:

    a. Maintain setbacks which are adequate to preserve the privacy of adjacent residences and yards.

    b. Provide a minimum of 15 feet of landscaping along street frontages. This shall include specimen trees, and plants capable of providing screening up to a height of 42 inches, landscaped berms or a combination of these.

    c. Screen parking and trash areas with landscaping, berms, compatible structures, or a combination of these.

    d. Locate trash areas away from adjacent residential properties.

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1 County of Los Angeles, Department of Regional Planning, "Rowland Heights Community Plan," *Los Angeles County General Plan*, (1981) 6.

e. Locate driveways so as to minimize impacts on local street traffic.

f. Provide sufficient off-street guest parking.

g. Conditional Use Permits will be required to insure that these concerns are addressed.

Conservation and Open Space Chapter:

5. Protect visual qualities of scenic areas including ridgelines and views from public roads and trails, particularly in the Brea Canyon Cutoff area.

An analysis of the Project's consistency with the Community General Plan policies related to visual character is provided in **Section 5.17, Land Use and Planning**.

In addition, the Community General Plan identifies the Brea Canyon Cutoff corridor as highly scenic, based in part on the rural nature of its surroundings south of Colima Road, and designates Brea Canyon Cutoff Road south of Colima Road as a limited secondary highway, which is subject to the following criteria:

- The standard improvement for a limited secondary highway is two traffic lanes on 64 feet of right-of-way. Typically, such improvements would consist of 26–30 feet of pavement with graded shoulders.
- The right-of-way may be increased up to 80 feet for additional improvements where traffic or drainage conditions so warrant.
- A uniform building setback shall be established 40 feet from the centerline for all limited secondary highways in order to preserve proper sight distances and to help maintain a rural appearance adjacent to the roadway.

According to the Community General Plan, the limited secondary highway classification is designed to protect routes in rural areas. When the Community General Plan was released in 1981, the corridor was largely undeveloped south of the multi-family residences on Esquiline Avenue and Dacian Street except for a few, scattered single-family residences. The continuity of the undeveloped hillsides through the corridor at that time was primarily responsible for its rural character and designation as a limited secondary highway in the Community General Plan. However, it should be noted that Brea Canyon Cutoff Road today is a four-lane highway used as a commuter route and is bordered on both sides by residential development, most of which has occurred after the Community General Plan was released in 1981. Due to the increased hillside development that has occurred not only in this corridor but also throughout Rowland Heights, the Brea Canyon Cutoff Road corridor has been transformed from a rural to urban setting.

ENVIRONMENTAL IMPACTS

Project Improvements

Under the proposed Project, the existing Southlands Christian Church and Southlands Christian School structures, parking lots, and athletic field would be replaced with approximately 775 for-lease residential units in multiple buildings, recreational amenities for residents, a total of 1,544 parking spaces in subterranean and above-grade parking structures as well as at-grade surface parking, and landscaping throughout the Project site. The floor area ratio (FAR) on the proposed Project would be 1.35:1.

The Project proposes three types of residences—Podium units, Townhome-Style apartments, and Wrap-Around units. The Podium building residential units would be contained in two four-story buildings set above a landscaped courtyard and partial below-grade parking within the northern portion of the Project site. Collectively, the two Podium buildings would total 499,500 square feet. The height above grade for the Podium buildings would vary due to the slope of the site. Building heights fronting Brea Canyon Cutoff Road would range from 56 feet to 69 feet above finished grade; the maximum building height along the southern elevation (along an interior driveway) would be approximately 57 feet.[2] The Podium buildings are illustrated in **Figure 3.0-11, Conceptual Elevations – Podium Building**.

The Townhome-Style apartments would be contained in a cluster of three-story buildings within the central portion of the Project site. The Townhome-Style apartments would total 150,900 square feet. The building heights of the Townhome-Style apartments would be approximately 39.5 feet above finished grade. The Townhome-Style apartments are illustrated in **Figure 3.0-12, Townhome-Style Apartment Buildings for the Canyon Residences Project**.

The Wrap-Around units would be contained in three- and four-story buildings arrayed around landscaped courtyards and a four-level above-grade parking structure within the southern portion of the Project site. The Wrap-Around buildings would total 266,000 square feet. Building heights fronting Brea Canyon Cutoff Road would range from approximately 44 feet to 60 feet above finished grade; the maximum height along the southern elevation (along an interior driveway) would be approximately 47-feet. The Wrap-Around buildings are illustrated in **Figure 3.0-13, Conceptual Elevations – Wrap-Around Building (West),** and **Figure 3.0-14, Conceptual Elevations – Wrap-Around Building (South)**.

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2 Building heights are measured from adjacent finished grade to the top of the roofline, excluding stairwell, elevator, and mechanical equipment enclosures. Variation in heights is due to the number of building floors as well as the slope of the Project site

For most of the buildings, facades would be articulated with fully recessed or cantilevered balconies, varying building setbacks, alcoves, corbels and other molding, lanterns and other decorative features. Building materials would vary between the different building types, but would include cement plaster finish, cement board siding, foam trim, vinyl windows, concrete tiles, composite shingles and painted metal railings, among others. Earth tones would be used for exterior coloration.

In addition to the landscaped courtyards set within the Podium and Wrap-Around buildings, the proposed Project site would include landscaping throughout the site. The currently proposed landscaping program includes such elements as shade trees, flowers, landscaping lighting, landscaped building setbacks, and streetscape amenities. In the interior portion of the Project site, courtyards, lawns, water features, trees, paved walkways, a tot lot, and pools would be accessible to Project residents and guests.

Thresholds of Significance

Based on the County's Initial Study Checklist and Appendix G of the *State CEQA Guidelines*, impacts related to visual quality are considered significant if the Project would:

- Be substantially visible from or obstruct views along a scenic highway (as shown on the Scenic Highway Element), or be located within a scenic corridor or otherwise impact the viewshed;
- Have a substantial adverse effect on a scenic vista;
- Be substantially visible from or obstruct views from a regional riding or hiking trail;
- Be out-of-character in comparison to adjacent uses because of height, bulk, or other features;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Likely create substantial sun shade/shadow, light or glare problems.

The following significance threshold, through preparation of the Initial Study, was found not to be applicable to the proposed Project and is discussed further in **Section 7.0, Effects Found Not to be Significant**.

- Is the Project site located in an undeveloped or undisturbed area, which contains unique aesthetic features?

Impact Analysis

Threshold 1: **Is the Project site substantially visible from or will it obstruct views along a scenic highway (as shown on the Scenic Highway Element), or is it located within a scenic corridor or will it otherwise impact the viewshed?**

Analysis

As previously described, the Scenic Highways Element of the County of Los Angeles General Plan designates three scenic highways in Rowland Heights: Fullerton Road, the Pomona Freeway, and the Orange Freeway. The Project site is not visible from the Pomona Freeway, the Orange Freeway, or Fullerton Road. Therefore, no impacts within the viewshed of a scenic highway would occur.

The Project site is located along Brea Canyon Cutoff Road, which is not designated by the Scenic Highway Element of the County of Los Angeles General Plan as a scenic highway. However, Brea Canyon Cutoff Road is designated by the Rowland Heights Community General Plan as a limited secondary highway, consisting of four lanes divided by a two-way left-turn lane, south of Colima Road. According to the Community General Plan, this classification is designed to protect routes in rural areas and preserve a rural appearance through incorporation of extended building setbacks.

When the Community General Plan was released in 1981, the Brea Canyon Cutoff Road corridor consisted of largely undeveloped hillsides. However, since that time, residential development (both single family and multi-family residences) in Rowland Heights has expanded to the south on both sides of Brea Canyon Cutoff Road. Furthermore, Brea Canyon Cutoff Road now serves as a four-lane commuter route through the Puente Hills. As a result, the character of the corridor has been transformed from rural (undeveloped) to urban. Furthermore, the Project site is within 250 feet of Colima Road, which is a major highway and heavily developed commercial corridor. Nevertheless, the Project would maintain consistency with the design standards outlined by the Community General Plan for development along Brea Canyon Cutoff Road. The Project as designed would maintain a building setback of 65 feet from the roadway centerline, which exceeds the minimum required setback of 40 feet as stated in the Community General Plan. Since the Project site is adjacent to a non-rural commercial corridor, and as designed would comply with the Community General Plan's minimum required setbacks from Brea Canyon Cutoff Road, the Project would not interfere with the rural appearance intended for preservation under the limited secondary highway designation.

Therefore, the Project would not adversely affect views along a scenic highway or scenic corridor. Impacts would be less than significant.

Mitigation Measures

As Project impacts would be less than significant, no mitigation measures are required.

Threshold 2 **Would the Project have a substantial adverse effect on a scenic vista?**

Threshold 3: **Is the Project substantially visible from or will it obstruct views from a regional riding or hiking trail?**

Analysis

No regional riding and hiking trails are located in the immediate vicinity of the Project site. The closest regional riding and hiking trails to the Project site that are designated by the Los Angeles County Department of Parks and Recreation are located within Schabarum Regional Park, approximately 4 miles west of the Project site. Several vista points are available along these trails. However, the Project site is not noticeably visible from Schabarum Regional Park due to distance and the presence of intervening development and topography. Furthermore, if and where the Project would be visible, it would represent such a small component of the field of view and would not obstruct views offered from such vista points.

The Project site is potentially visible from certain vantage points within the north-facing slopes and ridgelines of the Puente Hills uphill from the Project site. While equestrian and hiking trails not designated by the Los Angeles County General Plan as well as scenic vista points may be located within this portion of the Puente Hills, views of the Project site from the Puente Hills are limited due to intervening residential tracts, vegetation, and topographical relief in the hillsides. Residential development south of the Project site extends into the highest elevations of the hills, thereby reducing the availability of north-facing views from open space corridors along local trails. Therefore, visibility of the Project site from the Puente Hills would be intermittent, if not completely obstructed.

The visual prominence of a project is also dependent upon the visual contrast between that project and surrounding uses. The area immediately surrounding the Project site is highly developed and includes a golf course, but lacks large expanses of natural open space. The Project would not remove any major open space areas nor would it include any physical features that are inconsistent with the regional urban land use pattern. The multi-family residences would be constructed immediately adjacent to other multi-family residences and commercial uses along Colima Road, a major commercial corridor. Therefore, the visibility of the proposed Project from any hillside trails or vista points either in the Puente Hills or Schabarum Regional Park would be limited by the concentration of surrounding urban development.

The Project would be visible from several private residences located on roadways such as Evening Breeze Drive, Emerald Meadow Drive, and Reedview Drive, and therefore would likely alter existing views from these vantage points (i.e., backyards and balconies). However, views from public roadways, except for the segment of Brea Canyon Cutoff Road adjacent to the Project site, would not be substantially altered due to intervening buildings and vegetation. For most private vantage points, the Project would represent a small component of the field of view due to the distance and elevation differential between the Project site and the residence. Furthermore, even where the Project would be visible, none of the private views constitutes a scenic vista that is available to the public. For these reasons, the Project would not have a substantial adverse effect on a scenic vista or be substantially visible or obstruct views from regional riding or hiking trails. Impacts would be less than significant.

Mitigation Measures

As Project impacts would be less than significant, no mitigation measures are required.

Threshold 4: **Is the proposed use out-of-character in comparison to adjacent uses because of height, bulk, or other features?**

Threshold 5 **Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?**

Analysis

Construction

Construction of the Project would periodically subject the site and neighboring land uses to the presence of construction equipment, incomplete structures, stockpiled cut soil material, and areas in landscaping transition. Construction of the Project is anticipated to occur over an approximately 36-month period and could result in adverse impacts on the visual character of the Project site and surroundings during this time. However, construction activity would be temporary and impacts on visual character are therefore considered less than significant. Nonetheless, **Mitigation Measure 5.6-1** is recommended to further reduce construction-related aesthetic impacts.

Operation

The proposed Project potentially conflicts with the character of adjacent uses due to building height and mass. Podium units would be contained in two four-story buildings located in the northern portion of the Project site. The height above grade for the Podium buildings would vary due to the slope of the Project site. Building heights fronting Brea Canyon Cutoff Road would range from 56 feet to 69 feet above finished grade; the maximum building height above finished grade along the southern elevation (along the Project site's interior driveway) would be approximately 57 feet.[3] The Townhome-style apartments would be contained in a cluster of three-story buildings within the central portion of the Project site. The building heights of the Townhome-style apartments would be approximately 39.5 feet above finished grade. The Wrap-Around units would be contained in three- and four-story buildings arrayed a four-level above-grade parking structure, within the southern portion of the Project site. Building heights fronting Brea Canyon Cutoff Road would range from approximately 44 feet to 60 feet above finished grade; the maximum height along the southern elevation (along an interior driveway) would be approximately 47 feet above finished grade.

Generally, the building heights of surrounding off-site uses are one to three stories (approximately 12 to 36 feet) above finished grade. As previously described, the senior housing complex to the north ranges from two to three stories, the commercial structures to the north are one story, and the multi-family residences to the east and south range from one to two stories. Although the Project proposes building heights up to four stories above grade, building heights as perceived from off-site vantages are influenced by the elevation differential across the Project site. Although proposed grading activities would modify portions of the current slope, the increase in elevation from north to south would be retained. As shown in **Figure 5.6-14, Site Sections**, the rooflines of the Podium buildings located at the northern end of the Project site would be substantially higher than the rooflines of the adjacent commercial buildings and the senior housing complex oriented along Colima Road. However, because of the slope of the Project site, the rooflines of the Podium buildings, Townhome-style apartments, and Wrap-Around buildings would be aligned with or below the rooflines of the existing multi-family residences along Ostia Way, Drusilla Way, and Latium Way. As a result, building heights would be consistent with the multi-family residential uses to the south and east.

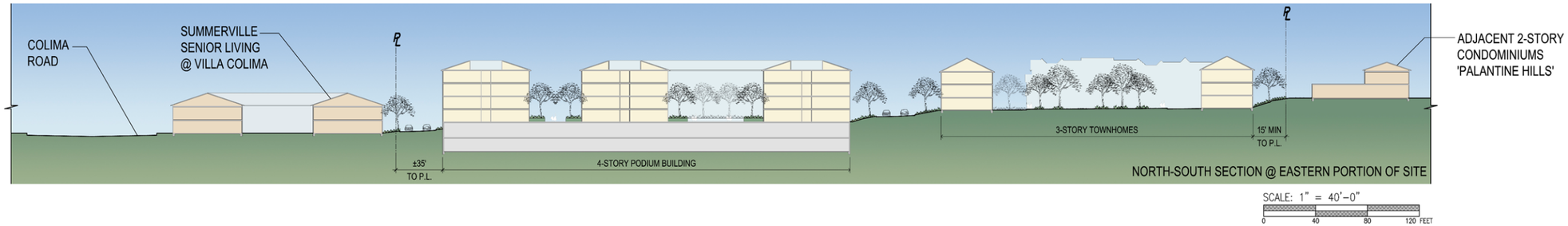
Through the replacement of the on-site church, school buildings, surface parking, recreational yards, and athletic fields, the proposed siting and massing of buildings would substantially alter the existing visual character of the Project site, in part by reducing the area of on-site open space. The proposed Project

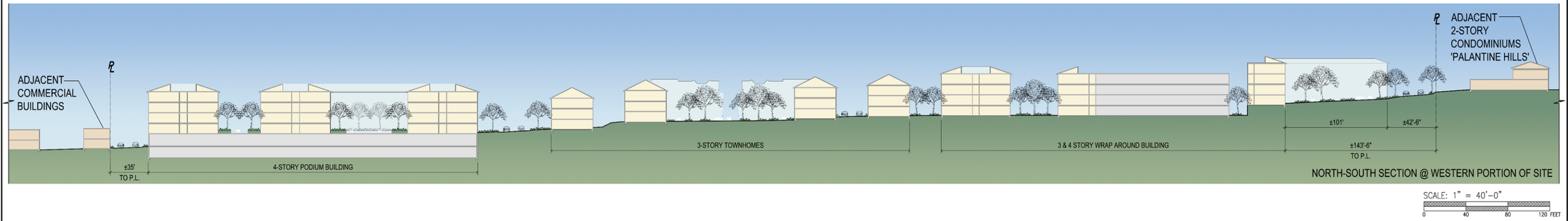
[3] Building heights are measured from adjacent finished grade to the top of the roofline, excluding stairwell, elevator, and mechanical equipment enclosures. Variation in heights is due to the number of building floors as well as the slope of the site

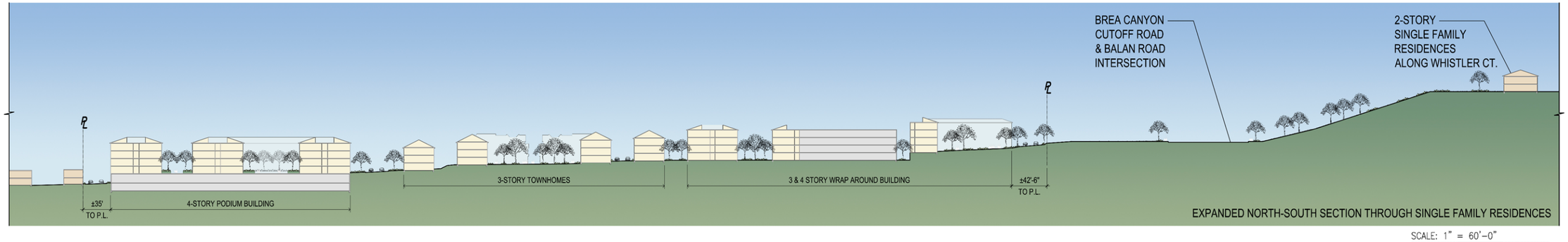
would incorporate open space within courtyards, plazas, and recreational areas throughout the site, although not all of these areas would be visible from off site. The proposed Project does incorporate more landscaped area and recreational amenities than are present within the multi-family residential uses to the east and south of the Project site and the single-family residences to the west across Brea Canyon Cutoff Road. Because of proposed building density, however, the developed Project site would constitute a visual contrast with the commercial and institutional uses north of the site, the Royal Vista Golf Course east of the site, and the single-family residences to the west, across Brea Canyon Cutoff Road.

The Project includes several features intended to ease the visual transition between the Project site and surrounding land uses. As part of the proposed landscaping program, trees would be planted along the perimeter of the Project site, including along Brea Canyon Cutoff Road, to soften and enhance the building facades and streetscape. The Project would also incorporate landscaping throughout the Project site, with elements such as shade trees, flowers, landscaped setbacks, and streetscape amenities. Vegetation within the interior landscaped grounds would include Italian Cypresses, Olive Trees, Mexican Fan Palms, and Golden Rain Trees. All landscaping would be subject to the provisions of the Los Angeles County Drought-tolerant Landscaping Ordinance (Section 22.52 of the Los Angeles County Code). According to this ordinance, a minimum of 75 percent of the total landscaped area would contain plants included on the Drought-Tolerant Approved Plant List maintained by the Department of Regional Planning. This list includes both native and non-native plant species requiring minimal use of water. In addition, the building setbacks would provide spatial buffers between Project components and adjacent uses. **Figure 5.6-15, Building Setbacks,** identifies the proposed setback distances. The setback from Brea Canyon Cutoff Road would be 65 feet from the roadway centerline, which exceeds the minimum setback of 40 feet required for limited secondary highways. Furthermore, the Project site is adjacent to the commercial corridor along Colima Road, which generally contains higher development densities than the residential neighborhoods to the south.

Project implementation would introduce new land uses and substantially increase development density and building heights on the Project site, in comparison to land uses to the north, east, and west. For these reasons, the proposed Project would not be visually consistent with those land uses. No mitigation exists that would reduce these impacts to less than significant, and impacts would therefore be significant and unavoidable.







SOURCE: 100-Site Sections - Van Tilburg, Banvard & Soderbergh - 2008

FIGURE **5.6-14**

Site Sections

Project Summary:

(P)	PODIUM UNITS:	
	1 BEDROOM UNITS	= 282
	2 BEDROOM UNITS	= 168
	TOTAL PODIUM UNITS	= 450
	GROSS SQUARE FOOTAGE	= 499,500 S.F.
	NET SQUARE FOOTAGE	= 414,585 S.F.
(T)	TOWNHOUSE UNITS:	
	2 BEDROOM UNITS	= 78
	3 BEDROOM UNITS	= 30
	TOTAL TOWNHOUSE UNITS	= 108
	GROSS SQUARE FOOTAGE	= 150,900 S.F.
	NET SQUARE FOOTAGE	= 133,200 S.F.
(W)	WRAP AROUND UNITS:	
	1 BEDROOM UNITS	= 119
	2 BEDROOM UNITS	= 82
	3 BEDROOM UNITS	= 16
	TOTAL WRAP AROUND UNITS	= 217
	GROSS SQUARE FOOTAGE	= 266,000 S.F.
	NET SQUARE FOOTAGE	= 221,000 S.F.
(R)	RECREATION FACILITY:	
	SQUARE FOOTAGE	= 7,850 S.F.

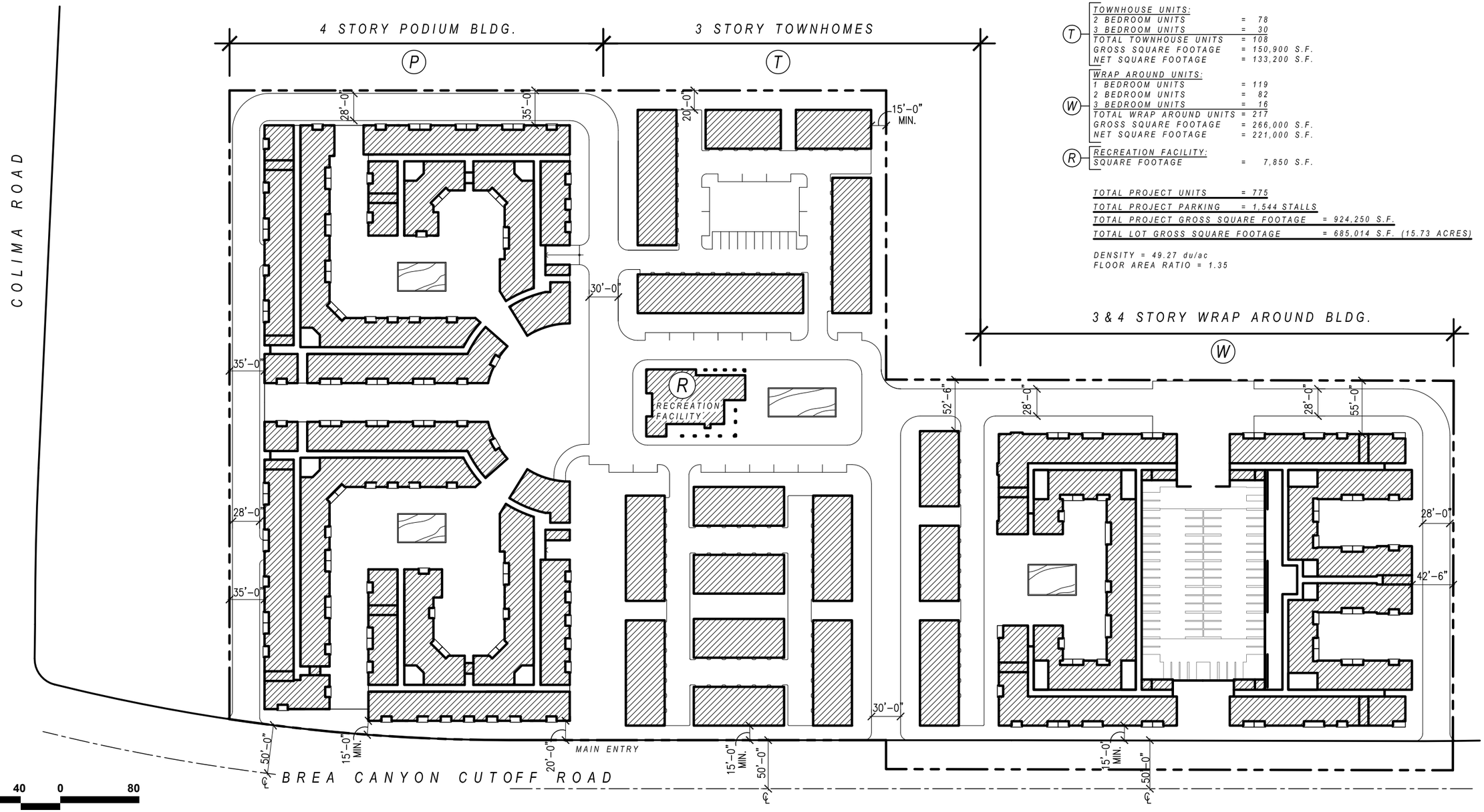
TOTAL PROJECT UNITS = 775

TOTAL PROJECT PARKING = 1,544 STALLS

TOTAL PROJECT GROSS SQUARE FOOTAGE = 924,250 S.F.

TOTAL LOT GROSS SQUARE FOOTAGE = 685,014 S.F. (15.73 ACRES)

DENSITY = 49.27 du/ac
FLOOR AREA RATIO = 1.35



SOURCE: Van Tilburg, Banvard & Soderbergh - September 2009

FIGURE **5.6-15**

Building Setbacks

Mitigation Measures

5.6-1: The project construction site, including equipment and supplies staged on site, shall be screened from street-level view throughout construction with appropriate fencing and barriers. The Applicant shall ensure, through appropriate postings and periodic visual inspections, that no unauthorized materials are posted on any temporary barriers, fencing, screens, or pedestrian walkways during construction.

Despite the several design features described above that are intended to ease the visual transition between the Project and surrounding land uses, no other feasible mitigation measures are available to reduce the Project's height and massing in comparison to the surrounding area. Therefore, impacts would remain significant and unavoidable.

Threshold 6: Is the Project likely to create substantial sun shadow, light or glare problems?

Analysis

Light and Glare

Construction

The senior housing complex to the north and the multi-family residences to the east and south are the nearest light-sensitive uses to the Project site and, therefore, most susceptible to light spillover from the Project site during construction and occupancy at buildout. During construction, nighttime lighting would be maintained on the construction site for security purposes. Such lighting on or near the site boundary could generate light spillover onto adjacent residential properties. However, implementation of **Mitigation Measures 5.6-2** and **5.6-3** would limit the use of construction security lighting to only those sites requiring illumination and would require all security lights to be properly shielded and projected downwards. Furthermore, construction lighting would be temporary and removed upon completion of construction. Construction activities are not anticipated to create sources of glare that could affect visibility in the area since construction is not expected to involve bright light sources that would be visible from off site or other materials that could directly or indirectly generate glare. Accordingly, with implementation of mitigation, impacts due to light and glare during construction would be less than significant.

Operation

The proposed Project would not introduce any sources of substantial light or glare. Proposed lighting would be used to create a safe, adequately illuminated nighttime environment on the Project site by highlighting building entrances and illuminating public places where people are expected to congregate. Lighting within courtyards, pool areas, other recreational spaces, and the above grade parking structure enclosed within the Wrap-Around buildings would be shielded from off-site vantage points by surrounding structures and landscaping. Additionally, pole-mounted lighting would be used to illuminate the interior access driveways. Decorative lighting would be limited to highlighting architectural accents and landscaping, and would be low intensity. However, the potential exists for intermittent gaps in intervening buildings and landscaping to permit light spillover off the Project site. Implementation of **Mitigation Measures 5.6-3** and **5.6-4** would reduce the visibility of light sources and lighting intensity associated with the Project. With mitigation, exterior lighting would incorporate low-intensity downlights, louvers, shields, hoods or other screening devices and all proposed light sources would be directed downward to limit light spillover and glare generation. Building setbacks and perimeter landscaping would also reduce the potential for glare and light spillover onto neighboring uses. Therefore, the Project's light impacts would be reduced to a less than significant level.

The exterior building materials proposed for structures on the Project site include painted cement plaster, concrete tile, composite shingles, cement board, painted metal and vinyl. These materials have minimal reflective properties and would generate minimal glare, if any. The Project does not propose the use of highly polished or glass surfaces for the building cladding of any Project structures. Furthermore, the enclosure of parking areas and access driveways would prevent the generation of off-site nighttime glare from vehicle headlights entering and exiting the site. Based on these Project design features, the Project's glare impacts would be less than significant.

Shade and Shadow

The shade-sensitive land uses nearest to the Project site are the multi-family residential uses located along Ostia Way, Drusilla Way, Latium Way, which abut the east side of the Project site, and the senior housing complex, which abuts the north side of the Project site. These uses are considered shade sensitive since they contain usable outdoor space or indoor space that utilizes natural sunlight. The senior housing complex contains an outdoor courtyard surrounded on all four sides by the complex and several balconies facing the Project site, while several multi-family residences contain indoor spaces with direct access to natural sunlight.

The multi-family residences along Latium Way to the south would not be shaded by the Project since shadows are not cast directly to the south in the Los Angeles area.[4] It is anticipated that portions of the multi-family residences to the east would be seasonally shaded by the proposed Wrap-Around buildings, which have a height of 44 to 60 feet above finished grade, and, to a lesser extent, the proposed Townhome-style apartment buildings, which would have a maximum height of 39.5 feet above grade. As discussed, shadows would be longest during the Winter Solstice, and shadows would be shortest during the Summer Solstice, with varying degrees of shadow length in the interim. The percentage of off-site properties shaded, as well as the duration of shading, would be limited due to the setbacks of the Wrap-Around buildings from the Project's eastern property line (55 feet) and the setback of the Townhome-style apartments from the southern property line along Ostia Way (15 feet) in addition to the roadway widths of Drusilla Way and Ostia Way. Nevertheless, the Project is anticipated to temporarily shade portions of off-site residences, especially during and in the days surrounding the Winter Solstice when shadows are longest. This may result in the temporary partial and seasonal loss of natural light and its various uses (i.e., physical comfort, solar energy, plant growth, etc.).

The Podium Buildings, which would range from 56 to 69 feet above grade, would be set back 35 feet from the southern property line of the adjacent senior housing complex. Shade-sensitive uses associated with the complex include an interior courtyard and exterior balconies, which face south with unobstructed views of the Project site. **Table 5.6-1, Shadow Length and Bearing – Podium Buildings,** provides the shadow lengths and bearing of the Podium Buildings at three separate daylight hours during the Winter and Summer Solstices. As shown in **Table 5.6-1,** the Podium Buildings would cast shadows approximately 90 to 110 feet to the north over the senior housing complex at noon during the Winter Solstice, which represents extreme shading conditions. Shadows of up to 210 feet in length cast to the west from 9:00 AM to noon and to the east from noon to 3:00 PM would also shade portions of the senior housing complex. Shadow lengths would be reduced during the Summer Solstice, ranging from 9 to 11 feet at noon and 123 to 150 feet during the morning and afternoon hours. The interior courtyard of the senior housing complex would not be shaded by the Podium Buildings since it is surrounded on all four sides by the complex. However, since the Podium Buildings would be situated approximately 50 feet from the south-facing balconies of the complex, the Podium Buildings would cast shadows over the balconies for a period likely exceeding 3 hours under extreme shading conditions. Therefore, the Project's shade and shadow impacts are considered significant and unavoidable.

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4 Shadow sensitive uses located greater than 45 degrees west or east of due north would not be affected by winter shadows, regardless of the distance between the proposed building and the shadow-sensitive use. Similarly, shadow sensitive uses located greater than 85 degrees west or east of due north would not be affected by summer shadows. (City of Los Angeles, *L.A. CEQA Thresholds Guide*, (2006) A.3-5)

Table 5.6-1
Shadow Length and Bearing – Podium Buildings

Time	Shadow Length Multiplier[1]	Shadow Length (Feet)	Shadow Bearing[2]
Winter Solstice			
– 9 AM	3.03	170 – 210	45/West
– Noon	1.60	90 – 110	0/North
– 3 PM	3.03	170 – 210	45/East
Summer Solstice			
– 9 AM	2.18	123 – 150	85/West
– 1 PM (Solar Noon)	0.16	9 – 11	0/North
– 5 PM	2.18	123 – 150	85/East

Source: LA CEQA Thresholds Guide, 2006.

1 Shadow length is identified per unit of height; the height of the structure is multiplied by the shadow length multiplier. Therefore, a 100-foot building would cast a shadow 303 feet long during the Winter Solstice at 9 AM (e.g., 100 × 3.03).

2 Shadow bearing is identified in degrees from north. 45/West means 45 degrees west of north; 73/East means 73 degrees east of north, etc.

Mitigation Measures

5.6-2: The use of security lighting during Project construction shall be limited to only those locations on the construction site requiring illumination.

5.6-3: All security lights shall be properly shielded and projected downwards during construction such that light is directed only onto the work site.

5.6-4: All outdoor lighting shall consist of low-intensity downlights or be equipped with louvers, shields, hoods or other screening devices.

5.6-5: All outdoor lighting shall be projected downwards to illuminate the intended surface and minimize light spillover and glare generation.

CUMULATIVE IMPACTS

The related projects identified in **Section 4.0, Cumulative Projects,** are too distant from the Project site to influence the visual character, shading, or lighting of the Project site, or its surroundings. The nearest related project is the proposed construction of 11 multi-family residential units at 19280 Colima Road, approximately 0.75 mile from the Project site. This project would be substantially smaller in scale and would not contribute to a cumulative increase in building height and density in Rowland Heights. Other related projects in Rowland Heights include an adult day care facility, a single-family residence, offices,

and a retail/restaurant/cinema center. This 14-acre commercial development would be located at 18880 Railroad Street north of the Pomona Freeway. Since this project is located north of the Pomona Freeway, it would not pose an adverse visual impact to the residential community. Therefore, no pending projects in Rowland Heights, other than the proposed Project, would contribute to a cumulative increase in building height and density that is incompatible with surrounding uses. Furthermore, while the proposed Project would result in significant impacts associated with visual incompatibility and shade and shadow, these impacts would be localized and would only affect adjacent uses. Therefore, the Project would not create or contribute to an adverse impact to the overall community character. Consequently, the proposed Project, considered together with related projects, would not cumulatively result in a significant change in the visual character of the Project vicinity or affect valued views.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-specific impacts related to building height, massing, and shadow projection would be significant and unavoidable. All other Project-level and cumulative impacts would be less than significant.

5.7 TRAFFIC, PARKING, CIRCULATION, AND ACCESS

SUMMARY

The **Traffic, Parking, Circulation, and Access** section presents an overview of the existing traffic and circulation system in and surrounding the proposed Project area. This section also discusses the potential impacts to traffic and circulation as a result of the development of the proposed Canyon Residences Project (Project) and summarizes the findings of the Traffic Impact Analysis for the proposed Project, as prepared by the Project's traffic consultant KHR Associates in November 2009. A complete copy of the traffic analysis is included in **Appendix 5.7** of this EIR.

INTRODUCTION

This section presents an overview of existing traffic and access characteristics in the Rowland Heights area. It also discusses potential impacts associated with development of the Project. Existing conditions are described, followed by an impact analysis for the Project. This section also includes a discussion of the cumulative impacts of the Project in conjunction with other related projects. Where impacts are identified, mitigation measures are recommended to reduce such impacts to the maximum extent feasible.

METHODOLOGY

This section summarizes the findings of a traffic impact analysis report prepared by KHR Associates for the Project on November 2009. A complete copy of this report is included in **Appendix 5.7** of this EIR.

For the 19 study intersections, traffic volume data was obtained during the weekday AM and PM peak hours from counts performed specifically for the proposed Project in February 2008. These counts represent typical mid-week conditions with the local school system in regular operation at the time the traffic counts were taken. For the six roadway segments, continuous 24-hour counts were conducted specifically for this Project in February of 2008.

Traffic Study Intersections

An analysis of current traffic conditions was conducted on the streets and highways serving the study area. The study area extends from the City of Industry boundary on the north to the Los Angeles/Orange County boundary on the south, and from the City of Diamond Bar boundary on the east to the edges of the communities of Hacienda Heights and La Habra Heights on the west. According to the Los Angeles County Department of Public Works, a minimum of 50 two-way trips must be added by the Project, either in the AM or PM peak hour, in order for an intersection to be studied. Based on a review of the proposed Project's trip generation and site access details described in **Section 3.0, Project Description**, and the criteria above, the County Los Angeles Department of Public Works, Traffic Studies Unit,

identified 12 intersections and 6 arterial roadway segments for detailed analysis. Detailed traffic analyses for the Project were performed for the following 19 intersections and six roadway segments:

*Study Intersections (*denotes a Caltrans-maintained intersection)*

1. Brea Canyon Cutoff Road/Fairway Drive at Colima Road
2. Fairway Drive at SR-60 Eastbound Off Ramps*
3. Fairway Drive at SR-60 Westbound On/Off Ramps*
4. Brea Canyon Cutoff Road at Pathfinder Road
5. Brea Canyon Cutoff Road at Reedview Drive/Project Driveway
6. Brea Canyon Cutoff Road at SR-57 Northbound On/Off Ramps*
7. Brea Canyon Cutoff Road at SR-57 Southbound On/Off Ramps*
8. Pathfinder Road at SR-57 Northbound On/Off Ramps*
9. Pathfinder Road at SR-57 Southbound On/Off Ramps*
10. Colima Road at Fullerton Road
11. Colima Road at Nogales Street
12. Fairway Drive at Valley Boulevard
13. Golden Springs Drive at Lemon Avenue
14. Golden Springs Drive at Brea Canyon Road
15. Brea Canyon Road at Diamond Bar Boulevard/Brea Canyon Cutoff Road
16. Pathfinder Road at Brea Canyon Road
17. Pathfinder Road at Fern Hollow Drive/Brea Canyon Road
18. Fairway Drive at Walnut Drive
19. Brea Canyon Cutoff Road at Fallow Field Drive/Diamond Canyon Road

Study Roadway Segments

20. Brea Canyon Cutoff s/o Colima Road
21. Brea Canyon Cutoff n/o Pathfinder Road
22. Brea Canyon Cutoff s/o Pathfinder Road
23. Fairway Drive n/o Colima Road
24. Fairway Drive n/o Route 60 Interchange
25. Colima Road between Nogales Street and Fairway/Brea Canyon Cutoff

Of the preceding 19 intersections, the following 7 were not required by the County but were also analyzed in order to address potential traffic impacts in adjacent jurisdictions, including the cities of Diamond Bar, Industry, and Walnut:

- Golden Springs Drive at Lemon Avenue
- Golden Springs Drive at Brea Canyon Road
- Brea Canyon Road at Diamond Bar Boulevard/Brea Canyon Cutoff Road
- Pathfinder Road at Brea Canyon Road
- Pathfinder Road at Fern Hollow Drive/Brea Canyon Road
- Fairway Drive at Walnut Drive
- Brea Canyon Cutoff Road at Fallow Field Drive/Diamond Canyon Road

The locations of the 19 study intersections identified above are mapped on **Figure 5.7-1, Study Intersection Locations**. Intersection controls at the study area intersections are shown on **Figure 5.7-2, Study Intersection Controls**.

Intersection Capacity Utilization Methodology

Impacts for the 19 study intersections were assessed using the Intersection Capacity Utilization (ICU) technique, a recognized and accepted analysis methodology within the traffic engineering profession. This methodology was employed for the signalized intersections within the study area. The traffic count volumes described earlier were used to report existing traffic flow conditions in the study area. Other data pertaining to intersection geometrics, on-street parking restrictions, and traffic signal operations, were obtained through field surveys of the study intersections.

Intersection volume-to-capacity ratios (V/C) were calculated to develop ICU values used for the analysis and evaluation of traffic conditions at the study intersections. A V/C ratio compares the critical traffic volumes to the capacity serving those volumes at a particular location. "Capacity" represents the maximum volume of vehicles in the critical lanes that have a reasonable expectation of passing through an intersection in 1 hour under prevailing roadway and traffic conditions. The ICU, usually expressed as a percent, represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

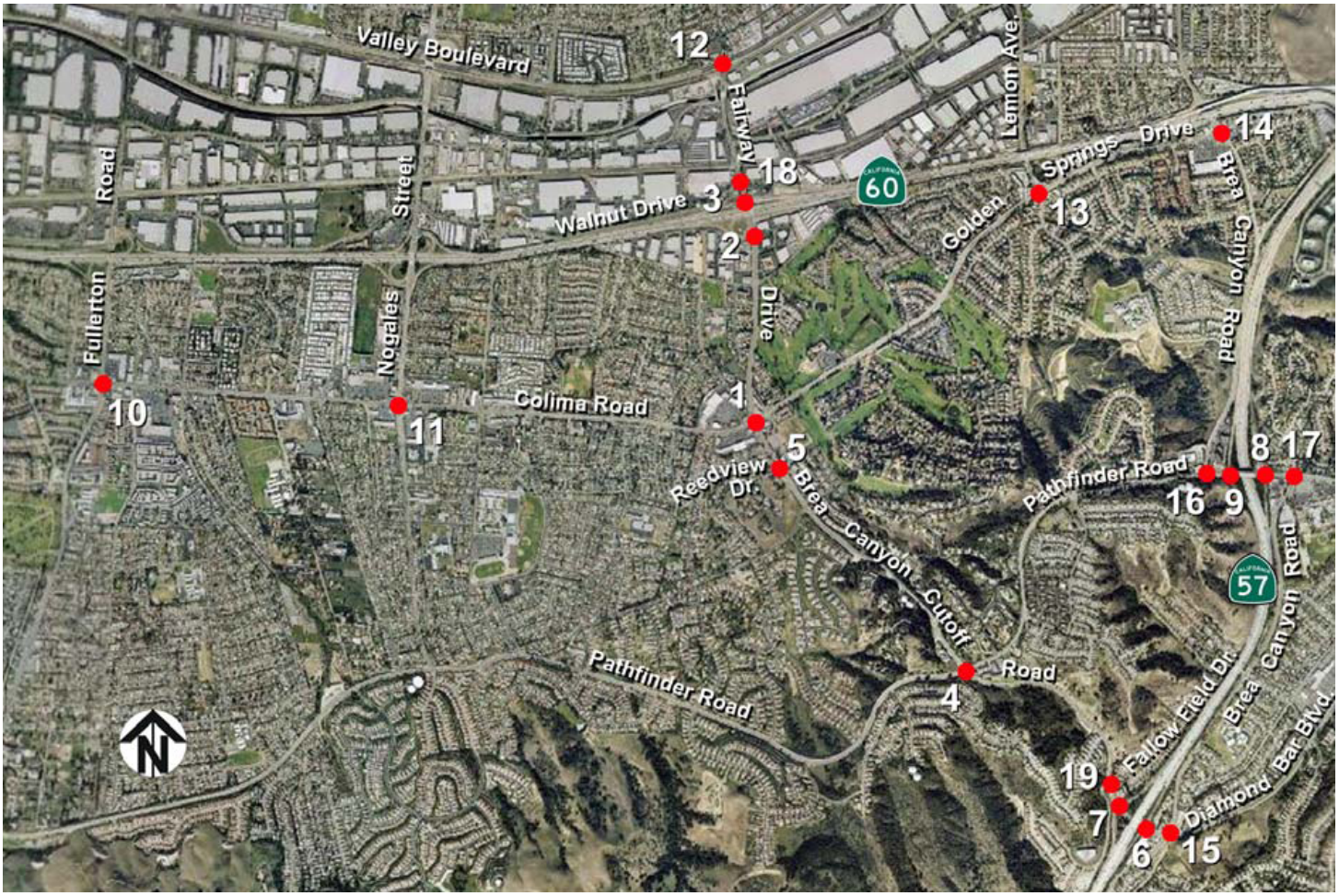
In the discussion of ICU values for signalized intersections, guidelines have been developed for assessing the operational quality of an intersection in terms of the Level of Service (LOS), which describes different traffic flow characteristics. LOS grades A through C are indicative of good to reasonably good traffic flow.

Table 5.7-1, Signalized Intersection Level of Service Operating Characteristics, provides LOS definitions for signalized intersections and corresponding V/C ratios. As shown in **Table 5.7-1**, intersections operating at LOS A to LOS C operate well. LOS D typically is the level of service for which a metropolitan area street system is designed. LOS E represents volumes at or near the capacity of the intersection, which might result in stoppages of momentary duration and fairly unstable flow. LOS F occurs when an intersection is overloaded and is characterized by stop-and-go traffic with stoppages of long duration. The 2004 County of Los Angeles Congestion Management Program states that peak hour intersection operations of LOS E or better are generally acceptable, except where existing year LOS is below LOS E. In such cases, the base year LOS is the standard.

Table 5.7-1
Signalized Intersection Level of Service Operating Characteristics

Level of Service	Description	V/C Ratio
A	There are no signal cycles that are fully loaded, and few are close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤0.60
B	Stable operation is maintained. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within groups of vehicles.	>0.60–0.70
C	Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles	>0.70–0.80
D	Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to periodic clearance of developing queues, thus preventing excessive backups.	>0.80–0.90
E	Represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00), there may be long queues of vehicles waiting upstream of the intersection and delays may be great.	>0.90–1.00
F	Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.	>1.00

Source: KHR Associates.



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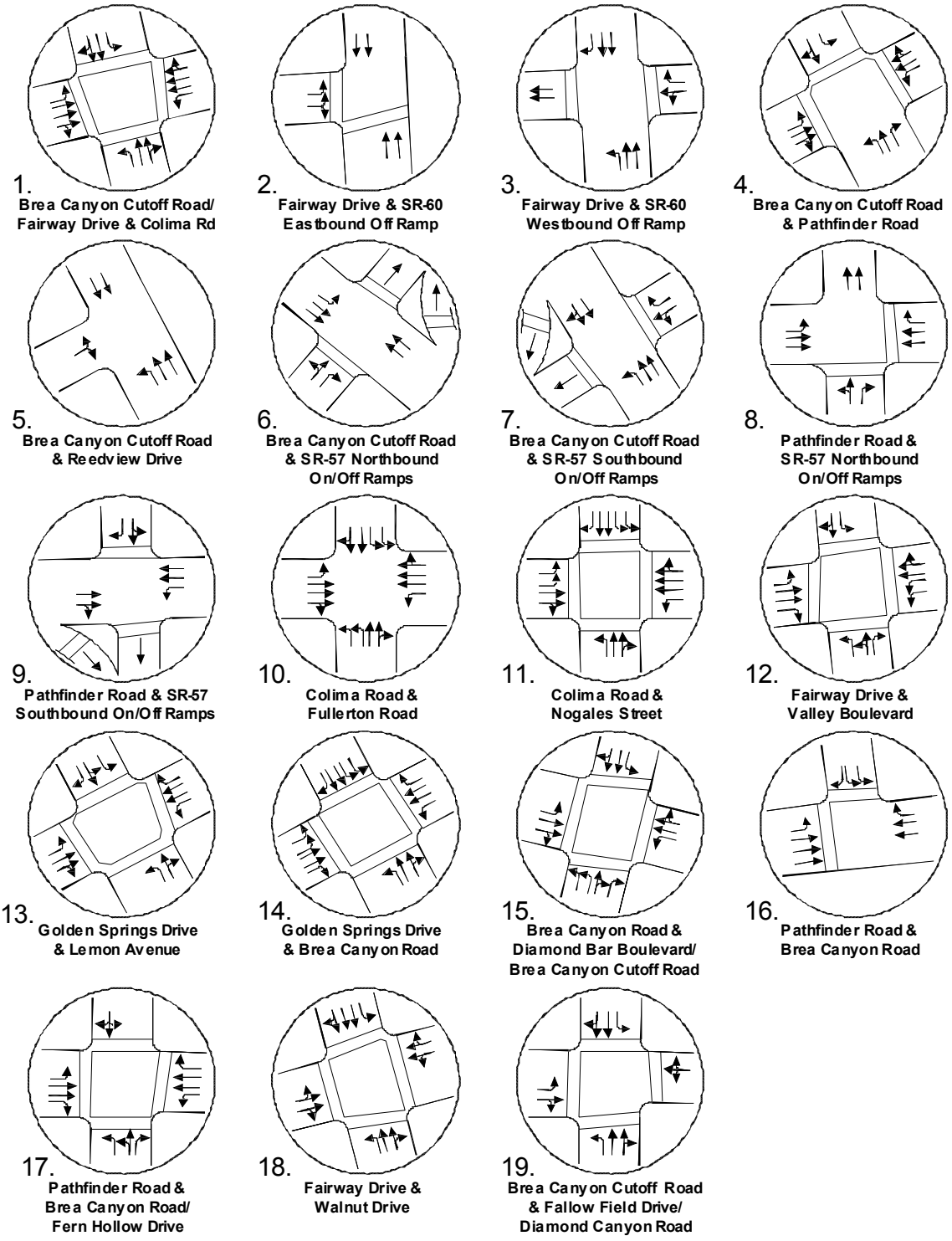
SOURCE: KHR Associates - July 2008

FIGURE **5.7-1**

Study Intersection Locations



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SOURCE: KHR Associates - July 2009

FIGURE **5.7-2**

Study Intersection Controls

By applying the analysis procedures described above to the study intersection, the V/C ratios and the corresponding LOS for base (2008) traffic conditions were calculated.

Highway Capacity Manual

As required by Caltrans' methodology for traffic studies, the six Caltrans maintained intersections within the traffic impact study area also were analyzed using the Highway Capacity Manual (HCM) published by the Transportation Research Board and in accordance with Caltrans standards. In addition, the unsignalized Brea Canyon Cutoff Road/Reedview Drive/Project driveway intersection, as required by the County, was analyzed using the HCM method. Roadway segments were evaluated based on the level of service volumes described in the HCM. The HCM defines LOS as a quantitative measure that describes operational conditions within the traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The HCM criteria used to evaluate LOS conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted. Caltrans uses the HCM method for analyzing all state-controlled intersections (such as freeway interchanges).

The HCM methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control.

For the following Caltrans-maintained intersections and the one unsignalized intersection, average control delay per vehicle was used to determine LOS: Fairway Drive at State Route (SR)-60 Eastbound Off Ramps; Fairway Drive at SR-60 Westbound On/Off Ramps; Brea Canyon Cutoff Road at SR-57 Northbound On/Off Ramps; Brea Canyon Cutoff Road at SR-57 Southbound On/Off Ramps; Pathfinder Road at SR-57 Northbound On/Off Ramps; Pathfinder Road at SR-57 Southbound On/Off Ramps; and Brea Canyon Cutoff Road/Reedview Drive/Project driveway. The levels of service are defined for the various intersection controls in **Table 5.7-2, HCM Signalized and Unsignalized Intersection Level of Service (LOS) Criteria**.

By applying the HCM analysis procedures described above to roadway segments, Caltrans-maintained intersections, and the one unsignalized intersection; the delay and corresponding LOS for base (2008) traffic conditions were calculated.

Table 5.7-2
HCM Signalized and Unsignalized Intersection Level of Service (LOS) Criteria

Level of Service	Intersection Delay (Seconds) Signalized	Unsignalized
A	≤ 10.0	≤ 10.0
B	> 10.01 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.01 to ≤ 35.0	> 15.01 to ≤ 25.0
D	> 35.01 to ≤ 55.0	> 25.01 to ≤ 35.0
E	> 55.01 to ≤ 80.0	> 35.01 to ≤ 50.0
F	> 80.1	> 50.01

Source: KHR Associates

EXISTING CONDITIONS

The proposed Project site is located in the northeastern portion of the unincorporated Los Angeles County community of Rowland Heights, approximately 0.75 mile south of the Pomona Freeway (SR-60). Regional access to the Project site is provided by the Pomona Freeway, while local access to the Project site is provided by Fairway Drive, Brea Canyon Cutoff Road, and Colima Road. The Project site currently is developed with Southlands Christian Church and Southlands Christian Schools, which span grades Pre-K through 12. Currently, a parking lot is located at the north and south end of the site, each with an ingress and egress driveway. Student drop-off and pick-up is accommodated on site within the parking lots on the north and south ends of the site.

Major and Secondary Highways and Local Streets

Pomona (SR-60) Freeway – The freeway generally runs in an east-west direction, starting at the San Bernardino (I-10) Freeway in the City of Los Angeles and ending with its eastern terminus at the I-10 Freeway in the City of Beaumont (County of Riverside), providing regional access between Los Angeles and Riverside Counties. The SR-60 has four to five lanes in each direction, including one high-occupancy vehicle (HOV) lane in each direction in the general vicinity of the Project area.

Orange (SR-57) Freeway – The freeway generally runs in a north-south direction, starting in San Dimas at the Foothill (SR-210) Freeway, and ending with its southern terminus at the Santa Ana (I-5) and Garden Grove (SR-22) freeways just south of the City of Anaheim. The SR-57 freeway provides regional access to northern Orange County and eastern Los Angeles County. The SR-57 freeway features five lanes in each direction, including one HOV lane in each direction, in the general vicinity of the Project area.

Brea Canyon Cutoff Road/Fairway Drive – The roadway runs in a northwest-southeast direction and provides direct frontage access to the Project site. This roadway is identified on the Los Angeles County Highway Plan as a Limited Secondary Highway, consisting of four lanes divided by a two-way, left-turn lane. The reach of Fairway Drive is between Valley Boulevard and Colima Road. North of Valley Boulevard, the roadway narrows, changes name to Camino de Teodoro, and terminates into a residential area. The reach of Brea Canyon Cutoff Road begins at its intersection with Colima Road and continues southeast to Brea Canyon Road, in the City of Diamond Bar. The roadway changes names from Brea Canyon Cutoff Road to South Diamond Bar Boulevard at the intersection with Brea Canyon Road, and continues in a northeasterly direction. Brea Canyon Cutoff Road is a well-traveled commuter route providing a surface street connection between the Pomona (SR-60) Freeway and the Orange (SR-57) Freeway.

Colima Road – This east-west roadway ranges from a four- to six-lane divided roadway in the study area. This roadway is classified as a Major Highway, with 100-foot right-of-way, on the County of Los Angeles Highway Plan.

Pathfinder Road – The east-west roadway is a four-lane divided roadway in the study area. West of Brea Canyon Road, this roadway is undivided and classified as a Secondary Highway (80-foot right-of-way) on the County of Los Angeles Highway Plan. East of Brea Canyon Road, Pathfinder Road is divided and classified as a Major Highway, with two lanes in each direction.

Brea Canyon Road - Brea Canyon Road runs in a north-south direction starting from Valley Boulevard in the City of Walnut to its terminus in the City of Diamond Bar at Pathfinder Road, just west of SR-57. Brea Canyon Road is labeled on the Los Angeles County Highway Plan as a Major Highway within the vicinity of the Project site, and consists of four lanes.

Nogales Street – The north-south roadway is classified as a Major Highway, with 100-foot right-of-way, north of Pathfinder Road. This roadway consists mostly of two lanes in each direction (occasionally three lanes in one or both directions), and is divided in some reaches.

Fullerton Road – Fullerton Road generally runs in a north-south direction, and is classified as a Major Highway on the Los Angeles County Highway Plan. This roadway consists mostly of two lanes in each direction (occasionally three lanes in one or both directions), and is divided by a raised median island in some reaches and a two-way left-turn lane in other reaches. At the Pathfinder Road intersection, Fullerton Road changes names to Harbor Boulevard, and continues into the County of Orange.

Valley Boulevard – Within the study area, Valley Boulevard runs in an east-west direction, and generally parallels the SR-60 Freeway. Valley Boulevard is classified as a Major Highway on the Los Angeles

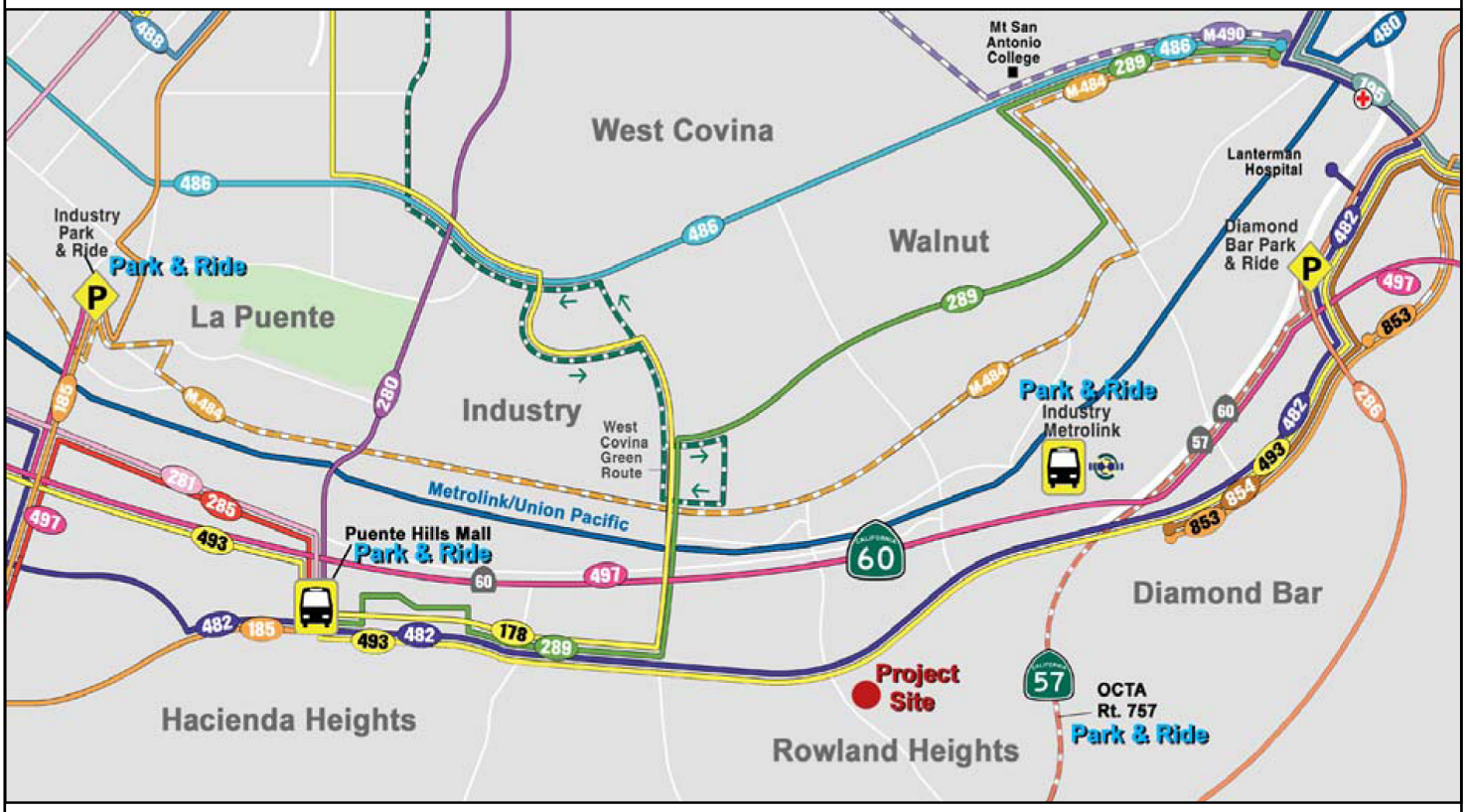
County Highway Plan. This roadway consists of two lanes in each direction (occasionally increasing to three lanes in one or both directions), and is divided by either a raised median island or a two-way left-turn lane.

Reedview Drive – Reedview Drive is a local residential street that runs generally southwest from Brea Canyon Cutoff Road along a curvilinear path. Reedview Drive consists of one lane in each direction, with parking permitted on both sides of the street.

Public Transportation

Foothill Transit, Los Angeles County Metropolitan Transportation Authority (Metro) and the Orange County Transportation Authority (OCTA) are three separate transit agencies that operate bus service within the study area. Metro has established an extensive grid system of bus routes throughout the Los Angeles region. Foothill Transit is a joint powers authority of 21member cities in the San Gabriel and Pomona Valleys and the County of Los Angeles. Foothill Transit Routes 482 and 493 provide service along Colima Road, Route 286 provides service along Diamond Bar and Brea Canyon Road, and Route 497 provides express service along SR-60. The nearest bus stops to the Project site, located at the intersection of Colima Road at Brea Canyon Cutoff and Colima Road at Nogales Street, are provided along Foothill Routes 482 and 493. OCTA provides express bus service along the SR-57 freeway for commuters into and out of Orange County.

Metrolink was formed by the Southern California Regional Rail Authority (SCRRA), a Joint Powers Authority (JPA), consisting of five county transportation planning agencies, in order to develop a regional transit service throughout the Southern California region. The Metrolink Riverside Line City of Industry Station is located near the intersection of Brea Canyon Road and Washington Drive, approximately 2 miles northeast of the site. This station also features a Park and Ride facility. In addition, other Park and Ride facilities are provided at interchanges along the SR-60 and SR-57 freeways, such as the Puente Hills Mall and the Pathfinder Road interchange, respectively. These various transit facilities and bus routes are depicted in **Figure 5.7-3, Transit Routes and Facilities**.



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SOURCE: KHR Associates - July 2008

FIGURE **5.7-3**

Transit Routes and Facilities

Existing Traffic

As stated above, weekday AM and PM peak hour traffic volume data for the study intersections were obtained from counts performed specifically for this study in February 2008. These counts represent typical weekday conditions with the local school system in regular operation. The existing weekday AM and PM peak hour traffic volumes at the 19 study intersections are shown in **Figures 5.7-4, Existing AM Peak Hour Traffic Volumes**, and **5.7-5**, **Existing PM Peak Hour Traffic Volumes,** respectively.

Existing Level of Service

Intersection Level of Service

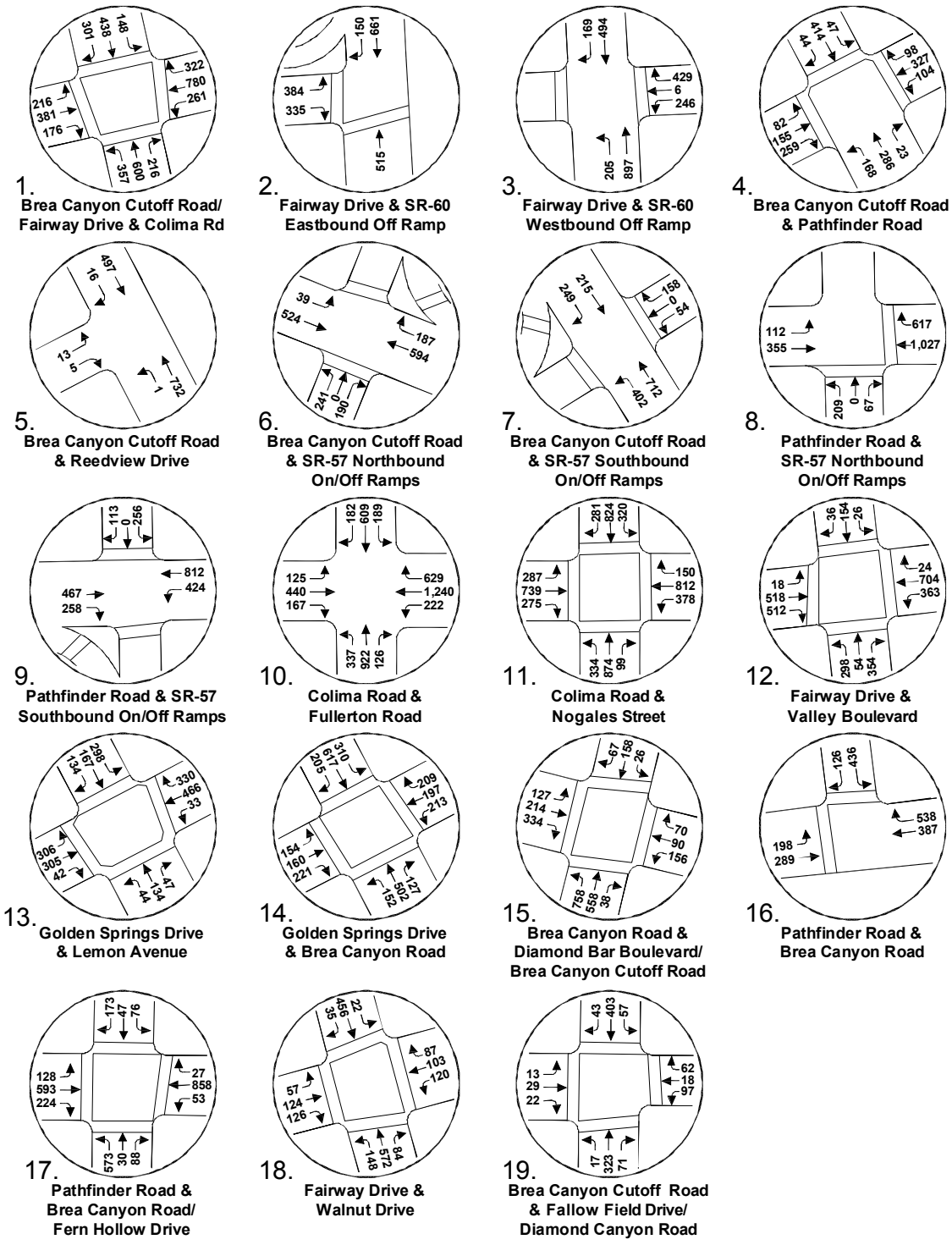
Results of the analysis of existing weekday AM and PM peak hour conditions at the 19 study intersections are shown in **Table 5.7-3, Existing Year 2008 ICU and LOS Summary**. As summarized in **Table 5.7-3**, most of the study intersections currently operate at acceptable levels of service (LOS A through D) for urban locations, during both weekday peak hours. However, the following four intersections do not currently operate at an acceptable LOS: Brea Canyon Cutoff Road/Fairway Drive at Colima Road (LOS E during the AM peak hour), Colima Road at Fullerton Road (LOS E during the AM peak hour), Colima Road at Nogales Street (LOS F during the AM peak hour and LOS E during the PM peak hour), and Golden Springs Drive at Brea Canyon Road (LOS E during the PM peak hour).

In addition, the six Caltrans-maintained intersections and the unsignalized Brea Canyon Cutoff Road/Reedview Drive/Project driveway intersection were also evaluated using the HCM methodology. As indicated above, the HCM methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. Results of the HCM analysis of existing weekday AM and PM peak hour conditions at the seven study intersections are shown in **Table 5.7-4, Existing Year 2008 HCM and LOS Summary**. As summarized in **Table 5.7-4**, all seven of the study intersections currently operate at acceptable levels of service C or better for urban locations, during both weekday peak hours when evaluated using the HCM methodology.

Table 5.7-3
Existing Year 2008 ICU and LOS Summary

Intersection	AM Peak Hour V/C	AM Peak Hour LOS	PM Peak Hour V/C	PM Peak Hour LOS
1. Brea Canyon Cutoff Road/Fairway Drive at Colima Road	0.919	E	0.846	D
2. Fairway Drive at SR-60 E/B Off Ramps	0.511	A	0.672	B
3. Fairway Drive at SR-60 W/B On/Off Ramps	0.540	A	0.733	C
4. Brea Canyon Cutoff Road at Pathfinder Road	0.686	B	0.851	D
5. Brea Canyon Cutoff Road at Reedview Drive	0.337	A	0.340	A
6. Brea Canyon Cutoff Road at SR-57 N/B On/Off Ramps	0.461	A	0.502	A
7. Brea Canyon Cutoff Road at SR-57 S/B On/Off Ramps	0.452	A	0.512	A
8. Pathfinder Road at SR-57 N/B On/Off Ramps	0.622	B	0.580	A
9. Pathfinder Road at SR-57 S/B On/Off Ramps	0.671	B	0.575	A
10. Colima Road at Fullerton Road	0.961	E	0.876	D
11. Colima Road at Nogales Street	1.119	F	0.984	E
12. Fairway Drive at Valley Boulevard	0.629	B	0.831	D
13. Golden Springs Drive at Lemon Avenue	0.711	C	0.690	B
14. Golden Springs Drive at Brea Canyon Road	0.528	A	0.937	E
15. Brea Canyon Road at Diamond Bar Boulevard/Brea Canyon Cutoff Road	0.606	B	0.653	B
16. Pathfinder Road at Brea Canyon Road	0.496	A	0.626	B
17. Pathfinder Road at Fern Hollow Drive/Brea Canyon Road	0.851	D	0.610	B
18. Fairway Drive at Walnut Drive	0.512	A	0.582	A
19. Brea Canyon Cutoff Road at Fallow Field Drive/Diamond Canyon Road	0.351	A	0.499	A

Source: KHR Associates, 2009
Notes: E/B = eastbound, W/B = westbound, N/B = northbound, S/B = southbound.



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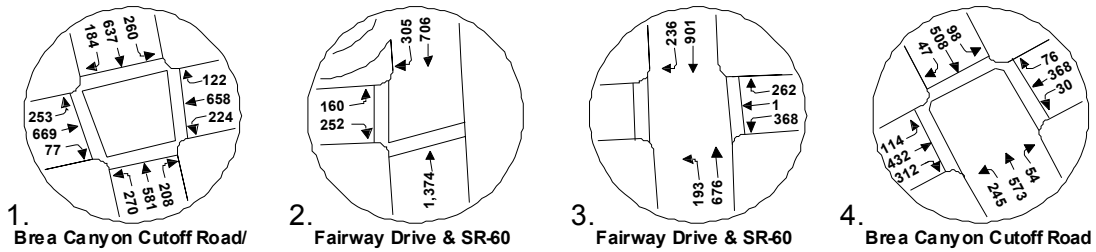
SOURCE: KHR Associates - July 2009

FIGURE **5.7-4**

Existing AM Peak Hour Traffic Volumes



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SOURCE: KHR Associates - July 2009

FIGURE **5.7-5**

Existing PM Peak Hour Traffic Volumes

Table 5.7-4
Existing Year 2008 HCM and LOS Summary

Intersection	AM Peak Hour Delay[1]	AM Peak Hour LOS	PM Peak Hour Delay[1]	PM Peak Hour LOS
2. Fairway Drive at SR-60 E/B Off Ramps	11.4	B	10.5	B
3. Fairway Drive at SR-60 W/B On/Off Ramps	18.8	B	21.4	C
5. Brea Canyon Cutoff Road at Reedview Drive	12.7	B	14.4	B
6. Brea Canyon Cutoff Road at SR-57 N/B On/Off Ramps	12.1	B	12.6	B
7. Brea Canyon Cutoff Road at SR-57 S/B On/Off Ramps	11.3	B	11.8	B
8. Pathfinder Road at SR-57 N/B On/Off Ramps	17.8	B	22.6	C
9. Pathfinder Road at SR-57 S/B On/Off Ramps	18.1	B	14.9	B

Source: KHR Associates, 2008
Notes: E/B = eastbound, W/B = westbound, N/B = northbound, S/B = southbound.
[1] *Average Intersection Delay per Vehicle (in seconds).*

Roadway Level of Service

As indicated above, six roadway segments were evaluated based on the LOS volumes described in the HCM. The existing weekday AM and PM peak hour V/C ratio and corresponding level of services are shown in **Table 5.7-5, Existing Year 2008 Roadway Segments HCM and LOS Summary**. It should be noted that the applicable lane capacity for roadway segments is 1,600 vehicles per hour per lane, except for Secondary Limited Highways, which have a capacity of 750 vehicles per hour per lane, according to the County Traffic Studies Unit.

The existing roadway LOS is based on a comparison between the peak hour average daily traffic (ADT) counts taken in February 2008, and the Los Angeles County Highway Plan designations for various roadway classifications (refer to **Appendix 5.7** of this EIR). As summarized in **Table 5.7-5**, all of the roadway segments studied currently operate at acceptable levels of service B or better during both weekday AM and PM peak hours.

Table 5.7-5
Existing Year 2008 Roadway Segments HCM and LOS Summary

	AM Peak Hour				PM Peak Hour			
	Northbound		Southbound		Northbound		Southbound	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Brea Canyon Cutoff Rd. s/o Colima Rd.	0.541	A	0.459	A	0.632	B	0.677	B
Brea Canyon Cutoff Rd. s/o Pathfinder Road	0.390	A	0.595	A	0.639	B	0.543	A
Brea Canyon Cutoff Rd. n/o Pathfinder Road	0.376	A	0.394	A	0.533	A	0.541	A
Fairway Drive n/o Colima Road	0.283	A	0.193	A	0.255	A	0.383	A
Fairway Drive n/o SR-60 Ramps	0.367	A	0.250	A	0.335	A	0.437	A
Colima Road – Nogales to Fairway	0.148	A	0.159	A	0.220	A	0.238	A

Source: KHR Associates, 2008.
Notes: s/o = southbound; n/o = northbound.

REGULATORY SETTING

Congestion Management Plan

The state legislature, following the passage of Proposition 111 in 1990, enacted the Congestion Management Plan (CMP). The purpose of the CMP is to address the impact of local growth on the regional transportation system. Los Angeles County Metro, the local CMP agency, has designated a highway network that includes all state highways and principal arterials within the County, along with traffic monitoring locations. Local jurisdictions are required to monitor the LOS standards at the designated locations within this network. If LOS standards deteriorate, then local jurisdictions must prepare a deficiency plan that is in conformance with the Countywide plan.

New projects within the County of Los Angeles must comply with the CMP for Los Angeles County. Appendix D of the CMP includes Transportation Impact Assessment (TIA) guidelines. The TIA guidelines require analysis at monitored street intersections and segments, including freeway on- or off-ramp intersections where a project is expected to add 50 or more peak-hour vehicle trips and mainline freeway or ramp monitoring locations where a project is expected to add 150 or more peak-hour trips. If a project does not add, but merely shifts, trips at a given monitoring location, the CMP analysis is not required. An evaluation of transit impacts is required by the CMP for all projects for which an EIR will otherwise be prepared.

County of Los Angeles General Plan Circulation Element

There are a number of goals and policies set forth by the County of Los Angeles in the General Plan Circulation Element. A description of applicable goals and policies is provided in **Section 5.17, Land Use and Planning.** The Circulation Element contains the County of Los Angeles Highway Plan, which shows existing roadways and proposed roadways, and arterial highways that are needed to adequately serve General Plan buildout.

County of Los Angeles Department of Public Works

The County of Los Angeles Department of Public Works has established guidelines for the preparation of TIA reports. The Department is concerned with adverse impacts on traffic when:

- traffic generated by a project considered alone or cumulatively with other projects, if added to existing traffic volumes, exceeds the design capacity of an intersection or roadway, contributes to an unacceptable LOS, or exacerbates an existing congested condition; and/or
- project-generated traffic interferes with the existing traffic flow (e.g., due to the location of access roads, driveways, parking facilities); and/or
- proposed access locations do not provide for adequate safety (e.g., due to limited visibility on curving roadways); and/or
- non-residential uses generate commuter or truck traffic through a residential area; and/or
- project-generated traffic significantly increases on a residential street and alters its residential character.

The TIA Report for the proposed Project, prepared in November 2009 by KHR Associates, has been prepared in accordance with the guidelines and criteria above.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The County of Los Angeles has not adopted significance thresholds for impacts related to traffic and access. However, based on the County's Initial Study Checklist, impacts related to traffic and access would warrant further analysis if the following screening criteria are met:

- Exceed, either individually or cumulatively, the County Congestion Management Program Transportation Impact Analysis threshold of 50 peak hour vehicles added to a CMP highway system intersection or 150 peak hour trips added to a mainline freeway link

- Contain 25 dwelling units or more and is located in an area with known congestion problems (roadway or intersections)

Based on the County's Initial Study Checklist, impacts related to traffic and access are considered significant if the Project would:

- result in any hazardous traffic conditions;
- result in parking problems with a subsequent impact on traffic conditions; or
- conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Additionally, the Los Angeles County Department of Public Works (LACDPW) defines a significant traffic impact based on a "stepped scale" as defined in the "Traffic Impact Analysis Report Guidelines." The impact definition recognizes that intersections at high volume-to-capacity ratios are more sensitive to additional traffic than those operating with available surplus capacity. A traffic impact by the LACDPW is considered significant if the Project-related increase in the V/C ratio equals or exceeds the threshold below:

- A V/C increase of 0.04 or more at LOS C (V/C ≥ 0.71 to 0.80);
- A V/C increase of 0.02 or more at LOS D (V/C ≥ 0.81 to 0.90); and
- A V/C increase of 0.01 or more at LOS E or F (V/C ≥ 0.91).

This analysis for the proposed Project also looks at the potential impacts on the regional transportation system and uses the guidelines set forth in the CMP. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. According to the CMP, a traffic analysis is required at all arterial monitoring intersections where the proposed Project would add 50 or more trips during either the AM or PM weekday peak hours. In addition, a traffic analysis is also required at all mainline freeway monitoring locations where the Project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours. If the proposed Project exceeds these screening criteria, further analysis of CMP facilities is warranted. The Project would have a significant impact on a CMP facility if the Project causes an increase in traffic demand on a CMP facility by 2 percent of capacity causing an LOS F. If the facility is already operating at LOS F, the Project would have a significant impact on a CMP facility if the Project causes an increase in traffic demand on a CMP facility by 2 percent of capacity.

An analysis of parking demand and proposed supply is also presented.

The following significance threshold, through preparation of the Initial Study, was found not to be applicable for the proposed Project and is discussed further in **Section 7.0, Effects Found Not to be Significant**.

- Would the Project result in inadequate access during an emergency (other than fire hazards) and result in problems for emergency vehicles or residents/employees in the area?

The applicable thresholds of significance are listed below, followed by analysis of the Project's impacts. Where impacts are identified as potentially significant, mitigation measures are identified which would reduce or avoid potentially significant adverse impacts.

Project Traffic

The following information describes the vehicular trip generating characteristics and roadway improvements proposed as part of this Project. It also presents the methodology used to estimate the trip generation, distribution, and assignment of Project trips. Project parking, vehicular access, and internal circulation are also described.

Project Access

The Project site would be accessed by three driveways off Brea Canyon Cutoff Road, which runs along the western side of the Project site. As shown in **Figure 5.7-6, Circulation Plan**, the three driveways include a primary driveway accessing the center of the Project site and aligned with Reedview Drive to the west, and two secondary driveways at the northern and southern ends of the Project site.[1]

Weekday Project Trip Generation

Daily, AM and PM peak hour trip rates used for the Project were calculated based on the 7th Edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE),[2] which is the current industry standard for trip generation data. Traffic generated by the proposed Project was determined by multiplying the appropriate trip generation rate by the quantity of the land use. To establish the LOS for each intersection analyzed, weekday Project trip generation takes into account trips

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1 The Traffic Impact Analysis originally evaluated a site plan containing a primary Project site ingress/egress driveway that did not align with Reedview Drive. Based on recommendations contained in the Traffic Impact Analysis and discussions with the Los Angeles County Department of Public Works, the site plan was redesigned to align the Project site access driveway with Reedview Drive, as shown in **Figure 3.0-5, Conceptual Site Plan,** in **Section 3.0, Project Description**. Analysis contained in this EIR section reflects the redesigned site plan and driveway alignment with Reedview Drive.
Institute of Transportation Engineers, *Trip Generation*, 7th Edition, Washington, D.C., 2004.

2 Institute of Transportation Engineers, *Trip Generation*, 2004.

generated by existing uses that would be removed, thus providing a "trip credit" to the Project. Thus, the ITE Trip Generation Manual and manual traffic counts were conducted at the driveways of the existing use, Southlands Christian Schools, in order to determine the existing traffic generated on site. Traffic counts conducted at the Project site driveways during the PM peak hour were extended to 5:00 PM, which is beyond the traditional 2:00 PM to 4:00 PM peak hour for school uses, in order to establish the trip generation of the existing school during the overlapping period of time with the proposed apartment use. It should be noted that credit for traffic generated by the existing uses was applied to traffic generated by the proposed uses. Weekday trip rates for proposed land uses that were used in the traffic analysis are listed in **Table 5.7-6, Trip Generation Rates**. Estimated Project trip generation, which takes into account trip credit for existing uses, are provided in **Table 5.7-7, Project Trip Generation.**

Table 5.7-6
Trip Generation Rates

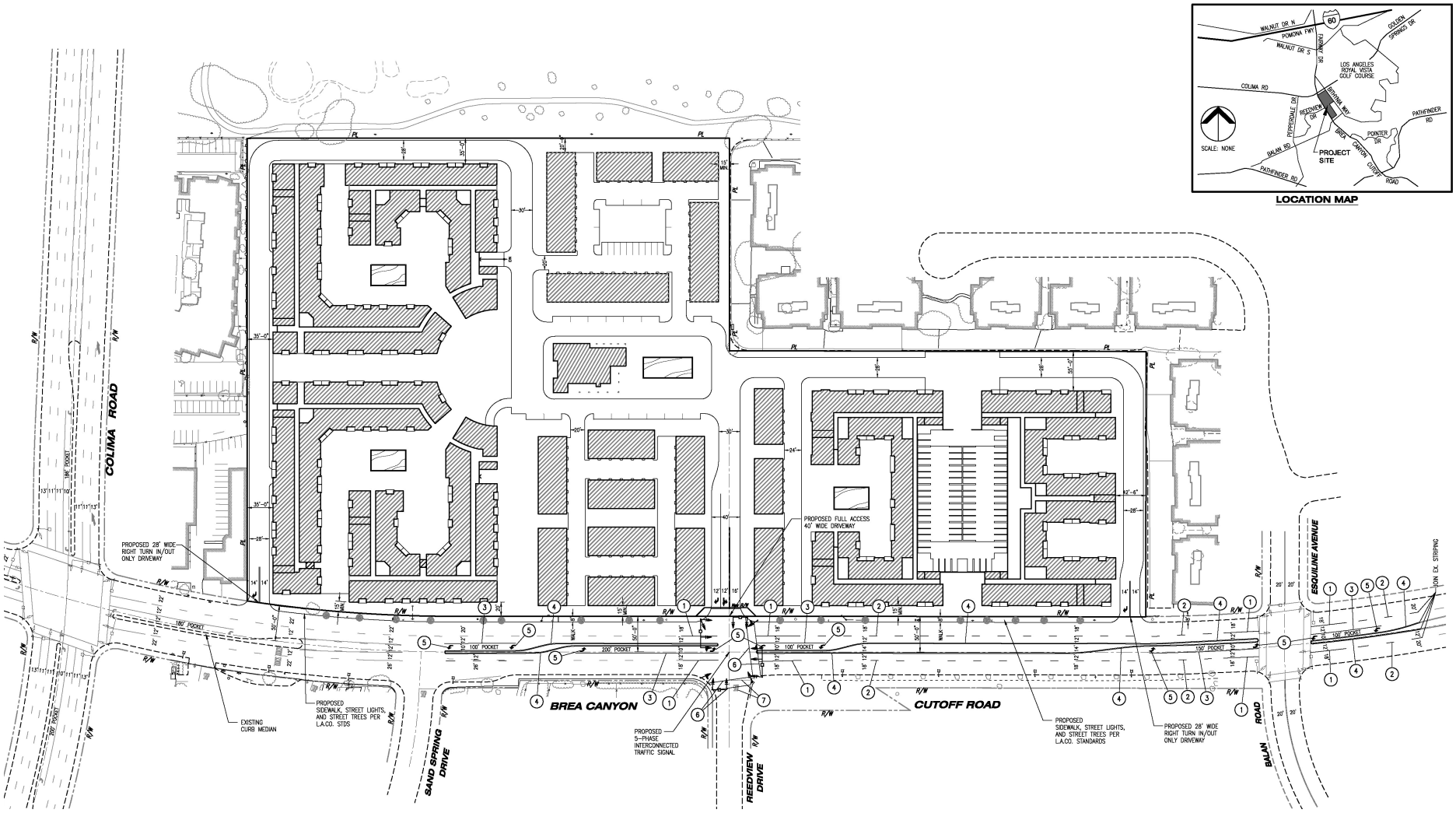
			AM Peak Hour			PM Peak Hour		
Land Uses[1]	**Quantity**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Proposed Apartments	775 du	6.72	20%	80%	0.51	65%	35%	0.62

Source: KHR Associates
Notes: du = dwelling unit.
[1] *ITE Land Use Category 220 - Apartments was used.*

Table 5.7-7
Project Trip Generation

			AM Peak Hour			PM Peak Hour		
Land Uses	**Quantity**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Proposed Apartments	775 du	5,208	79	316	395	313	168	481
Existing Private School[1]	480 stds	--	79	217	296	56	64	120
Total Net Trips		**5,208**	**0**	**99**	**99**	**257**	**104**	**361**

Source: KHR Associates
Notes: du = dwelling unit, stds = students capacity.
[1] *Trip generation per KHR Associates Supplemental Study results.*



120 60 0 120

APPROXIMATE SCALE IN FEET

SOURCE: KHR Associates – October 2008

FIGURE **5.7-6**

Circulation Plan

According to the weekday trip generation rates provided in **Table 5.7-6**, the Project is expected to generate approximately 5,208 trips per day. Of this total, a net increase of 99 trips would occur during the AM peak hour, and a net increase of 361 trips would occur during the PM peak hour. These net new trips would be added to the Project area roadway network once the proposed Project is completed and fully occupied.

Project Trip Distribution and Assignment

The distribution of the Project trips was based primarily on peak hour traffic counts of the existing directional distribution of traffic for areas in the vicinity of the Project site. In determining the general routes to be taken to and from the Project site, consideration was given to the location and proximity of employment centers, transportation facilities, educational institutions, recreational facilities, and shopping centers. Other additional information on future development and traffic impacts were reviewed. This information was used to estimate the overall geographic distribution of Project trips throughout the local area and surrounding region, as shown in **Figure 5.7-7, Project Trip Distribution**.

Based on the identified traffic generation and distribution, AM and PM peak hour intersection turning movement volumes anticipated by the Project were determined and are shown on **Figures 5.7-8, Project Traffic Volumes – AM Peak Hour,** and **5.7-9, Project Traffic Volumes – PM Peak Hour**, respectively. These volumes reflect the Project trips used to identify the potential Project traffic impacts at each of the study intersections.

Existing Plus Ambient Growth Traffic Condition

The Project's anticipated completion is year 2012, which is the future study year for which potential Project impacts were assessed. The Los Angeles County, Department of Public Works requires a two-step process in the evaluation of future conditions and the assessment of potential Project impacts. First, Project-specific impacts on the future conditions are identified by using only the ambient growth traffic increases as the baseline, thereby separating potential Project traffic impacts from those that may be associated with cumulative development in the study area. This step identifies any traffic impacts at the study intersections or in the Project vicinity, which could result directly from development of the proposed Project alone. Mitigation of these Project-specific impacts is the responsibility of the Project Applicant, either through installation of acceptable roadway and/or traffic signal improvements or other measures directly, or through contribution to funding mechanisms designed to improve locations significantly impacted by the Project.

Next, the cumulative traffic impacts of all identified related projects in the study area that will occur by the completion year of the Project, including those from the Project itself, are evaluated to determine the

ultimate traffic conditions in the future. This step allows for the identification of potential long-term roadway improvements that may be necessary to mitigate total anticipated traffic growth in the study area, but are beyond the scope of any particular development to implement. The methodology and cumulative impact analysis are further discussed below under **Cumulative Impacts**.

The Los Angeles County Department of Public Works, Traffic and Lighting Section, determined in a Memorandum Of Understanding (MOU) dated November 28, 2007, that an annual ambient traffic growth factor of 0.78 percent is reasonable. Both the Project and cumulative impacts analysis utilize the 0.78 percent ambient traffic growth factor, which is compounded annually and applied to the existing year 2008 traffic volumes to develop an estimate of the future year 2012 baseline volumes. This ambient-growth-only traffic volume forecast is used as the benchmark condition against which both the Project-specific and cumulative traffic impacts on the area intersections are evaluated.

Thus, "Existing Plus Ambient Growth" traffic conditions have been calculated by adding the 0.78 areawide growth rate, over a four-year period, to the existing peak hour traffic volumes on the surrounding roadways. This resulting AM and PM peak hour traffic estimates for the "Existing Plus Ambient Growth" traffic conditions are shown in **Figures 5.7-10, Existing Plus Ambient Growth Traffic Volumes –AM Peak Hour** and **5.7-11, Existing Plus Ambient Growth Traffic Volumes – PM Peak Hour**, respectively.

Impact Analysis

Threshold 1: **Would the Project cause an increase in the V/C of 0.04 or more at LOS C (V/C $\geq$ 0.71 to 0.80); or cause an increase in the V/C of 0.02 or more at LOS D (V/C $\geq$ 0.81 to 0.90); or cause an increase in the V/C value of 0.01 or more at LOS E or F (V/C $\geq$ 0.91)?**

Analysis

Construction Impacts

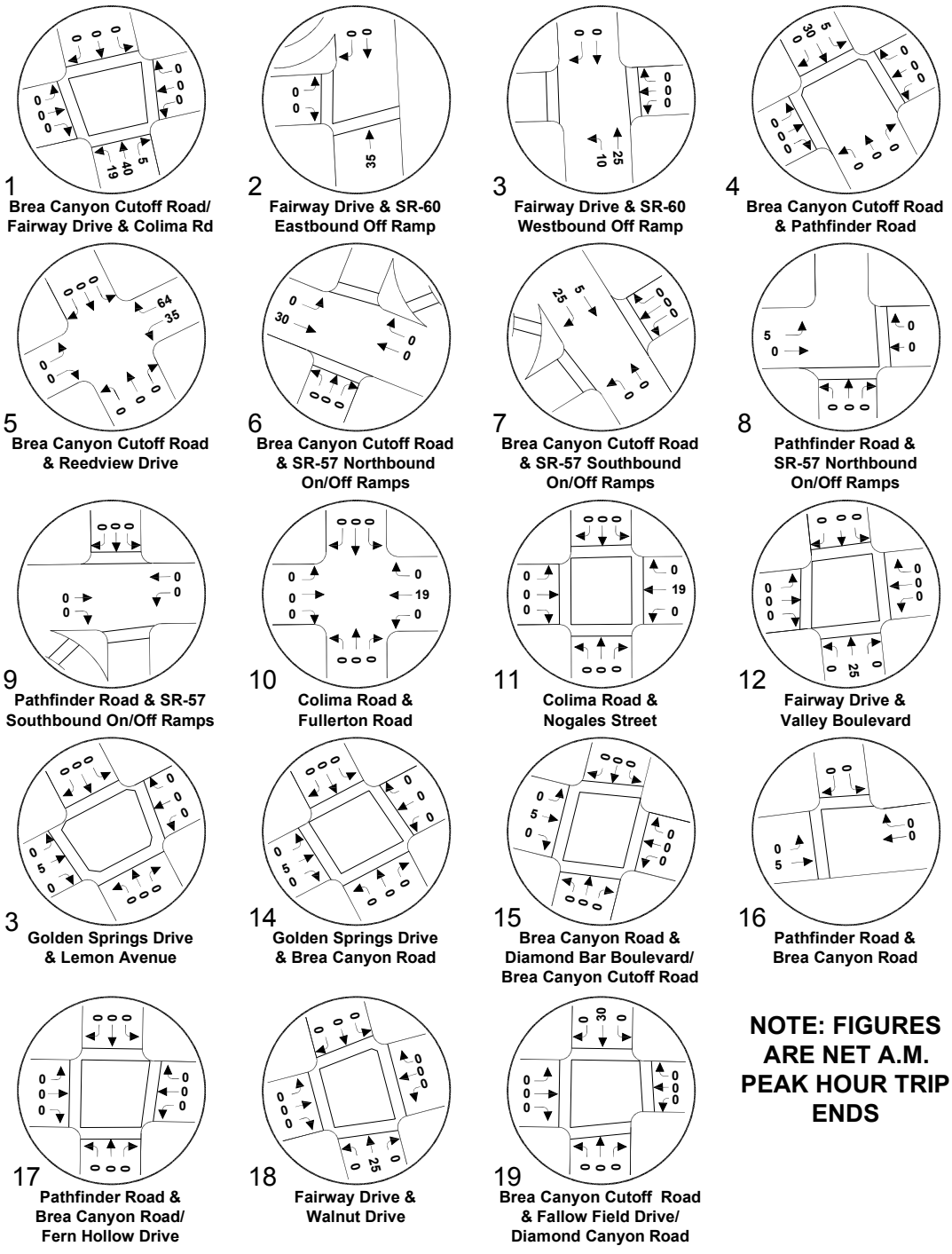
Project Phasing. Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of the site for below-grade parking, and construction of the new buildings, parking areas, and related improvements. This process would occur over an approximately 36-month period and some of the phases may overlap with one another.

NOT TO SCALE

SOURCE: KHR Associates - February 2010

FIGURE **5.7-7**

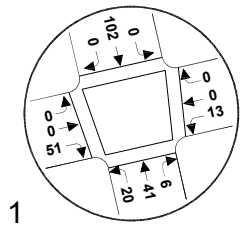
Project Trip Distribution



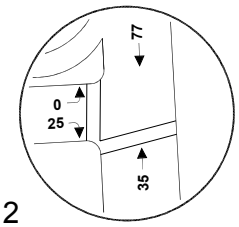
SOURCE: KHR Associates - July 2009

FIGURE **5.7-8**

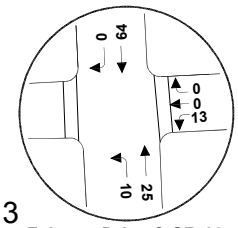
Project Traffic Volumes - AM Peak Hour



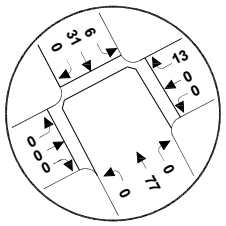
1 **Brea Canyon Cutoff Road/ Fairway Drive & Colima Rd**



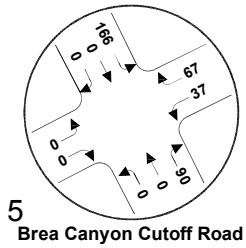
2 **Fairway Drive & SR-60 Eastbound Off Ramp**



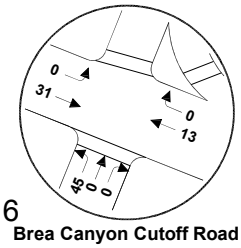
3 **Fairway Drive & SR-60 Westbound Off Ramp**



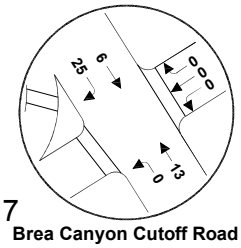
4 **Brea Canyon Cutoff Road & Pathfinder Road**



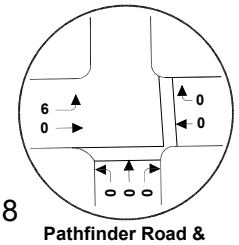
5 **Brea Canyon Cutoff Road & Reedview Drive**



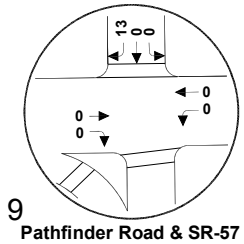
6 **Brea Canyon Cutoff Road & SR-57 Northbound On/Off Ramps**



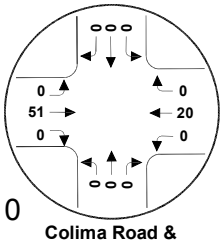
7 **Brea Canyon Cutoff Road & SR-57 Southbound On/Off Ramps**



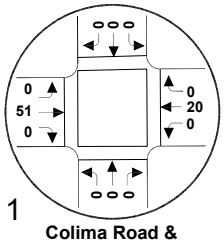
8 **Pathfinder Road & SR-57 Northbound On/Off Ramps**



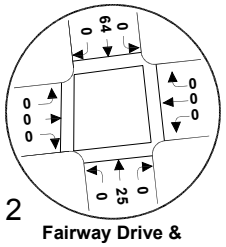
9 **Pathfinder Road & SR-57 Southbound On/Off Ramps**



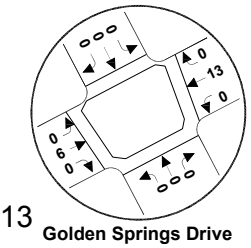
10 **Colima Road & Fullerton Road**



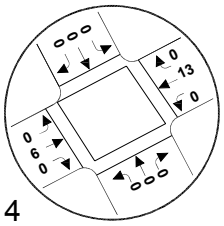
11 **Colima Road & Nogales Street**



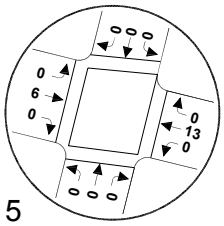
12 **Fairway Drive & Valley Boulevard**



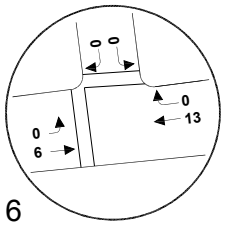
13 **Golden Springs Drive & Lemon Avenue**



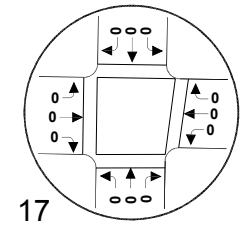
14 **Golden Springs Drive & Brea Canyon Road**



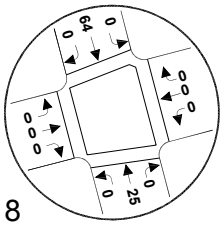
15 **Brea Canyon Road & Diamond Bar Boulevard/ Brea Canyon Cutoff Road**



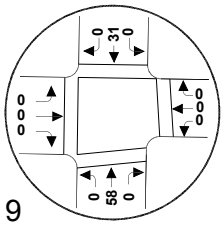
16 **Pathfinder Road & Brea Canyon Road**



17 **Pathfinder Road & Brea Canyon Road/ Fern Hollow Drive**



18 **Fairway Drive & Walnut Drive**



19 **Brea Canyon Cutoff Road & Fallow Field Drive/ Diamond Canyon Road**

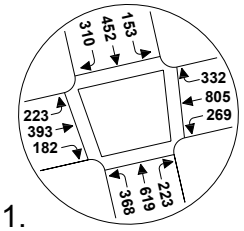
NOTE: FIGURES ARE NET P.M. PEAK HOUR TRIP ENDS

NOT TO SCALE

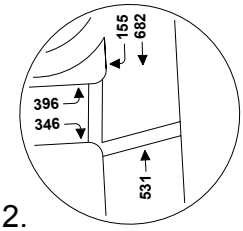
SOURCE: KHR Associates - July 2009

FIGURE **5.7-9**

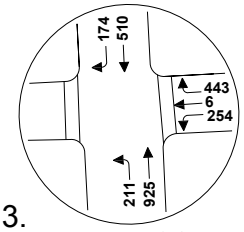
Project Traffic Volumes - PM Peak Hour



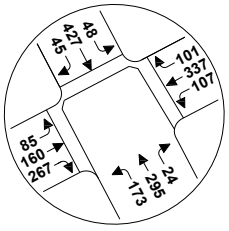
1. **Brea Canyon Cutoff Road/ Fairway Drive & Colima Rd**



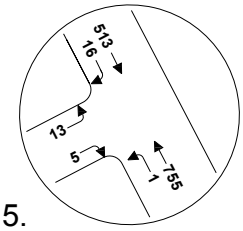
2. **Fairway Drive & SR-60 Eastbound Off Ramp**



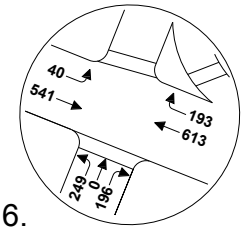
3. **Fairway Drive & SR-60 Westbound Off Ramp**



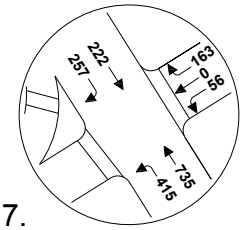
4. **Brea Canyon Cutoff Road & Pathfinder Road**



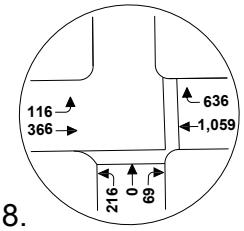
5. **Brea Canyon Cutoff Road & Reedview Drive**



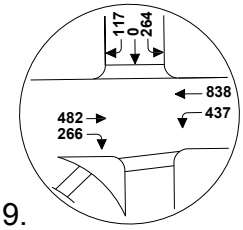
6. **Brea Canyon Cutoff Road & SR-57 Northbound On/Off Ramps**



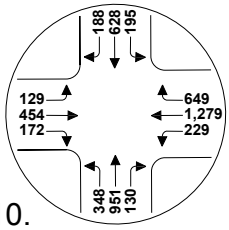
7. **Brea Canyon Cutoff Road & SR-57 Southbound On/Off Ramps**



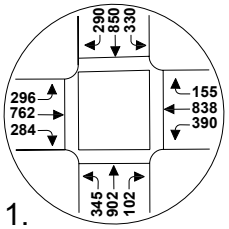
8. **Pathfinder Road & SR-57 Northbound On/Off Ramps**



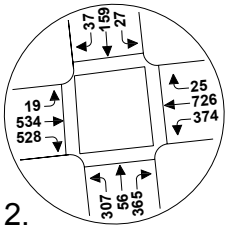
9. **Pathfinder Road & SR-57 Southbound On/Off Ramps**



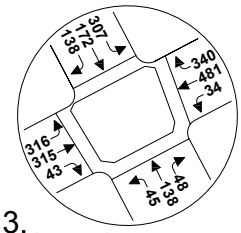
10. **Colima Road & Fullerton Road**



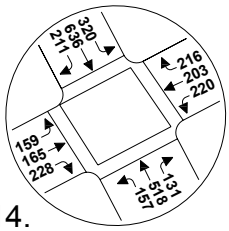
11. **Colima Road & Nogales Street**



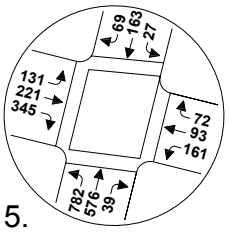
12. **Fairway Drive & Valley Boulevard**



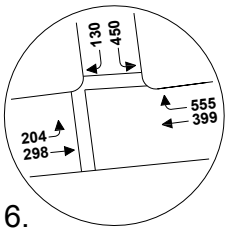
13. **Golden Springs Drive & Lemon Avenue**



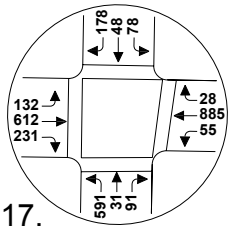
14. **Golden Springs Drive & Brea Canyon Road**



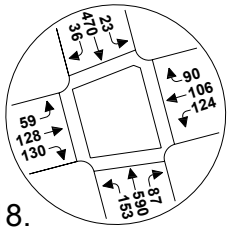
15. **Brea Canyon Road & Diamond Bar Boulevard/ Brea Canyon Cutoff Road**



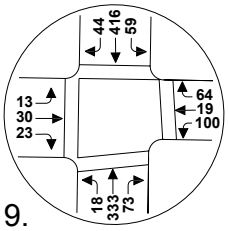
16. **Pathfinder Road & Brea Canyon Road**



17. **Pathfinder Road & Brea Canyon Road/ Fern Hollow Drive**



18. **Fairway Drive & Walnut Drive**



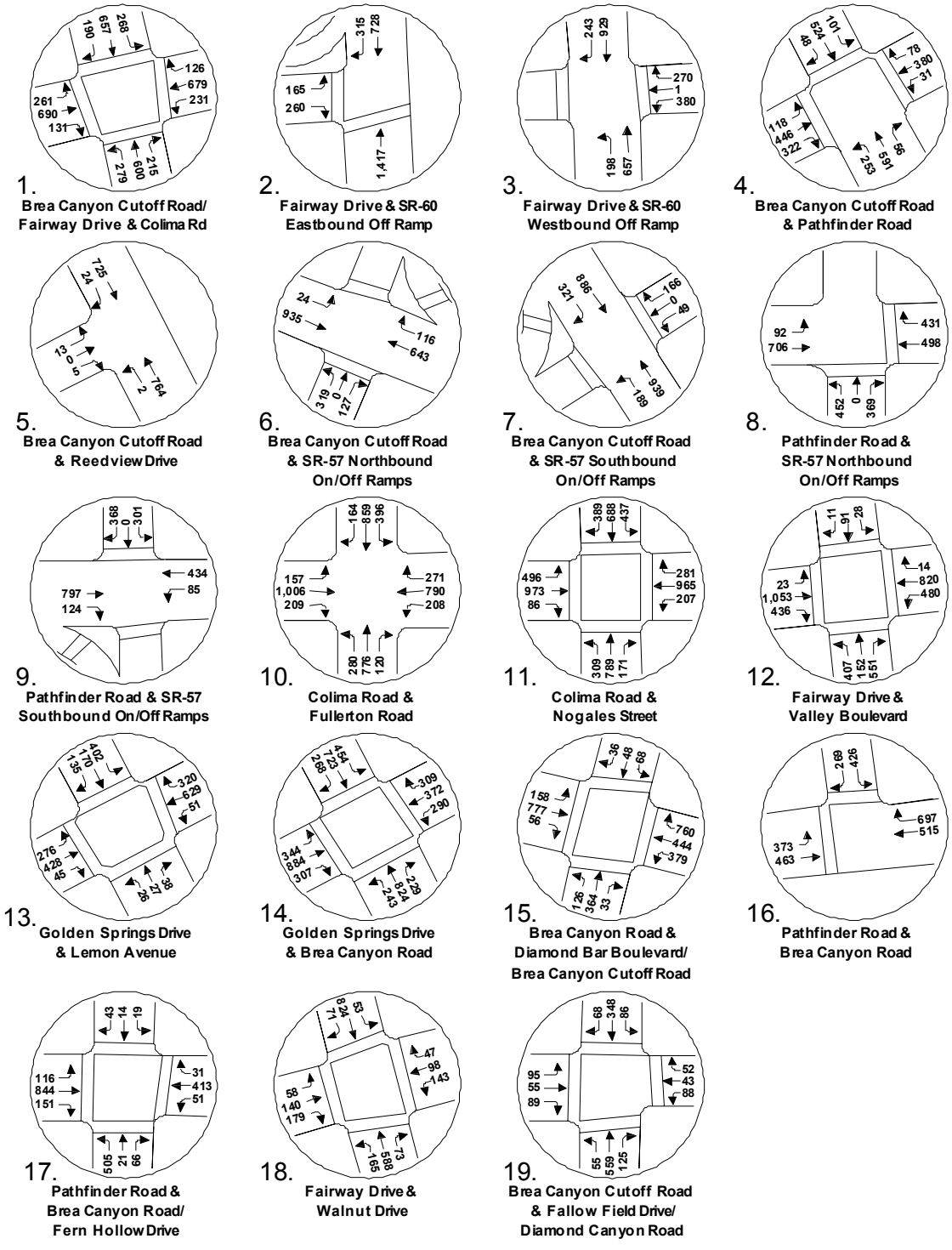
19. **Brea Canyon Cutoff Road & Fallow Field Drive/ Diamond Canyon Road**

NOT TO SCALE

SOURCE: KHR Associates - July 2009

FIGURE **5.7-10**

Existing Plus Ambient Growth Traffic Volumes - AM Peak Hour



NOT TO SCALE

SOURCE: KHR Associates - July 2009

FIGURE **5.7-11**

Existing Plus Ambient Growth Traffic Volumes - PM Peak Hour

Construction Parking. All construction equipment would be staged on the Project site. Additionally all construction worker parking would be accommodated on the Project site.

Haul Route. All truck staging would occur on Brea Canyon Cutoff Road or on the Project site itself. For construction trucks hauling demolition and earth material from the Project site, the haul route would proceed north on Brea Canyon Cutoff Road, which becomes Fairway Drive, and then east or west onto Highway 60. The proposed haul route is shown on **Figure 5.7-12, Construction Haul Route**.

Demolition would occur over a period of approximately 12 weeks and average between 10 and 50 truckloads per day. During demolition, the crew sizes are anticipated to be 20 workers per day. Site grading, including excavation and site preparation, would occur over a period of approximately 12 weeks and average between 50 and 100 truckloads per day. During the excavation phases of construction, the crew sizes are anticipated to be 15 workers per day. During Project construction, crew sizes may reach peaks of approximately 200 workers per day.

Although construction traffic impacts are short-term effects, construction of the Project could cause traffic disruptions due to the following construction activities:

- Staging location(s) for trucks
- Access to/from the site by trucks
- Access to/from the site by construction workers
- Traffic detours and temporary lane closures
- Construction employee parking needs
- Potential on-street parking impacts due to trucks accessing the site and use of on-street parking by construction workers

As a result, significant traffic impacts would potentially occur during Project construction. To minimize potential traffic conflicts during construction activities, the Project Applicant shall develop and implement a Construction Management Plan satisfactory to the Department of Public Works to minimize potential conflicts between construction activity and through traffic. Further information regarding the requirements for the Construction Management Plan are contained in **Mitigation Measure 5.7-1**. With implementation of mitigation, traffic impacts associated with construction of the proposed Project would be reduced to less than significant.

It is anticipated that construction workers would arrive and depart the site during off-peak hours and that construction-related traffic would be largely freeway oriented. Construction workers would arrive

and depart along Brea Canyon Cutoff Road. The most commonly used freeway ramps nearest the Project site are the Fairway Drive at SR-60 Westbound and Eastbound On/Off Ramps.

As per Section 12.08.440 of the County of Los Angeles Code, construction may occur between the hours of 7:00 AM and 7:00 PM, except on Sundays. As such, the majority of the construction workers would arrive to and depart from the Project site during off-peak hours (i.e., arrive prior to 6:30 AM and prior to 4:00 PM), thereby avoiding generating trips during the 7:00 to 9:00 AM and 4:00 to 6:00 PM peak traffic periods. Consequently, the impact associated with construction worker traffic on peak hour traffic in the vicinity of the site would be negligible. In addition, the maximum number of construction-related Project trips would be less than the vehicle trips currently generated on the Project site by existing uses. As such, worker trips occurring during Project construction would have a less than significant traffic impact.

Operational Impacts

The analysis of future traffic conditions at the study intersections was performed using the analytical procedures described above. As described earlier, Existing Plus Ambient Growth traffic volumes were determined by combining the area ambient traffic growth factor with the existing (2008) traffic volumes at the 19 study intersections and six roadway segments, as previously illustrated in **Figures 5.7-10** and **5.7-11**.

The net, or adjusted, traffic volumes generated by the proposed Project, as determined earlier, were then added to these volumes to develop the "Existing Plus Ambient Growth With Project" traffic condition to determine traffic impacts directly attributable to the proposed Project. The "Existing Plus Ambient Growth With Project" traffic volumes are shown in **Figures 5.7-13, Existing Plus Ambient Growth "With Project" Traffic Volumes – AM Peak Hour**, and **5.7-14, Existing Plus Ambient Growth "With Project" Traffic Volumes – PM Peak Hour,** for the weekday AM and PM peak hour, respectively.

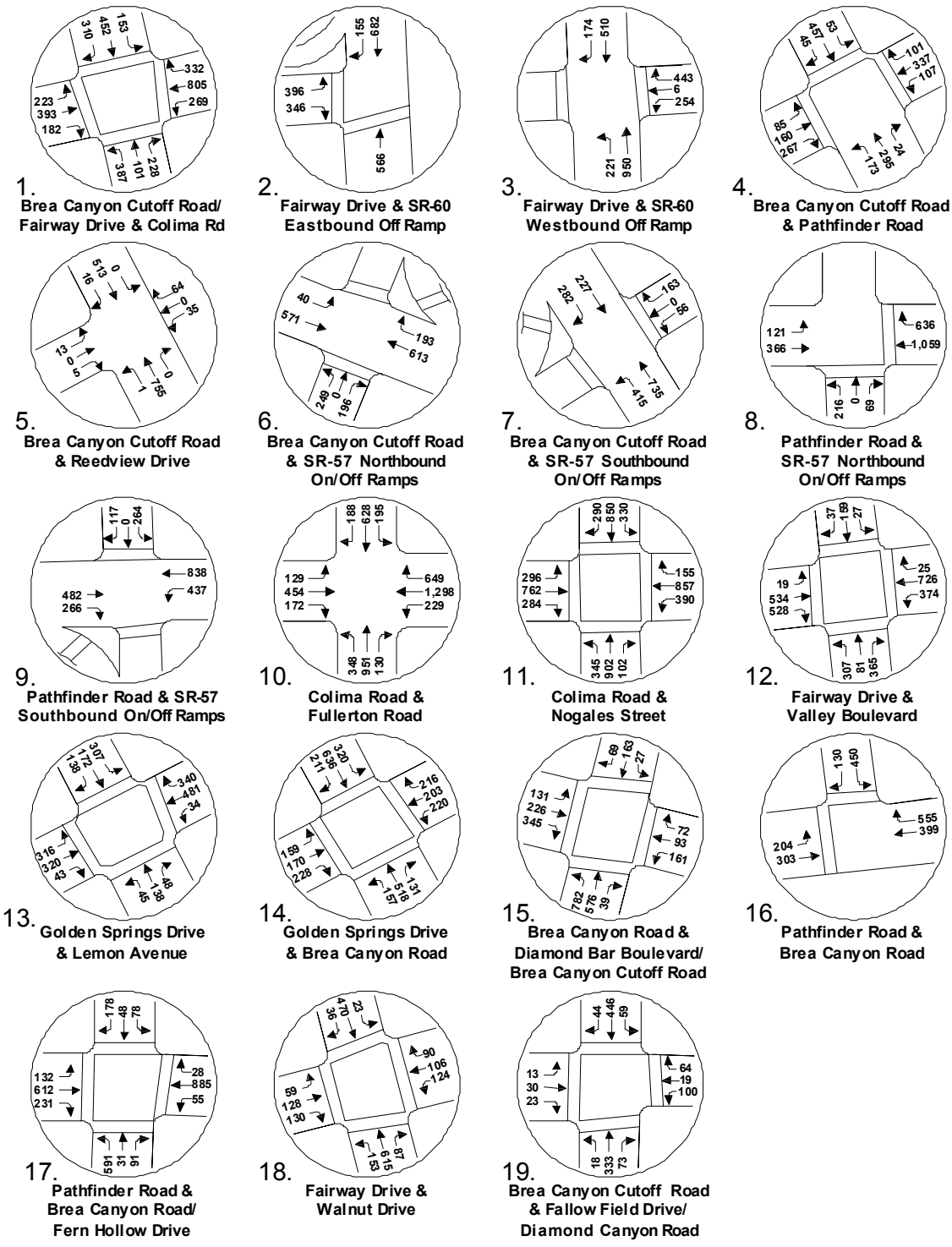
The results of the "Existing Plus Ambient Growth With Project" intersection ICU analysis for peak hours are summarized in **Table 5.7-8, ICU and LOS Summary – Existing Plus Ambient Growth Without and With Project Traffic Conditions**. As indicated in **Table 5.7-8**, ambient traffic growth in and around the study area would increase traffic at all of the study intersections by the year 2012. However, most of the intersections would continue to exhibit the same levels of service as presently exist, with 16 of the 19 study intersections operating at LOS D or better conditions during both of the weekday peak hours for the "Existing Plus Ambient Growth" traffic condition.

SOURCE: KHR Associates - July 2008

FIGURE **5.7-12**

Construction Haul Route

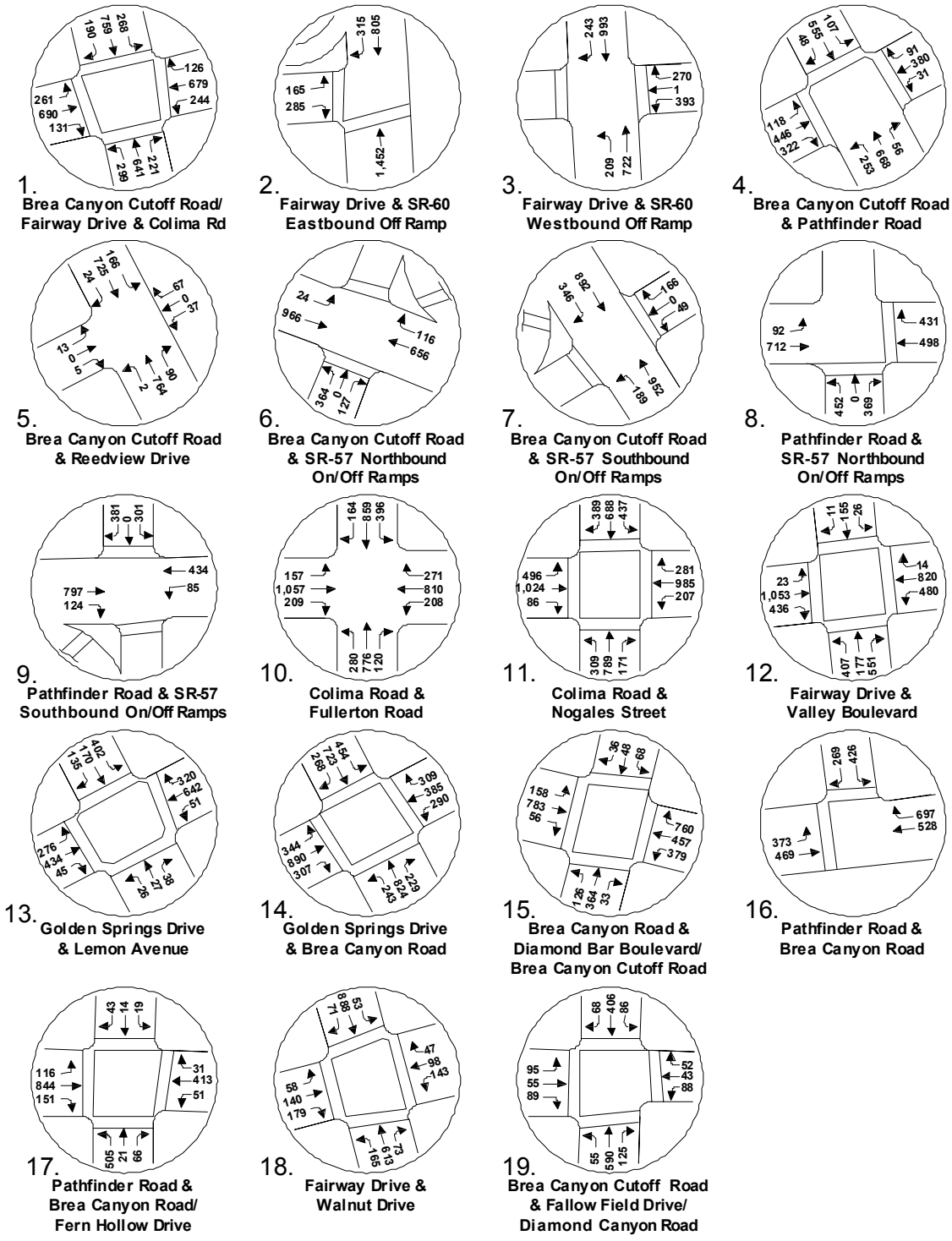
291-006•02/10



SOURCE: KHR Associates - July 2009

FIGURE **5.7-13**

Existing Plus Ambient Growth "With Project" Traffic Volumes - AM Peak Hour



NOT TO SCALE

SOURCE: KHR Associates - July 2009

FIGURE **5.7-14**

Existing Plus Ambient Growth "With Project" Traffic Volumes - PM Peak Hour

As indicated in **Table 5.7-8**, net Project traffic is expected to increase the V/C ratio values at some of the study intersections during the weekday peak hour periods. The addition of Project traffic would not exceed the County's significance threshold criteria except at the following three intersections: Brea Canyon Cutoff Road/Fairway Drive at Colima Road during the AM and PM peak hours; Colima Road at Nogales Street during the PM peak hour; and Fairway Drive at Valley Boulevard during the PM peak hour. Therefore, the addition of Project traffic would result in significant impacts to these three study area intersections. However, with implementation of **Mitigation Measures 5.7-2** through **5.7-4,** impacts to the three study area intersections would be reduced to less than significant.

Table 5.7-8
ICU and LOS Summary
Existing Plus Ambient Growth Without and With Project Traffic Conditions

Intersection	Peak Hour	Without Project		With Project		Impact Change in V/C
		V/C	LOS	V/C	LOS	
1. Brea Canyon Cutoff Road/Fairway Drive at Colima Road	AM	0.944	E	0.993	E	**0.049**
	PM	0.870	D	0.930	E	**0.060**
2. Fairway Drive at SR-60 E/B Off Ramps	AM	0.524	A	0.535	A	0.011
	PM	0.690	B	0.710	C	0.020
3. Fairway Drive at SR-60 W/B On/Off Ramps	AM	0.554	A	0.560	A	0.006
	PM	0.753	C	0.787	C	0.034
4. Brea Canyon Cutoff Road at Pathfinder Road	AM	0.703	C	0.722	C	0.019
	PM	0.875	D	0.894	D	0.019
5. Brea Canyon Cutoff Road at Reedview Drive	AM	0.344	A	0.384	A	0.040
	PM	0.347	A	0.521	A	0.174
6. Brea Canyon Cutoff Road at SR-57 N/B On/Off Ramps	AM	0.472	A	0.472	A	0.000
	PM	0.515	A	0.548	A	0.033
7. Brea Canyon Cutoff Road at SR-57 S/B On/Off Ramps	AM	0.464	A	0.465	A	0.001
	PM	0.526	A	0.528	A	0.002
8. Pathfinder Road at SR-57 N/B On/Off Ramps	AM	0.638	B	0.642	B	0.004
	PM	0.596	A	0.596	A	0.000
9. Pathfinder Road at SR-57 S/B On/Off Ramps	AM	0.689	B	0.689	B	0.000
	PM	0.590	A	0.590	A	0.000
10. Colima Road at Fullerton Road	AM	0.988	E	0.992	E	0.004
	PM	0.901	D	0.911	E	0.010
11. Colima Road at Nogales Street	AM	1.152	F	1.152	F	0.000
	PM	1.012	F	1.028	F	**0.016**
12. Fairway Drive at Valley Boulevard	AM	0.645	B	0.654	B	0.009
	PM	0.854	D	0.902	E	**0.048**

Intersection	Peak Hour	Without Project V/C	Without Project LOS	With Project V/C	With Project LOS	Impact Change in V/C
13. Golden Springs Drive at Lemon Avenue	AM	0.730	C	0.730	C	0.000
	PM	0.708	C	0.712	C	0.004
14. Golden Springs Drive at Brea Canyon Road	AM	0.542	A	0.543	A	0.001
	PM	0.964	E	0.966	E	0.002
15. Brea Canyon Road at Diamond Bar Boulevard/Brea Canyon Cutoff Road	AM	0.622	B	0.624	B	0.002
	PM	0.671	B	0.673	B	0.002
16. Pathfinder Road at Brea Canyon Road	AM	0.508	A	0.508	A	0.000
	PM	0.642	B	0.646	B	0.004
17. Pathfinder Road at Fern Hollow Drive/Brea Canyon Road	AM	0.874	D	0.874	D	0.000
	PM	0.626	B	0.626	B	0.000
18. Fairway Drive at Walnut Drive	AM	0.525	A	0.533	A	0.008
	PM	0.597	A	0.611	B	0.014
19. Brea Canyon Cutoff Road at Fallow Field Drive/Diamond Canyon Road	AM	0.359	A	0.359	A	0.000
	PM	0.513	A	0.522	A	0.009

Source: KHR Associates, 2009
Notes: E/B = eastbound, W/B = westbound, N/B = northbound, S/B = southbound.
Impacts in bold indicate that the project-related increase in the volume to capacity ratio meets or exceeds the Los Angeles County significance threshold for intersections.

As indicated in **Table 5.7-9**, **HCM and LOS Summary – Existing Plus Ambient Growth Without and With Project Traffic Conditions** below, the Caltrans-maintained intersections and the one unsignalized intersection would operate at LOS C or better during both weekday peak hours for the "Existing Plus Ambient Growth" traffic condition. Also shown in **Table 5.7-9**, the addition of net Project traffic is expected to incrementally increase intersection delay during the weekday AM and PM peak hours at some intersections. However, the LOS would remain at acceptable levels, LOS D or better, at all of the intersections. Therefore, the addition of Project traffic would not result in a significant impact to the Caltrans-maintained intersections or the one unsignalized intersection.

Table 5.7-9
HCM and LOS Summary
Existing Plus Ambient Growth Without and With Project Traffic Conditions

Intersection	Peak Hour	Without Project		With Project		Impact Change in Delay
		Delay	LOS	Delay	LOS	
2. Fairway Drive at SR-60 E/B Off Ramps	AM	11.6	B	11.6	B	0.0
	PM	11.1	B	12.6	B	1.5
3. Fairway Drive at SR-60 W/B On/Off Ramps	AM	19.8	B	20.4	B	0.6
	PM	23.4	C	27.9	C	4.5
5. Brea Canyon Cutoff Road at Reedview Drive	AM	12.8	B	14.1	B	1.3
	PM	14.6	B	26.2	D	11.6
6. Brea Canyon Cutoff Road at SR-57 N/B On/Off Ramps	AM	12.3	B	12.3	B	0.0
	PM	12.9	B	14.3	B	1.4
7. Brea Canyon Cutoff Road at SR-57 S/B On/Off Ramps	AM	11.5	B	11.6	B	0.1
	PM	12.3	B	12.3	B	0.0
8. Pathfinder Road at SR-57 N/B On/Off Ramps	AM	19.5	B	20.2	C	0.7
	PM	23.3	C	24.1	C	0.8
9. Pathfinder Road at SR-57 S/B On/Off Ramps	AM	19.3	B	19.3	B	0.0
	PM	15.3	B	15.3	B	0.0

Source: KHR Associates, 2009
Notes: E/B = eastbound, W/B = westbound, N/B = northbound, S/B = southbound.
[1] *Average Intersection Delay per Vehicle (in seconds).*

The results of the "Existing Plus Ambient Growth With Project" roadway segment analysis for peak hours are summarized in **Table 5.7-10, Roadway Segment HCM and LOS Summary – Existing Plus Ambient Growth Without and With Project Traffic Conditions**. The projected V/C ratios and corresponding levels of service for each of the studied roadway segments are also provided in **Table 5.7-10**. The V/C ratio for each study roadway segment is expected to increase over existing values with the addition of net Project traffic to the existing plus ambient traffic condition. However, the LOS is projected to remain at acceptable levels of service, LOS D or better, at all study area roadway segments. Therefore, the addition of Project traffic would not result in a significant impact to any of the study area roadway segments.

Table 5.7-10
Roadway Segment HCM and LOS Summary
Existing Plus Ambient Growth Without and With Project Traffic Conditions

Intersection	Peak Hour	Northbound		Southbound	
		V/C	LOS	V/C	LOS
Without Project					
Brea Canyon Cutoff Rd. s/o Colima Rd.	AM	0.558	A	0.474	A
	PM	0.652	B	0.699	B
Brea Canyon Cutoff Road s/o Pathfinder Rd.	AM	0.402	A	0.613	B
	PM	0.659	B	0.560	A
Brea Canyon Cutoff Rd. n/o Pathfinder Rd.	AM	0.389	A	0.407	A
	PM	0.550	A	0.559	A
Fairway Drive n/o Colima Rd.	AM	0.292	A	0.199	A
	PM	0.263	A	0.395	A
Fairway Drive n/o SR-60 Ramps	AM	0.378	A	0.258	A
	PM	0.345	A	0.451	A
Colima Rd. – Nogales to Fairway	AM	0.152	A	0.164	A
	PM	0.227	A	0.246	A
With Project					
Brea Canyon Cutoff Rd. s/o Colima Rd.	AM	0.583	A	0.474	A
	PM	0.698	B	0.809	D
Brea Canyon Cutoff Road s/o Pathfinder Rd.	AM	0.402	A	0.633	B
	PM	0.711	C	0.580	A
Brea Canyon Cutoff Rd. n/o Pathfinder Rd.	AM	0.388	A	0.430	A
	PM	0.611	B	0.583	A
Fairway Drive n/o Colima Rd.	AM	0.307	A	0.202	A
	PM	0.290	A	0.489	A
Fairway Drive n/o SR-60 Ramps	AM	0.386	A	0.257	A
	PM	0.353	A	0.470	A
Colima Rd. – Nogales to Fairway	AM	0.154	A	0.167	A
	PM	0.238	A	0.250	A

Source: KHR Associates, 2009
Notes: s/o = south of; n/o = north of.

Mitigation Measures

Construction Mitigation Measures

5.7-1: The Project Applicant and Construction Contractor shall prepare a Construction Management Plan to minimize traffic flow interference from construction activities. The Final Construction Management Plan shall be submitted to the County Department of Public Works and may include, but not be limited to, the following measures:

- Maintain existing access for land uses in the proximity of the Project site during Project construction;
- Schedule deliveries and pick-ups of construction materials for non-peak travel periods, to the maximum extent feasible;
- Coordinate haul trucks, deliveries and pick-ups to reduce the potential for trucks waiting to load or unload for protracted periods of time;
- Construction equipment traffic from the contractors shall be controlled by flagman in order to minimize circulation conflicts and obstruction of through-traffic lanes specifically along Brea Canyon Cutoff Road;
- Designated transport routes for heavy trucks and haul trucks to be used over the duration of the proposed Project;
- Schedule vehicle movements to ensure that there are no vehicles waiting off site and impeding public traffic flow on the surrounding streets;
- Establish requirements for loading/unloading and storage of materials on the Project site, where parking spaces would be encumbered, length of time traffic travel lanes can be encumbered, sidewalk closings or pedestrian diversions to ensure the safety of the pedestrian and access to local businesses;
- Coordinate with adjacent businesses, land uses, and emergency service providers to ensure adequate access exists to the Project site and neighboring land uses; and
- Prohibit parking for construction workers except on the project site.
- The Final Construction Management Plan shall be submitted and approved by the County no later 30 days prior to commencement of construction.

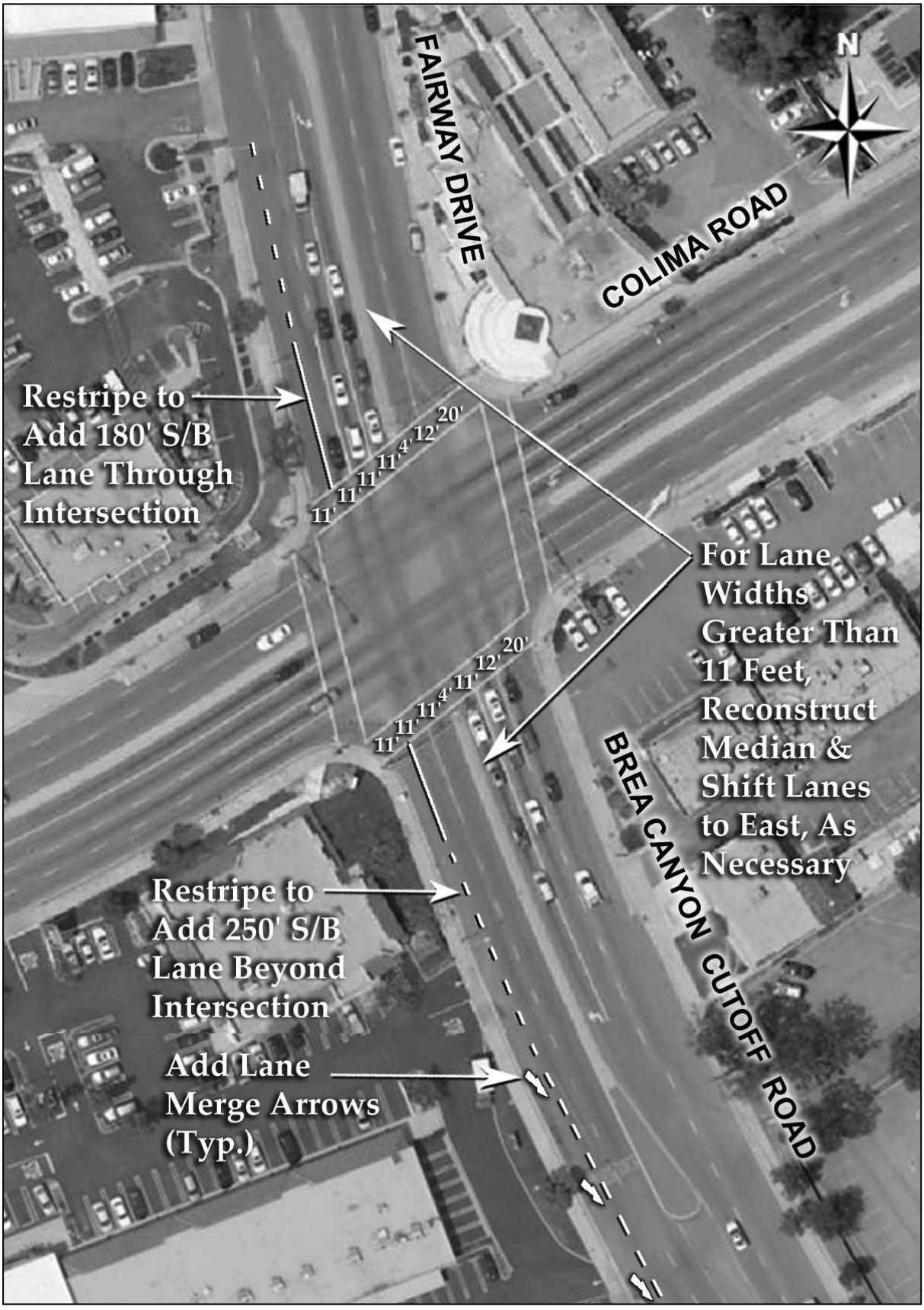
Operational Mitigation Measures

5.7-2: Prior to issuance of the final certificate of occupancy, the Project Applicant shall construct an additional southbound through lane at the intersection of Brea Canyon Cutoff Road and Colima Road, as shown in **Figure 5.7-15, Mitigation Improvements at Brea Canyon Cutoff Road and Colima Road**. This improvement can be accomplished by striping changes and minor median modifications.

5.7-3: Prior to issuance of the final certificate of occupancy, the Project Applicant shall construct a separate northbound right-turn lane at the intersection of Colima Road and Nogales Street as shown in **Figure 5.7-16**, **Mitigation Improvements at Colima Road and Nogales Street**. This improvement can be accomplished by striping changes within the existing right-of-way, but may require reconstructing a portion of the existing raised median by 2 feet or reducing the width by 2 feet for lane widths greater than 11 feet.

5.7-4: Prior to issuance of the final certificate of occupancy, the Project Applicant shall construct a separate southbound through lane at the intersection of Fairway Drive and Valley Boulevard, as shown in **Figure 5.7-17**, **Mitigation Improvements at Fairway Drive and Valley Boulevard**. This improvement can be accomplished by striping changes to the north leg and the installation of traffic loops in the in each lane within the 40-foot curb-to-curb width of the street, but may require 2 to 4 feet of roadway widening within the existing 60-foot right of way to accommodate lane widths greater than 10 feet.

To determine the quantitative effect of these mitigation measures on the Project-related significant impacts, an analysis was performed with the assumption that the proposed mitigation measures were in place. The results of the supplemental "With Mitigation" analysis are presented in **Table 5.7-11**. As shown in the table below, implementation of the recommended mitigation measures described above would reduce the project-related traffic impacts at Brea Canyon Cutoff Road at Colima Road, Colima Road at Nogales Street, and Fairway Drive at Valley Boulevard to less than significant.



NOT TO SCALE

SOURCE: KHR Associates - November 2009

FIGURE **5.7-15**

Mitigation Improvements at Brea Canyon Cutoff Road and Colima Road

NOT TO SCALE

SOURCE: KHR Associates - November 2009

FIGURE **5.7-16**

Mitigation Improvements at Colima Road and Nogales Street

NOT TO SCALE

SOURCE: KHR Associates - November 2009

FIGURE **5.7-17**

Mitigation Improvements at Fairway Drive and Valley Boulevard

Table 5.7-11
ICU and LOS Summary
Existing Plus Ambient Growth Plus Project Without and With Mitigation

Intersection	Peak Hour	Without Mitigation V/C	Without Mitigation LOS	With Mitigation V/C	With Mitigation LOS	Change in V/C
1. Brea Canyon Cutoff Road/Fairway Drive at Colima Road	AM	0.933	E	0.911	E	-0.082
	PM	0.930	E	0.877	D	-0.053
11. Colima Road at Nogales Street	AM	1.152	F	1.152	F	0.000
	PM	1.028	F	0.984	E	-0.044
12. Fairway Drive at Valley Boulevard	AM	0.654	B	0.593	A	-0.061
	PM	0.902	E	0.850	D	-0.052

Source: KHR Associates, 2009

Screening Criteria: **Would the Project cause an increase of 50 peak hour vehicles or more to a Congestion Management Program (CMP) highway system intersection or cause an increase of 150 peak hour trips or more to a mainline freeway link?**

Threshold 2: **Would the Project cause an increase in traffic demand on a Congestion Management Program facility by 2 percent of capacity causing an LOS F? If the facility is already operating at LOS F, would the Project cause an increase in traffic demand on a Congestion Management Program facility by 2 percent of capacity?**

Analysis

The CMP Project TIA guidelines require analyses of all CMP monitoring intersections where the Project could add a total of 50 or more trips during either peak hour. Additionally, all freeway segments where a Project could add 150 or more trips in either direction during the peak hours must be analyzed.

According to the CMP TIA guidelines if a CMP monitoring intersection warrants further analysis, a significant impact occurs when the proposed Project increases traffic demand on a Congestion Management Program facility by 2 percent of capacity causing an LOS F. If the facility is already operating at LOS F, a significant impact occurs when the proposed Project increases traffic demand on a Congestion Management Program facility by 2 percent of capacity.

CMP Monitoring Intersection Impacts

The CMP requires that detailed analyses be conducted for any CMP monitoring intersections where the proposed project is anticipated to add 50 or more total trips during either the AM or PM peak hours. A review of CMP arterial monitoring stations indicated that none of the study intersections required by the County to be analyzed for the Project are CMP stations. The nearest CMP intersections to the Project site is Grand Avenue at Diamond Bar Boulevard, located over 3 miles to the east, in the City of Diamond Bar, and Azusa Avenue at Colima Road, located over 3.5 miles to the west, in the City of La Puente. Both CMP intersections are located outside the project study area. The proposed Project would add less than 50 trips during both peak hours to the two CMP intersections. Therefore, traffic generated by the proposed Project would result in a less than significant impact on CMP monitoring intersections.

CMP Mainline Freeway Impacts

Additionally, CMP requires that detailed analyses be conducted for all freeway segments where a Project could add 150 or more trips in either direction during the peak hours. The freeway segment of SR-60 freeway from Hacienda Road to Azusa Avenue is identified as a CMP monitoring location. This segment of the SR-60 freeway is located outside the Project study area over 4 miles from the Project site. The proposed Project would add less than 150 trips during both peak hours to the CMP mainline freeway segment. Therefore, net traffic generated by the proposed Project would result in a less than significant impact on CMP mainline freeway segments and no further analysis is required.

Mitigation Measures

Impacts would be less than significant; therefore, no mitigation is required.

Threshold 3: Would the Project result in any hazardous traffic conditions?

Analysis

As shown in **Figure 5.7-6, Circulation Plan,** the Project site would be accessed by three driveways off Brea Canyon Cutoff Road, which runs along the western side of the site. The three driveways include a primary driveway accessing the center of the Project site and aligned with Reedview Drive to the west and two secondary driveways at the northern and southern ends of the site. At-grade internal driveway widths would be at a minimum of 28 feet to allow access to the site for fire trucks and emergency vehicles. Smaller emergency vehicles, such as police cars and ambulances, would be able to access the subterranean parking structure as necessary.

With Project implementation, the main Project driveway on Brea Canyon Cutoff Road would be located opposite existing Reedview Drive, creating a new four-legged intersection. If this intersection is controlled by stop signs only on the minor legs (i.e., Reedview Drive and the main driveway to the Project), the LOS is projected to deteriorate from "B" to "D" during the PM peak hour with the addition of Project-generated traffic. To determine whether or not this intersection will warrant signalization, an analysis was conducted employing the Caltrans Estimated Average Daily Traffic (EADT) Warrants. The resulting EADTs are presented in **Figure 5.7-18**, **Estimated Project Traffic at Driveways**, along with projected AM and PM peak hour turn movements into and out of the Project driveways. Based solely on the EADT volumes forecasted for buildout year 2012 at the intersection of Brea Canyon Cutoff Road and the main Project driveway, it was determined that only one of the three EADT Warrants would be satisfied. Therefore, the intersection of Brea Canyon Cutoff Road and the main Project driveway is not anticipated to require traffic signalization as a result of Project traffic. However, to ensure safe circulation, the Project driveway will be signalized prior to Project buildout, as required by **Mitigation Measure 5.7-5**.

Left-turn movements into and out of the secondary driveways on the Project site could result in traffic hazards, which is a potentially significant impact. With implementation of **Mitigation Measures 5.7-6**, the two secondary Project driveways located along Brea Canyon Cutoff Road would be restricted to right-turn ingress and egress, which would eliminate traffic hazards for these driveways associated with the Project. Implementation of this mitigation measure would reduce this hazardous traffic impacts to a less than significant level.

Mitigation Measures

5.7-5: Prior to issuance of the final certificate of occupancy, the Project Applicant shall install a traffic signal at the main Project driveway on Brea Canyon Cutoff Road at Reedview Drive to allow safe and convenient left turn movements into and out of the Project site, prior to plan approval.

5.7-6: The two secondary Project driveways located along Brea Canyon Cutoff Road shall be restricted to right-turn ingress and egress only.

Threshold 4: Would the Project result in parking problems with a subsequent impact on traffic conditions?

Analysis

The proposed Project would be developed as a residential planned development under County Zoning Ordinance section 22.20.460. Residential planned developments are required to provide parking "in an

amount adequate to prevent traffic congestion and excessive street parking" and in no event less than one covered parking space per dwelling unit. Section 22.52.1180 of the Los Angeles County Code specifies the following parking ratios for general apartment uses: one and one-half covered parking spaces per one-bedroom dwelling unit; and, one and one-half covered, plus one-half uncovered parking spaces per dwelling unit with two or more bedrooms; and guest parking shall be provided for general apartment uses containing 10 or more units at a ratio of one standard guest parking space for every four dwelling units. The County Code parking requirement for the project unit mix would be 1,544 spaces, as shown in **Table 5.7-12**, **Code Parking Requirements**. The parking requirement for County of Los Angeles Department of Regional Planning provides the County with flexibility to allow less than the required parking that would otherwise be applicable in section 22.52.1000 of the County Code. However, the proposed Project does not seek a reduction in parking below these established County standards.

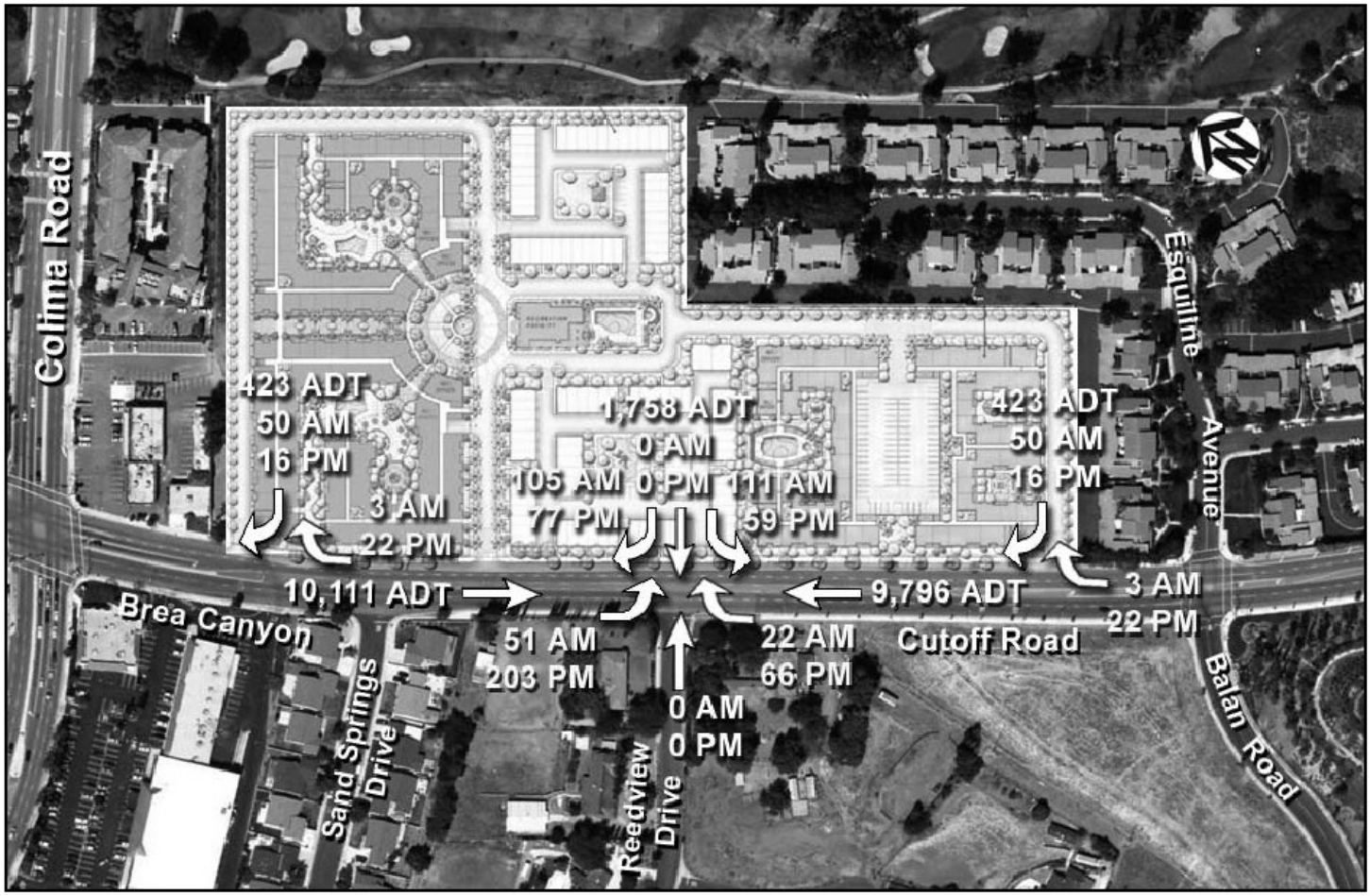
Table 5.7-12
Code Parking Requirements

Unit Type	No. of Units	Code Requirement	Required Spaces
One-bedroom	401	1.5 spaces/unit	602
Two-bedroom	328	2.0 spaces/unit	656
Three-bedroom	46	2.0 spaces/unit	92
Guest stalls	--	0.25 spaces/unit	194
Total	**775**		**1,544**

Source: Impact Sciences, Inc.

Table 5.7-13, **Project Parking**, below, itemizes the parking that would be provided by the proposed Project. The proposed Project would provide a total of approximately 1,544 parking spaces, which is in conformance with County Code parking requirements. This total includes approximately 872 spaces in the parking structure beneath the podium building, approximately 243 garage spaces associated with the townhome style apartments, and approximately 429 spaces in the above-grade structure incorporated into the wrap around building.

The proposed parking supply meets the stated County Code parking requirements in Section 22.52.1000, which are established to ensure that an adequate number of spaces are available to accommodate anticipated parking demand in order to address traffic congestion and potential adverse impacts on surrounding properties from parking. See County Code Section 22.52.1000. Therefore, Project parking impacts would be less than significant.



NOT TO SCALE

SOURCE: KHR Associates - November 2009

FIGURE **5.7-18**

Estimated Project Traffic at Driveways

Table 5.7-13
Project Parking

Unit Type	No. of Units	Parking Ratio (stalls per unit)	No. of Stalls Provided
Podium Units			
One-bedroom	282	1.5	423
Two-bedroom	168	2.0	336
Guest stalls	450	0.25	113
Podium Building Subtotal	**450**		**872**
Townhomes			
Two-bedroom	78	2.0	156
Three-bedroom	30	2.0	60
Guest stalls	108	0.25	27
Townhome Subtotal	**108**		**243**
Wrap Around Building			
One-bedroom	119	1.5	179
Two-bedroom	82	2.0	164
Three-bedroom	16	2.0	32
Guest stalls	217	0.25	54
Wrap Around Building Subtotal	**217**		**429**
Total	**775**		**1,544**

Source: Van Tilburg, Banvard & Soderbergh, AIA, March 2008

Mitigation Measures

Impacts would be less than significant; as such, no mitigation is required.

Threshold 5: **Would the Project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

Analysis

Presently transit service is provided by Foothill Transit in the immediate Project area. Foothill Transit Routes 482 and 493 provide service along Colima Road, Route 286 provides service along Diamond Bar and Brea Canyon Road, and Route 497 provides express service along SR-60. The nearest bus stops to the Project site are provided along Foothill Routes 482 and 493. Given the location of the nearest bus stops to the Project site, which occur at the intersection of Colima Road at Brea Canyon Cutoff and Colima Road

at Nogales Street, implementation of the proposed Project would not disrupt existing transit service or facilities. In addition, bicycle racks would be provided on the Project site for residences and an alternative transportation information kiosk would be located in the leasing and recreation center.

As a result, the Project is consistent with adopted policies, plans, or programs supporting alternative transportation. Accordingly, the Project would result in a less than significant impact on alternative transportation.

Mitigation Measures

As discussed above, the proposed Project would have a less than significant impact on alternative transportation; as such, no mitigation measures are required.

CUMULATIVE IMPACTS

Construction Impacts

The following cumulative analysis evaluates the impact of construction of the Project and related projects in the County of Los Angeles and the City of Industry on traffic and circulation. These related projects are identified below. The closest related project to the proposed Project would be a cafe/retail project, which is located approximately 200 feet to the north of the Project site near the intersection of Brea Canyon Cutoff Road and Colima Road. If construction phases of the proposed Project and the closest related project were to overlap, cumulative construction-related traffic impacts could occur. The remaining related projects are located further from the Project site. However, all construction activities would be subject to the requirements of the Section 12.08.440 of the County of Los Angeles Code, which limits construction activities between the hours of 7:00 AM and 7:00 PM, with no construction allowed on Sundays. The Project's compliance with the ordinance, as well as the incorporation of mitigation recommended as part of each individual project's environmental review, would reduce the Project's contribution to any cumulative construction-related traffic impacts to less than significant.

Operational Impacts

The LACDPW requires cumulative traffic impacts of all identified development in the study area, including those from the Project itself, to be evaluated to determine the ultimate traffic conditions in the future condition. This allows for the identification of potential long-term roadway improvements that may be necessary to mitigate total anticipated traffic growth in the study area, but are beyond the scope of any particular development to implement.

In order to determine cumulative traffic (year 2012 traffic conditions), existing traffic is combined with areawide growth and other development. For "Future 2012 Without Project" traffic conditions, an ambient growth rate, obtained from the Los Angeles County Department of Transportation, has been utilized to account for areawide growth over study area roadways. "Future 2012 Without Project" traffic volumes have been calculated based on a 0.78 percent annual growth rate, which has been applied to existing traffic volumes over a three-year period. In order to account for other development, a list of related projects within a 1.5-mile radius of the Project site, per Congestion Management Program standards, was obtained from the County of Los Angeles and the City of Industry and traffic generated by the related projects was determined using the ITE trip generation rates.

Using these assumptions as guidelines, a review of the related projects information indicated that a total of nine related projects, in the vicinity of the Project site, could produce additional traffic at study area intersections. These related projects include the following and their locations are shown in **Figure 5.7-19, Related Project Location Map**.

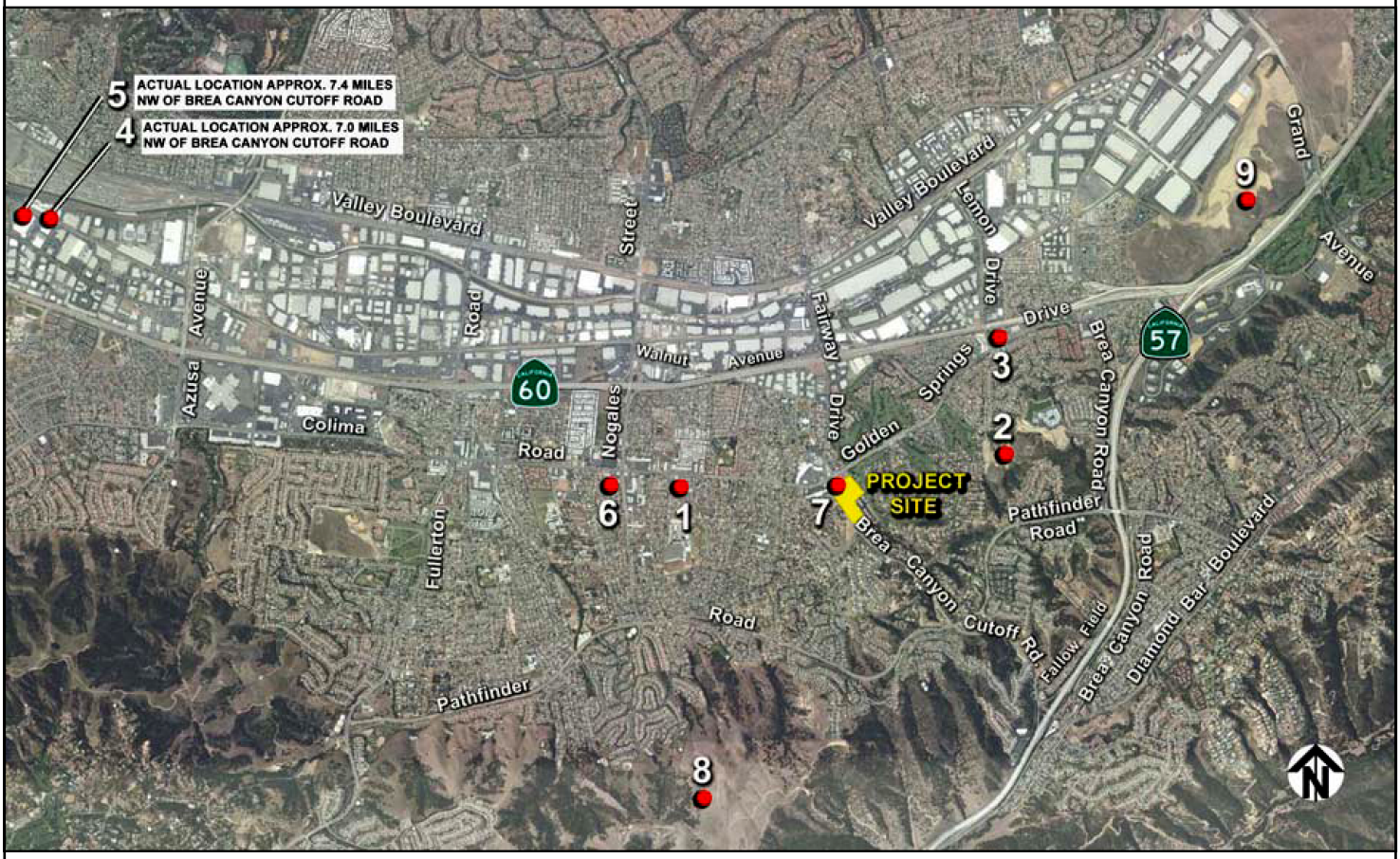
- Multi-family Residential Project: 11 dwelling units located at 19280 Colima Road in Rowland Heights, approximately 0.8 mile west of the Project site.
- Residential Project: 99 dwelling units located south of Larkstone Drive and east of Morning Sun Avenue in Diamond Bar, approximately 0.8 mile east of the Project site.
- Commercial Project: 52,000 square feet located 1035 1/2 Banning Way in Diamond Bar, approximately 1.14 miles northeast of the Project site.
- Auto Repair Facility: square footage not available, located 14250 Valley Boulevard in Walnut, approximately 1.25 miles north of the Project site.
- Tow Yard/Truck and Equipment Storage/Used Car Sales: square footage not available, located 13940 Valley Boulevard in Walnut, approximately 1.25 miles north of the Project site.
- Recording Studio/Karaoke Project: square footage not available, located 1725 Nogales Street in Rowland Heights, approximately 1.2 miles west of the Project site.
- Café/Retail Project: square footage not available, located 19800 Colima Road in Los Angeles County, approximately 200 feet north of the Project site.
- Area Master Plan Project: 3,600 dwelling units, located in Los Angeles County/Diamond Bar.
- Los Angeles Stadium Project: Phase 1 of the project, which is projected to be built out by year 2011, located in the City of Industry.

The "Future 2012 Without Project" traffic volumes were determined by combining the area ambient traffic growth factor and the traffic generated by the nine identified related projects with the existing

(2008) traffic volumes at the 19 study intersections. For the study intersections that were also analyzed in the Los Angeles Stadium project Supplemental Environmental Impact Report (SEIR), year 2011 projected traffic generated by the Los Angeles Stadium project and related projects from the SEIR were adjusted by adding one additional year of ambient traffic growth in order to reflect 2012 traffic conditions.[3] The ambient traffic growth rate used in the SEIR was 1 percent per year, which is greater and more conservative than the ambient growth rate of 0.78 percent per year used for this analysis. Study intersections that were also analyzed in the Los Angeles Stadium project SEIR include: Brea Canyon Cutoff Road/Fairway Drive at Colima Road, Brea Canyon Cutoff Road at Pathfinder Road, Brea Canyon Cutoff Road at SR-57 Northbound On/Off Ramps, Pathfinder Road at SR-57 Northbound On/Off Ramps, Pathfinder Road at SR-57 Southbound On/Off Ramps, Colima Road at Nogales Street, Fairway Drive at Valley Boulevard, Golden Springs Drive at Lemon Avenue, Golden Springs Drive at Brea Canyon Road, Brea Canyon Road at Diamond Bar Boulevard/Brea Canyon Cutoff Road, Pathfinder Road at Brea Canyon Road, Pathfinder Road at Fern Hollow Drive/Brea Canyon Road, and Fairway Drive at Walnut Drive.

The "Future 2012 With Project" traffic volumes were determined by combining the net traffic generated by the proposed Project, as determined earlier, to the "Future 2012 Without Project" volumes to develop the "Future 2012 With Project" traffic condition**.** The resulting "Future 2012 With Project" traffic volumes are shown in **Figures 5.7-20, Future 2012 With Project Traffic Volumes – AM Peak Hour,** and **5.7-21, Future 2012 With Project Traffic Volumes – PM Peak Hour,** for the weekday AM and PM peak hour, respectively. In order to determine cumulative impacts and the Project's contribution to cumulative impacts, the "Future 2012 With Project" traffic condition has been compared to the forecast "Future 2012 Without Project" traffic condition. The results of the future year (2012) intersection analysis are summarized in **Table 5.7-14, ICU and LOS Summary – Future 2012 Without and With Project Traffic Conditions**.

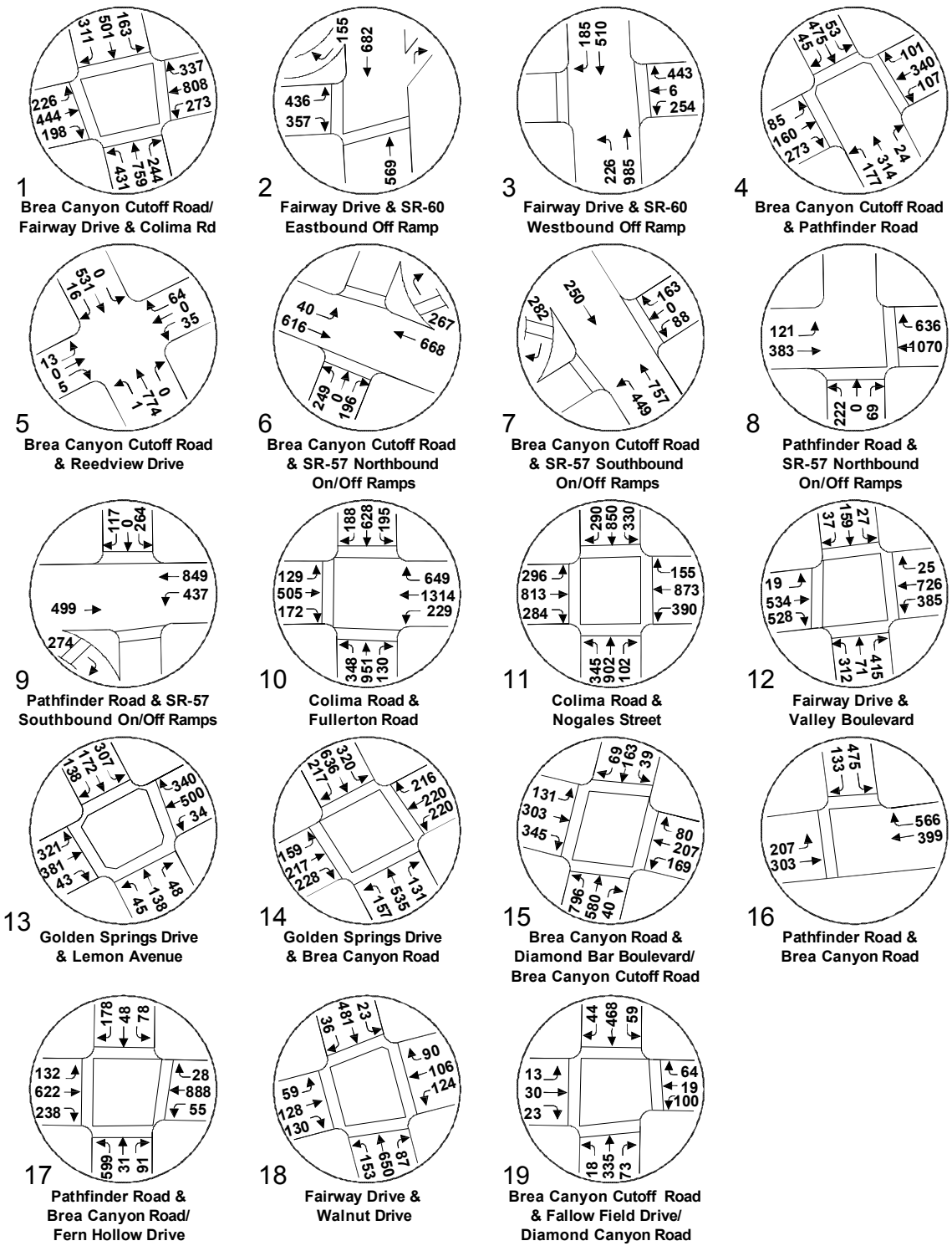
3 Year 2011 projected traffic generated by the Los Angeles Stadium project and related projects from the SEIR also includes existing traffic data collected for the Los Angeles Stadium project SEIR.



SOURCE: KHR Associates - July 2009

FIGURE **5.7-19**

Related Project Location Map



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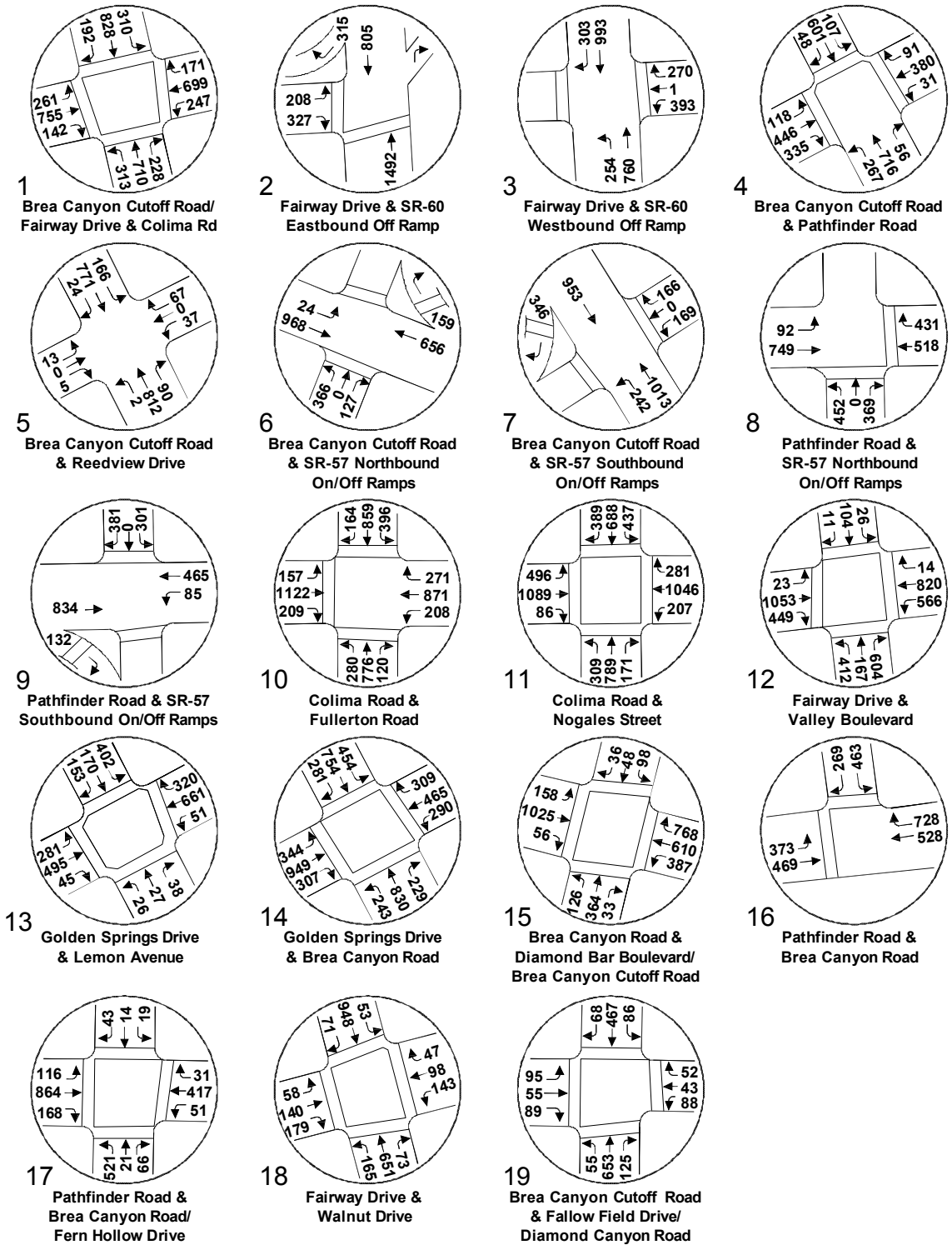
SOURCE: KHR Associates - November 2009

FIGURE **5.7-20**

Future 2012 With Project Traffic Volumes - AM Peak Hour



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SOURCE: KHR Associates - November 2009

FIGURE **5.7-21**

Future 2012 With Project Traffic Volumes - PM Peak Hour

Table 5.7-14
ICU and LOS Summary
Future 2012 Without and With Project Traffic Conditions

Intersection	Peak Hour	Without Project V/C	Without Project LOS	With Project V/C	With Project LOS	Project Impact
1. Brea Canyon Cutoff Road/Fairway Drive at Colima Road	AM	0.985	E	0.997	E	**0.012**
	PM	0.901	E	0.946	E	**0.045**
2. Fairway Drive at SR-60 E/B Off Ramps	AM	0.544	A	0.555	A	0.011
	PM	0.720	C	0.740	C	0.020
3. Fairway Drive at SR-60 W/B On/Off Ramps	AM	0.557	A	0.563	A	0.006
	PM	0.781	C	0.815	D	0.034
4. Brea Canyon Cutoff Road at Pathfinder Road	AM	0.703	C	0.722	C	0.019
	PM	0.839	D	0.863	D	**0.024**
5. Brea Canyon Cutoff Road at Reedview Drive	AM	0.344	A	0.384	A	0.040
	PM	0.347	B	0.521	A	0.174
6. Brea Canyon Cutoff Road at SR-57 N/B On/Off Ramps	AM	0.460	A	0.472	A	0.012
	PM	0.517	A	0.549	A	0.032
7. Brea Canyon Cutoff Road at SR-57 S/B On/Off Ramps	AM	0.472	A	0.472	A	0.000
	PM	0.528	A	0.528	A	0.000
8. Pathfinder Road at SR-57 N/B On/Off Ramps	AM	0.634	B	0.642	B	0.008
	PM	0.599	A	0.603	B	0.004
9. Pathfinder Road at SR-57 S/B On/Off Ramps	AM	0.692	B	0.692	B	0.000
	PM	0.597	A	0.597	A	0.000
10. Colima Road at Fullerton Road	AM	0.991	E	0.995	E	0.004
	PM	0.914	E	0.925	E	**0.011**
11. Colima Road at Nogales Street	AM	1.168	F	1.168	F	0.000
	PM	1.032	F	1.048	F	**0.016**
12. Fairway Drive at Valley Boulevard	AM	0.649	B	0.658	B	0.009
	PM	0.874	D	0.923	E	**0.049**
13. Golden Springs Drive at Lemon Avenue	AM	0.736	C	0.736	C	0.000
	PM	0.747	C	0.751	C	0.004
14. Golden Springs Drive at Brea Canyon Road	AM	0.565	A	0.567	A	0.002
	PM	0.984	E	0.986	E	0.002
15. Brea Canyon Road at Diamond Bar Boulevard/Brea Canyon Cutoff Road	AM	0.626	B	0.627	B	0.001
	PM	0.690	B	0.692	B	0.002
16. Pathfinder Road at Brea Canyon Road	AM	0.517	A	0.517	A	0.000
	PM	0.649	B	0.653	B	0.004
17. Pathfinder Road at Fern Hollow Drive/Brea Canyon Road	AM	0.875	D	0.875	D	0.000
	PM	0.632	B	0.632	B	0.000

Intersection	Peak Hour	Without Project V/C	Without Project LOS	With Project V/C	With Project LOS	Project Impact
18. Fairway Drive at Walnut Drive	AM	0.538	A	0.545	A	0.007
	PM	0.610	B	0.623	B	0.013
19. Brea Canyon Cutoff Road at Fallow Field Drive/Diamond Canyon Road	AM	0.359	A	0.359	A	0.000
	PM	0.505	A	0.523	A	0.018

Source: KHR Associates, 2009
Notes: E/B = eastbound, W/B = westbound, N/B = northbound, S/B = southbound.
Impacts in bold indicate that the Project-related increase in the volume to capacity ratio meets or exceeds the Los Angeles County significance threshold for intersections.

As summarized in **Table 5.7-14**, several of the study intersections would operate at an unacceptable LOS during the "Future 2012 With Project" traffic condition. As shown in the table above, the following intersections meet or exceed the County significance threshold criteria due to the addition traffic generated by the proposed Project to cumulative traffic conditions: Brea Canyon Cutoff Road at Colima Road (during the AM and PM peak hours), Brea Canyon Cutoff Road at Pathfinder Road (during the PM peak hour), Colima Road at Fullerton Rd (during the PM peak hour), Colima Road at Nogales Street (during the PM peak hour), and Fairway Drive at Valley Boulevard (during the PM peak hour). Therefore, the addition of Project traffic would result in a considerable contribution to cumulative impacts. However, with implementation of previously identified **Mitigation Measures 5.7-2** through **5.7-4** and **Mitigation Measures 5.7-7** through **5.7-9**, the Project's contribution to cumulative impacts at the five study intersections would be reduced to less than significant.

In order to determine cumulative impacts at the Caltrans-maintained intersections and the one unsignalized intersection and the Project's contribution to cumulative impacts, the "Future 2012 With Project" traffic condition has been compared to the forecast "Future 2012 Without Project" traffic condition. The results of the future year (2012) intersection analysis are summarized in **Table 5.7-15**, **HCM and LOS Summary – Future 2012 Without and With Project Traffic Conditions** below. As indicated in **Table 5.7-15**, the addition of net Project traffic to the "Future 2012 Without Project" traffic condition is expected to incrementally increase intersection delay during the weekday peak hour periods. However, intersections would remain at acceptable levels of service, LOS D or better. Therefore, the addition of Project traffic would not result in a significant cumulative impact to the Caltrans-maintained intersections or the one unsignalized intersection.

Table 5.7-15
HCM and LOS Summary
Future 2012 Without and With Project Traffic Conditions

Intersection	Peak Hour	Without Project		With Project		Project Impact
		Delay[1]	LOS	Delay[1]	LOS	
2. Fairway Drive at SR-60 E/B Off Ramps	AM	11.7	B	11.7	B	0.0
	PM	13.2	B	15.0	B	1.8
3. Fairway Drive at SR-60 W/B On/Off Ramps	AM	20.0	B	20.5	C	0.5
	PM	26.4	C	31.5	C	5.1
5. Brea Canyon Cutoff Road at Reedview Drive	AM	12.8	B	14.1	B	1.3
	PM	14.6	B	26.2	C	11.6
6. Brea Canyon Cutoff Road at SR-57 N/B On/Off Ramps	AM	12.3	B	12.3	B	0.0
	PM	12.9	B	14.4	B	1.5
7. Brea Canyon Cutoff Road at SR-57 S/B On/Off Ramps	AM	11.6	B	11.7	B	0.1
	PM	12.3	B	12.3	B	0.0
8. Pathfinder Road at SR-57 N/B On/Off Ramps	AM	19.5	B	19.7	C	0.2
	PM	23.6	C	24.6	C	1.0
9. Pathfinder Road at SR-57 S/B On/Off Ramps	AM	19.4	B	19.5	B	0.1
	PM	15.4	B	15.4	B	0.0

Source: KHR Associates, 2009
Notes: E/B = eastbound, W/B = westbound, N/B = northbound, S/B = southbound.
[1] *Average Intersection Delay per Vehicle (in seconds).*

In order to determine cumulative impacts to study roadway segments, the net Project traffic has been added to the "Future 2012 Without Project" traffic condition. The results of the future year (2012) roadway segment analysis are summarized in **Table 5.7-16, Roadway Segment HCM and LOS Summary – Future 2012 With Project Traffic Condition**. The V/C ratio for each study roadway segment is expected to increase with the addition of net Project traffic to the "Future 2012 Without Project" traffic condition. However, as indicated in **Table 5.7-16**, roadway segments are projected to operate at acceptable levels of service, LOS D or better under the future "without project" traffic condition. Therefore, the addition of the net Project traffic would not result in significant cumulative impacts to any of the study roadway segments.

Table 5.7-16
Roadway Segment HCM and LOS Summary
Future 2012 With Project Traffic Condition

Intersection	Peak Hour	Northbound V/C	Northbound LOS	Southbound V/C	Southbound LOS
Brea Canyon Cutoff Rd. s/o Colima Rd.	AM	0.583	A	0.474	A
	PM	0.698	B	0.809	D
Brea Canyon Cutoff Rd. s/o Pathfinder Rd.	AM	0.402	A	0.633	B
	PM	0.711	C	0.580	A
Brea Canyon Cutoff Rd. n/o Pathfinder Rd.	AM	0.388	A	0.430	A
	PM	0.611	B	0.583	A
Fairway Dr. n/o Colima Rd.	AM	0.307	A	0.202	A
	PM	0.290	A	0.490	A
Fairway Dr. n/o SR-60 Ramps	AM	0.398	A	0.257	A
	PM	0.365	A	0.489	A
Colima Rd. – Nogales to Fairway	AM	0.162	A	0.167	A
	PM	0.247	A	0.262	A

Source: KHR Associates, 2009
Notes: s/o = south of; n/o = north of.

Mitigation Measures

As indicated in the analysis above, the addition of Project traffic would result in a considerable contribution to cumulatively significant impacts at the following intersections: Brea Canyon Cutoff Road at Colima Road (during the AM and PM peak hours), Brea Canyon Cutoff Road at Pathfinder Road (during the PM peak hour), Colima Road at Fullerton Rd (during the PM peak hour), Colima Road at Nogales Street (during the PM peak hour), and Fairway Drive at Valley Boulevard (during the PM peak hour). However, with implementation of previously identified **Mitigation Measures 5.7-2** and **5.7-4**, which require restriping to provide additional southbound through lanes, the Project's contribution to cumulatively significant impacts would be reduced to less than significant at the following two intersections, respectively: Brea Canyon Cutoff Road at Colima Road and Fairway Drive at Valley Boulevard.

The Project's contribution to cumulatively significant impacts at the intersections of Brea Canyon Cutoff Road at Pathfinder Road, Colima Road at Nogales Street, and Colima Road at Fullerton Road would be reduced to less than significant with implementation of the following mitigation measures, in addition to

the previously identified **Mitigation Measure 5.7-3**, which requires restriping at the intersection of Colima Road and Nogales Street to provide a separate northbound right-turn lane:

5.7-7: Prior to issuance of the final certificate of occupancy, the Project Applicant shall contribute the Project's fair-share cost toward the re-striping of the north leg at the intersection of Brea Canyon Cutoff Road and Pathfinder Road in order to provide a second southbound through lane within the existing right-of-way, as shown in **Figure 5.7-22**, **Mitigation Improvements at Brea Canyon Cutoff Road and Pathfinder Road.**

5.7-8: Prior to issuance of the final certificate of occupancy, the Project Applicant shall contribute the Project's fair-share cost toward the construction of separate right-turn lane on the northbound approach at the intersection of Colima Road and Fullerton Road, as shown in **Figure 5.7-23, Mitigation Improvements at Colima Road and Fullerton Road**.

5.7-9: Prior to issuance of the final certificate of occupancy, the Project Applicant shall contribute the Project's fair-share cost toward the construction of a second northbound left-turn lane at the intersection of Colima Road and Nogales Street, as shown in **Figure 5.7-24, Mitigation Improvements at Colima Road and Nogales Street**. This improvement shall be accomplished within the existing right-of-way by shifting all northbound approach lanes to the west to provide for dual left-turn lanes.

To determine the quantitative effect of these mitigation measures on cumulative impacts, an analysis was performed with the assumption that the proposed mitigation measures were in place. The results of the supplemental "With Mitigation" analysis are presented in **Table 5.7-17**. As shown in **Table 5.7-17**, implementation of the recommended mitigation measures described above would reduce the Project's contribution to cumulative traffic impacts to less than significant at the following intersections: Brea Canyon Cutoff Road at Colima Road, Brea Canyon Cutoff Road at Pathfinder Road, Colima Road at Fullerton Road, Colima Road at Nogales Street, and Fairway Drive at Valley Boulevard and no additional mitigation is required.

Table 5.7-17
ICU and LOS Summary
Future 2012 With Project Traffic Condition Without and With Mitigation

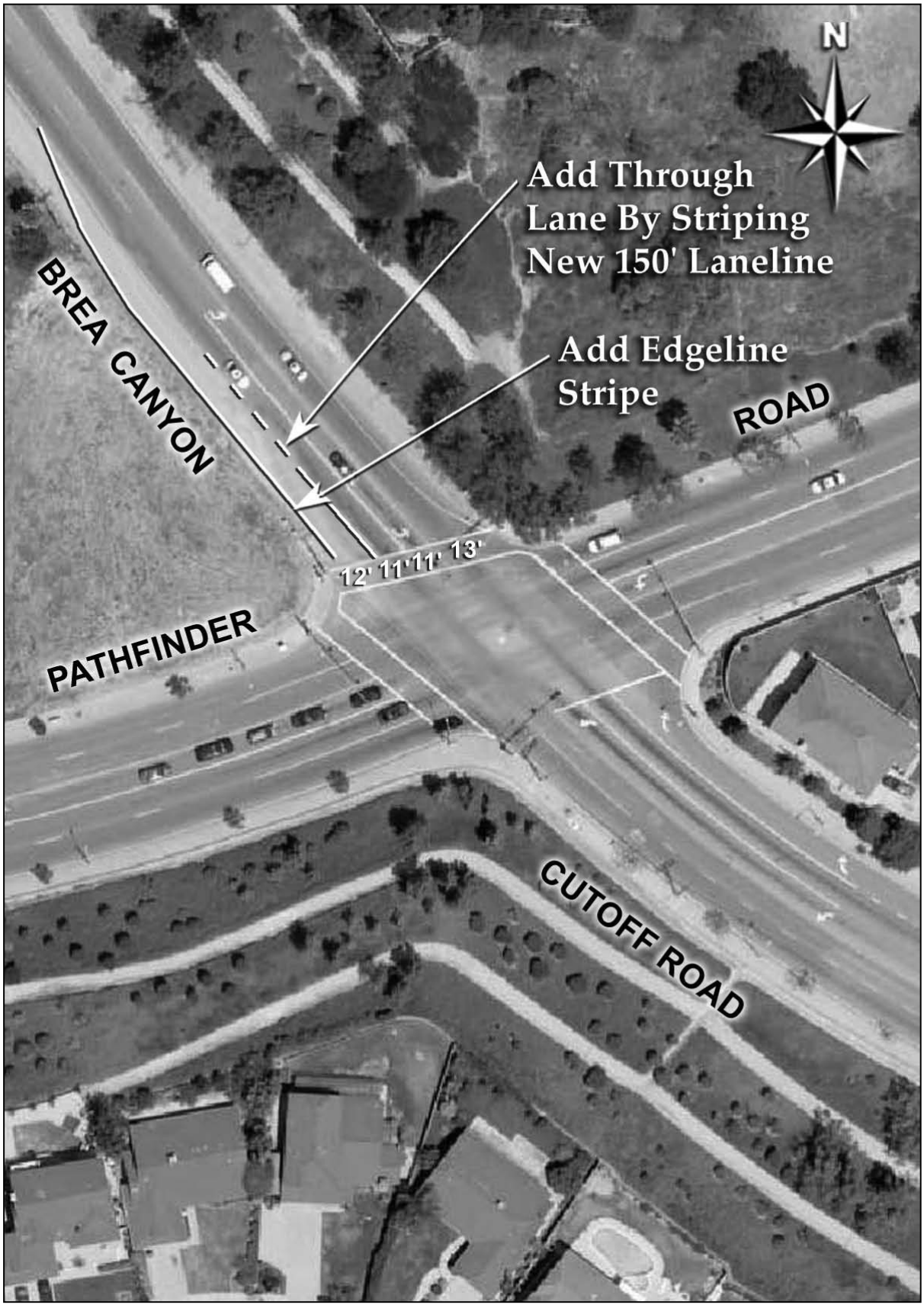
Intersection	Peak Hour	Without Mitigation V/C	Without Mitigation LOS	With Mitigation V/C	With Mitigation LOS	Change in V/C
1. Brea Canyon Cutoff Road/Fairway Drive at Colima Road	AM	0.997	E	0.914	E	-0.083
	PM	0.946	E	0.916	E	-0.030
4. Brea Canyon Cutoff Road at Pathfinder Road	AM	0.722	C	0.565	A	-0.157
	PM	0.863	D	0.845	D	-0.018
10. Colima Road at Fullerton Road	AM	0.995	E	0.954	E	-0.041
	PM	0.925	E	0.924	E	-0.001[a]
11. Colima Road at Nogales Street	AM	1.168	F	1.083	F	-0.085
	PM	1.048	F	0.995	E	-0.053
12. Fairway Drive at Valley Boulevard	AM	0.658	B	0.597	A	-0.061
	PM	0.923	E	0.871	D	-0.052

Source: KHR Associates, 2009

[a] *At the intersection of Colima Road with Fullerton Road, the project's V/C increase would still be 0.01 during the PM peak hour after implementation of mitigation. According to the Los Angeles County Department of Public Works, Traffic and Lighting Division, Project trips generated at the intersection are not substantial and the recommended mitigation measure is sufficient to reduce the Project's contribution to cumulative impacts at the intersection of Colima Road with Fullerton Road to an acceptable level to the Los Angeles County Department of Public Works, Traffic and Lighting Division (Isaac Wong, principal reviewer, Los Angeles County Department of Public Works, Traffic and Lighting Division, June 2009).*

UNAVOIDABLE SIGNIFICANT IMPACTS

With implementation of **Mitigation Measures 5.7-1** through **5.7-9**, all project-level traffic impacts and the Project's contribution to cumulative traffic impacts would be reduced to less than significant levels.



NOT TO SCALE

SOURCE: KHR Associates - November 2009

FIGURE **5.7-22**

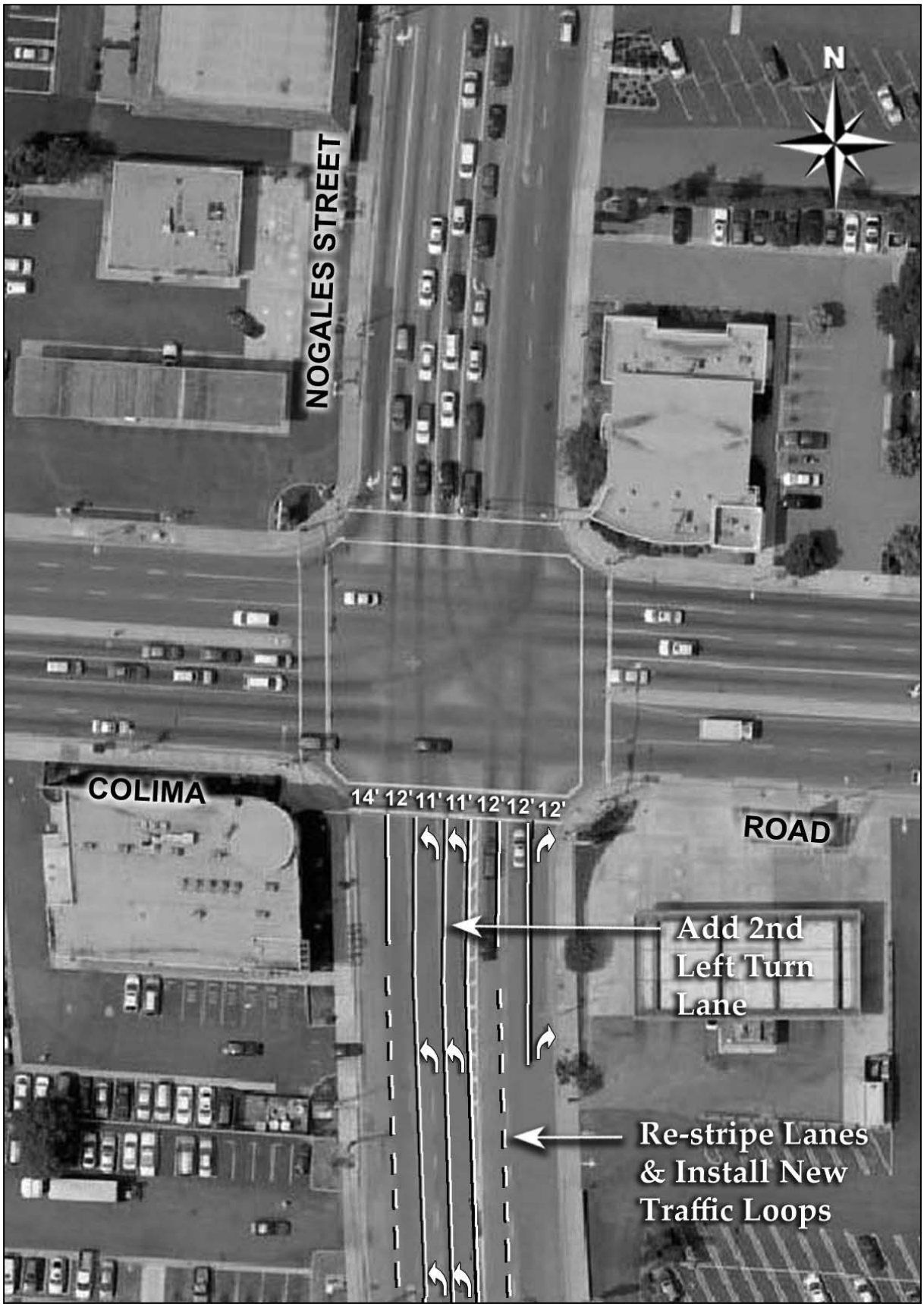
Mitigation Improvements at Brea Canyon Cutoff Road and Pathfinder Road

NOT TO SCALE

SOURCE: KHR Associates - November 2009

FIGURE **5.7-23**

Mitigation Improvements at Colima Road and Fullerton Road



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SOURCE: KHR Associates - November 2009

FIGURE **5.7-24**

Mitigation Improvements at Colima Road and Nogales Street

5.8 SEWAGE DISPOSAL

SUMMARY

Wastewater in Rowland Height is collected and conveyed by a sewer system owned and operated by the Los Angeles County Department of Public Works (LACDPW), which maintains the local main sewer lines, and the Sanitation Districts of Los Angeles County (the Districts), which maintains the main sewer lines. Treatment of domestic wastewater, including sewage,[1] is undertaken at the San Jose Creek Water Reclamation Plant (WRP) in unincorporated Los Angeles County near the City of Whittier.

The proposed Project would generate approximately 0.77 cubic feet per second (cfs) of wastewater, or a 0.75 cfs after a 0.02 cfs reduction (credit) for the existing school on the Project site (to be removed). This represents an increase of approximately 0.64 cfs (0.62 cfs after the school credit) over existing conditions (i.e., wastewater generated by the existing church and school uses on the Project site totaling 0.13 cfs). The San Jose Creek Wastewater Reclamation Plant currently has adequate capacity to treat wastewater generated by the Project. The Project Applicant must also pay connection fees to the County of Los Angeles in order to fund treatment plant improvements and maintenance. Based on the above, no significant impacts to wastewater treatment facilities would occur as a result of the proposed Project.

Approximately 2,300 feet of sewer lines downstream of the Project site may require upsizing, including upsizing of an 8-inch line to 10 inches between Manhole Nos. 72 and 537 and upsizing of an 8-inch line to 12 inches line between Manhole Nos. 537 and 534, to accommodate the Project-related increase in wastewater flow over existing conditions. All local collector main sewer lines within the Project site boundaries would be constructed to standards set forth by LACDPW and the Districts, and would be sized to accommodate wastewater flows generated following Project buildout. Impacts on the wastewater collection system would be less than significant.

INTRODUCTION

This EIR section presents an overview of the existing wastewater collection system in the Rowland Heights Community General Plan area. This section analyzes the ability of the LACDPW and the Districts to meet Project-generated wastewater treatment demands. This section discusses Project generated wastewater (discharge into a sanitary sewer system) as opposed to stormwater, which is discussed in

[1] Wastewater is defined as any liquid waste potentially contaminated as the result of human activities, and is classified in terms of its origin as sanitary (domestic), commercial, industrial, or surface runoff. Sewage (also called black water) is a subset of wastewater and is likely to contain a higher concentration of pathogenic organisms, organic matter, and nutrients that are potentially harmful to human health and the environment.

Section 5.2, Hydrology, Drainage, and Water Quality. This section also includes a discussion of the cumulative impacts of the Project in conjunction with other related projects.

The analysis in this section is based, in part, on a Sewer Area Study prepared by KHR Associates for the proposed Project in December 2009, included in **Appendix 5.8**. The Land Development Division and Sewer Maintenance Division of Los Angeles County Department of Public Works have reviewed and approved the Sewer Area Study.[2]

METHODOLOGY

Sources of information used to prepare this section include written and oral communication with staff of the Los Angeles County Department of Public Works, Sewer Maintenance Division and Land Development Division. A Sewer Area Study was prepared by KHR Associates for the proposed Project in December 2009. Written communication with LACDPW staff and the Sewer Area Study are included in **Appendix 5.8**.

EXISTING CONDITIONS

Regional Wastewater Collection System

The Los Angeles County Department of Public Works, Sewer Maintenance Division, is responsible for wastewater collection and conveyance in all unincorporated areas of the County, including the Rowland Heights Community General Plan Area, where the proposed Project site is located. The LACDPW Sewer Maintenance Division manages the Consolidated Sewer Maintenance District (SMD), a partnership of 24 independent special districts responsible for wastewater collection and conveyance in defined geographic areas throughout the County.

The Consolidated Sewer Maintenance District's service area encompasses the unincorporated portion of Los Angeles County plus approximately 39 cities. Incorporated cities within Los Angeles County own and operate their own municipal sewer collection systems, many of which are tributary to the County system operated by the Consolidated Sewer Maintenance District. The Consolidated Sewer Maintenance District owns, operates, and maintains approximately 5,200 miles of gravity sewer lines and 153 pump stations that convey approximately 500 million gallons per day (gpd) of wastewater to four wastewater treatment plants operated by the Consolidated Sewer Maintenance District and 11 wastewater treatment plants operated by the Sanitation Districts of Los Angeles County.

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2 Communication between Steve Burger, Los Angeles County Department of Public Works, Land Development Division, and James Kawamura, Paul McCarthy, KHR Associates, December 31, 2009.

The LACDPW requires that new local main sewer lines connect to the existing sanitary sewer system, and further requires that the construction and dedication of new sewer lines be coordinated with the Department's Water Works and Sewer Maintenance Division for their future operation and maintenance. Upon dedication, LACDPW is responsible for future operation and maintenance.

The LACDPW Environmental Programs Division (EPD) also permits and inspects industrial waste discharge into local sewers. The Los Angeles County Code, Title 20, requires that every business that disposes of industrial wastewater obtain a permit. These permits, and the assurance that proper water treatment procedures are conducted prior to discharge, are regulated by the EPD.[3]

Regional Wastewater Treatment Facilities

Sanitation Districts of Los Angeles County

Wastewater in Los Angeles County collected by the sewer system operated by the LACDPW Consolidated Sewer Maintenance District is conveyed to one of the four wastewater treatment plants operated by the Consolidated Sewer Maintenance District and 11 wastewater treatment plants operated by the Sanitation Districts of Los Angeles County. The Sanitation Districts are a partnership of 24 independent special districts serving approximately 5.3 million people in Los Angeles County. The service area covers approximately 810 square miles and encompasses 78 cities as well as unincorporated territory within the County. The Sanitation Districts own, operate, and maintain approximately 1,400 miles of sewers that convey approximately 500 million gallons per day (gpd) of wastewater to the 11 wastewater treatment plants they maintain, one of which is an ocean discharge facility (Joint Water Pollution Control Plant).

The Sanitation Districts' service area includes sewer systems located within the Joint Outfall System, a regional, interconnected system of facilities, as well as the Santa Clarita Valley and the Antelope Valley.[4] Seventeen of the Sanitation Districts that provide sewerage services in the metropolitan Los Angeles area are signatories to a Joint Outfall Agreement that serves 73 cities and unincorporated County territory, including some areas within the City of Los Angeles, through the provision of wastewater treatment, reuse, and disposal for residential, commercial, and industrial users. This system includes the following treatment plants: Joint Water Pollution Control Plant located in the City of Carson; La Cañada WRP in the City of La Cañada Flintridge; Long Beach WRP in the City of Long Beach; Los Coyotes WRP in the City of

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3 County of Los Angeles, "Public Services and Facilities," *Los Angeles County Draft Preliminary General Plan*, (2007) 179.

4 Sanitation Districts of Los Angeles County, "Wastewater Collection System," http://www.lacsd.org/about/wastewater_facilities/wastewater_collection_system.asp. 2008.

Cerritos; Pomona WRP in the City of Pomona; San Jose Creek WRP adjacent to the City of Industry; and Whittier Narrows WRP near the City of South El Monte.[5]

Wastewater from the Rowland Heights Community General Plan Area, including the Project site, is treated at the San Jose Creek Wastewater Reclamation Plant, which started operations in June 1971. The San Jose Creek WRP serves a largely residential population of approximately 1 million people and provides primary, secondary, and tertiary treatment for 100 million gallons of wastewater per day. Approximately 35 million gallons per day of the purified water is reused at 17 different sites for groundwater recharge and irrigation of parks, schools grounds, and greenbelts.[6]

Project Site Wastewater Collection System

As shown in **Figure 5.8-1, Typical Sewer System**, a typical sanitary sewer system consists of a network of pipes which collects and transports wastewater from homes and businesses to a wastewater treatment plant. Private service laterals or house laterals connect to large local main sewer lines and regional trunk sewer lines; these laterals are the responsibility of the property owner and must be maintained by the property owner. Operation and maintenance of a given community's main sewer lines are the responsibility of the Consolidated Sewer Maintenance District of the Department of Public Works. Operation and maintenance of the regional trunk sewer lines is the responsibility of a Publicly Owned Treatment Works, such as the County Sanitation Districts. The entire system operates by gravity flow where possible to avoid the need for pumping. However, in some low-lying areas, wastewater must be pumped to a higher elevation to permit gravity flow to treatment plants.

As shown in the **Section 3.0, Project Description**, in **Figure 3.0-3,** the Project site generally slopes downward to the northwest. Cut slopes have been created along the eastern and southern edges of the slightly sunken athletic field and along the property lines adjacent to Ostia Way and the Royal Vista Golf Course; no other notable topographic features are present on site. Total topographic relief across the Project site is estimated at 54 feet, ranging in elevation from the low point of 577 feet above mean sea level at the northwestern corner of the site to 631 feet above mean sea level at the southeastern corner. Multi-family residences on Ostia Way, Drusilla Way, and Latium Way, south and southeast of the Project site, sit at higher elevations relative to the site. Off-site land uses to the north sit at a slightly lower elevation than the Project site.

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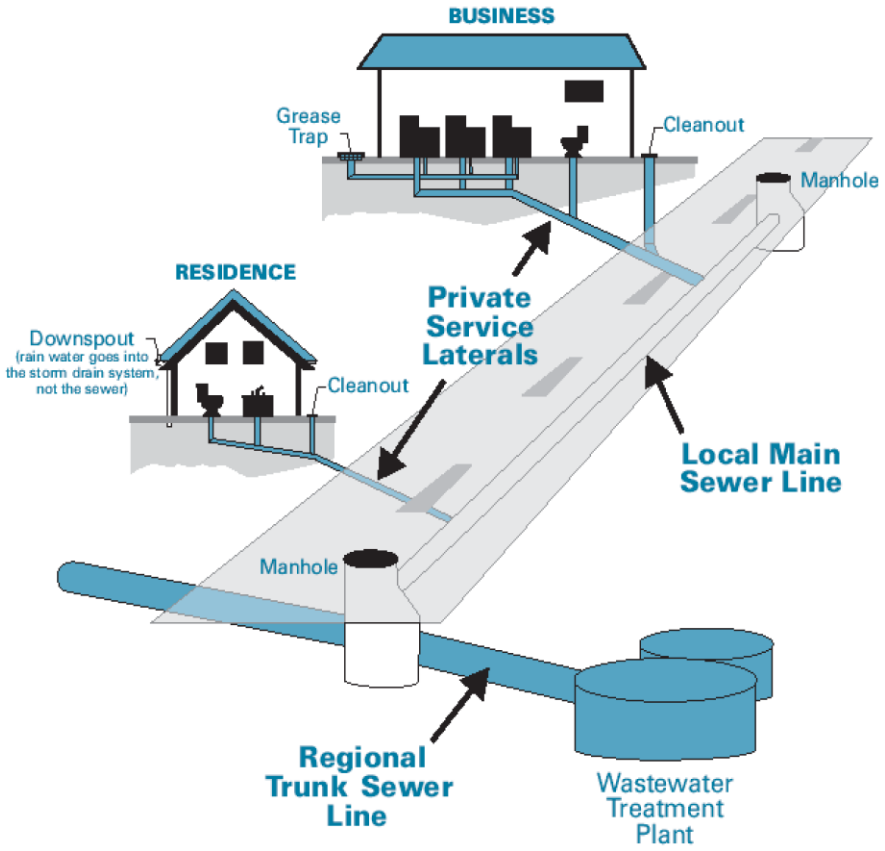
5 Sanitation Districts of Los Angeles County, "Wastewater Collection System."

6 Sanitation Districts of Los Angeles County, "Wastewater Collection System," http://www.lacsd.org/about/wastewater_facilities/wastewater_collection_system.asp. 2008.



Source: Los Angeles County, Department of Public Works, Waterworks and Sewer Maintenance Division, *Consolidated Sewer Maintenance: 2005 District Annual Report*, http://dpw.lacounty.gov/SMD/AnnualReport.pdf.

SOURCE: Los Angeles County Annual Report - 2005

FIGURE **5.8-1**

Typical Sewer System

As shown in **Figure 5.8-2, Existing Wastewater Conveyance System**, an existing 8-inch local sewer line begins east of the Project site in the adjacent multifamily residential complex, enters the Project site along the western property line, and crosses the Project site to the east within a recorded easement. The 8-inch line conveys wastewater from west to east (i.e., downslope) via gravity flow to a north-south-oriented 8-inch line beneath Brea Canyon Road at Reedview Drive. This line continues northwest across Colima Road, beneath the Canyon Point shopping center, to Searls Drive, where it joins a 15-inch main line at Searls Drive and Annadel Avenue, which in turn intercepts an 18-inch sewer main line to the northwest at the intersection of Walnut Avenue and Otterbein Avenue. This 18-inch main line conveys wastewater from the 18-inch main and another 8-inch main within San Spring Drive, west of Brea Canyon Cutoff Road, to the Districts' Joint Outfall H Unit 7C, a 30-inch diameter trunk line, north of Brea Canyon Cutoff Road in San Jose Avenue at Otterbein Avenue. The Joint Outfall H Unit 7C Trunk Sewer then conveys wastewater to the San Jose Creek Water Reclamation Plant.[7]

Since sewer lines are not intended to be pressurized (which could result in blockage and overflows), the County's recommended (design) capacity for a main sewer line under 15 inches in diameter is 50 percent of the actual pipe capacity (that is, a pipe is considered to be operating at design capacity when it is 50 percent full), to allow for unimpeded gravity flow of wastewater, accommodation of the buildup of gases, and space for the possible infiltration of stormwater runoff through manhole cover openings in low-lying areas.[8] As pipe capacity is determined by diameter and slope, capacity varies within different pipe segments.

Accordingly, the design capacity of the 8-inch sewer pipe within the Project site ranges from 0.63 cubic feet per second (cfs), at its point of entry onto the Project site along the eastern property line, to 0.89 cfs, at the western or downstream end where it leaves the Project site. The segment of 8-inch pipe extending north from the Project site within Brea Canyon Cutoff Road, beneath the Canyon Point shopping center, and north to Searls Drive ranges in capacity from 0.55 cfs to 0.97 cfs (a short segment within this reach is 10 inches in diameter and ranges in capacity from 1.57 cfs to 1.66 cfs).[9] The design capacity of the downstream 15-inch sewer line ranges from 2.88 cfs to 4.90 cfs.[10] The 18-inch sewer line, which can

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7 KHR Associates, *Sewer Area Study for Canyon Residences*, (2009), 3.

8 In the Project area, the sewer lines are expected to possess sufficient capacity to accept stormwater flows as needed, especially in low-lying areas. Stormwater can enter the sanitary sewer system through openings in manhole covers. While sanitary sewers up to 15 inches are ideally maintained at 50 percent of the total capacity of the pipe and sanitary sewers 15 inches or more are maintained at 75 percent of the total capacity, stormwater can take up as much as an additional 20 percent of the remaining capacity.

9 KHR Associates, *Sewer Area Study for Canyon Residence*, Table I – Trammell Crowe Residential "Canyon Residences," Sewer Area Study Flow Table, 7.

10 KHR Associates, *Sewer Area Study for Canyon Residence*, Table I – Trammell Crowe Residential "Canyon Residences," Sewer Area Study Flow Table, 8.

operate at 75 percent full, can accommodate between 6.08 cfs and 6.48 cfs.[11] The Joint Outfall H Unit 7C Trunk Sewer is a 30-inch trunk sewer line and has a design capacity of 21.9 million gpd (or 40.69 cfs) and currently conveys a peak flow of 1.4 million gpd (or 2.6 cfs), as measured by the District in 2005.[12]

Accordingly, the design capacity of the 8-inch sewer pipe within the Project site ranges from 0.63 cubic feet per second (cfs), at its point of entry onto the Project site along the eastern property line, to 0.89 cfs, at the western or downstream end where it leaves the Project site. The segment of 8-inch pipe extending north from the Project site within Brea Canyon Cutoff Road, beneath the Canyon Point shopping center, and north to Searls Drive ranges in capacity from 0.55 cfs to 0.97 cfs (a short segment within this reach is 10 inches in diameter and ranges in capacity from 1.57 cfs to 1.66 cfs).[13] The design capacity of the downstream 15-inch sewer line ranges from 2.88 cfs to 4.90 cfs.[14] The 18-inch sewer line, which can operate at 75 percent full, can accommodate between 6.08 cfs and 6.48 cfs.[15] The Joint Outfall H Unit 7C Trunk Sewer is a 30-inch trunk sewer line and has a design capacity of 21.9 million gpd (or 40.69 cfs) and currently conveys a peak flow of 1.4 million gpd (or 2.6 cfs), as measured by the District in 2005.[16]

Project Site Wastewater Generation

The Project site currently comprises two parcels (Parcel 1 and Parcel 2) and is occupied by Southlands Christian Church and Southlands Christian Schools, which span grades Pre-K through 12. Nine buildings, two paved surface parking lots, and athletic fields currently occupy the Project site. Approximately 70 percent (11 acres) of the Project site is currently developed with buildings or pavement, and approximately 30 percent (4.7 acres) is unpaved. The existing development located at the Project site generates a total of 0.13 cfs of wastewater.[17]

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11 KHR Associates, *Sewer Area Study for Canyon Residence*, Table I – Trammell Crowe Residential "Canyon Residences," Sewer Area Study Flow Table, 8.

12 KHR Associates, *Sewer Area Study for Canyon Residences*, 3.

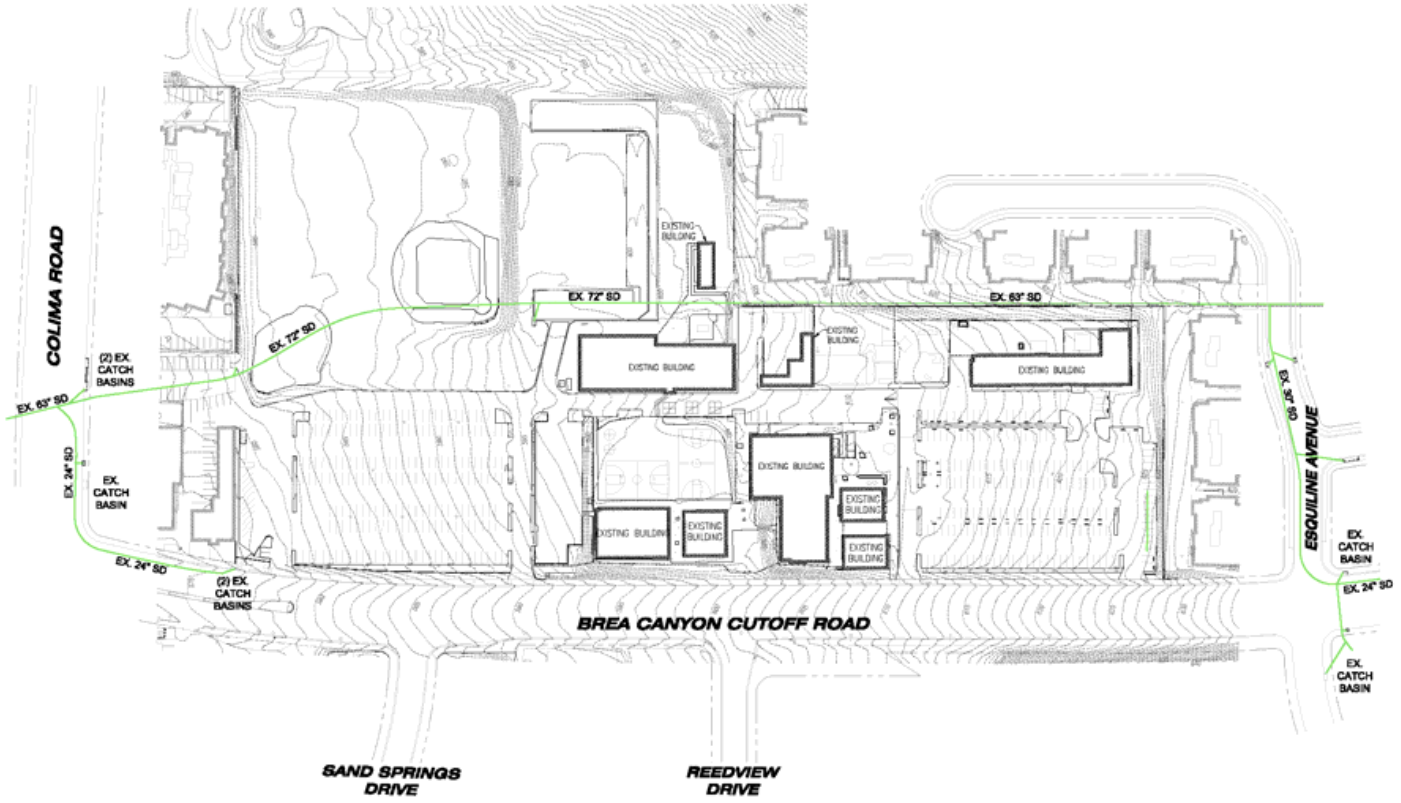
13 KHR Associates, *Sewer Area Study for Canyon Residence*, Table I – Trammell Crowe Residential "Canyon Residences," Sewer Area Study Flow Table, 7.

14 KHR Associates, *Sewer Area Study for Canyon Residence*, Table I – Trammell Crowe Residential "Canyon Residences," Sewer Area Study Flow Table, 8.

15 KHR Associates, *Sewer Area Study for Canyon Residence*, Table I – Trammell Crowe Residential "Canyon Residences," Sewer Area Study Flow Table, 8.

16 KHR Associates, *Sewer Area Study for Canyon Residences*, 3.

17 Communication with James H. Kawamura, P.E., KHR Associates, January 21, 2010.



NOT TO SCALE

SOURCE: KHR Associates - January 2010

FIGURE **5.8-2**

Existing Wastewater Conveyance System

REGULATORY SETTING

Local

The proposed Project is required to comply with Section 20.32 of the County of Los Angeles Municipal Code. Section 20.32 provides standards for connection and discharge into the County's wastewater conveyance system. As stated in Section 20.32, no permit shall be issued for the direct connection of any lot to a trunk sewer until the applicant has first obtained a permit. Before granting any permit for the construction of main-line sewer, house lateral sewer, or treatment or disposal facility, the county engineer shall collect all applicable sewer construction permit fees, connection charges, and plan checking fees from the applicant. Additionally, each connection shall be designed in accordance with the guidelines set forth in Section 20.32 Part 3. Section 20.32 Part 3 states that for large lots and condominiums, separate house laterals shall be constructed to the main-line sewer for each condominium or where each lot could be legally divided.

The size of a main-line sewer pipe is determined by standards of design and the coefficients listed in **Table 5.8-1, Sewer Pipe Design Capacity**, but in no case is it permitted to be less than 8 inches inside diameter.

Table 5.8-1
Sewer Pipe Design Capacity

For zoning in the following categories for residential areas:	Coefficient cu. ft. per sec. per acre
R-1	0.004
R-2	0.008
R-3	0.012
R-4	0.016*
For commercial areas:	
C-l through C-4	0.015*
For heavy industrial areas:	
M-l through M-4	0.021*

Source: County of Los Angeles Municipal Code, Section 20.32.
* *Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown.*

The Regional Water Quality Control Board (RWQCB) regulates the treatment of wastewater at treatment plants and the discharge of the treated wastewater into receiving waters. Therefore, the San Jose WRP is responsible for adhering to RWQCB regulations as they apply to wastewater generated by the proposed Project.

The San Jose WRP is subject to a National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 94-021) issued by the RWQCB that regulates the discharge of treated wastewater in the Santa Monica Bay. This permit sets limitations on the amount of pollutants that the plant can discharge into receiving waters. An increase above the set limits in the amount of wastewater treated at this plant could result in the plant being unable to meet pollutant standards outlined in its permit.

ENVIRONMENTAL IMPACTS

Project Improvements

The proposed Project involves the redevelopment of the approximately 15.7-acre property located at 1920 Brea Canyon Cutoff Road. The existing Southlands Christian Church and Southlands Christian Schools structures, parking lots, and athletic field would be replaced with 775 for-lease residential units in multiple buildings, a recreational facility for residents, parking structures containing 1,544 parking spaces, and landscaping throughout the Project site.

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of a portion of the Project site for below-grade parking, and construction of the new buildings, parking areas, and related improvements. This process would occur over an approximately 36-month period and some of the phases may overlap with other phases.

As discussed above, the sewer system serving the Project site is operated by the Los Angeles County Department of Public Works and the Los Angeles County Sanitation Districts. Wastewater generated by the Project would be conveyed from the Project site through private service laterals to an existing 8-inch main sewer line which crosses the Project site, to local main sewer lines, then to a 30-inch trunk line, and finally to the San Jose Creek Water Reclamation Plant. Service laterals would be constructed to serve proposed buildings. The Project would design and construct all on-site private service laterals to the specifications and standards defined by LACDPW and Sanitation Districts of Los Angeles County. Portions of the Project site are outside of the jurisdictional boundaries of the Sanitation Districts and would require annexation into District 21 before complete sewerage service can be provided Additionally, the Project Applicant would pay the required sewer connection and capacity fees that are used to fund expansion of facilities.

Thresholds of Significance

Based on the County's Initial Study Checklist and Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, projects should be evaluated for potentially significant impacts related to wastewater based on the following criteria:

- Would the Project require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects?
- Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Impact Analysis

Threshold 1: **Would the project require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects?**

Threshold 2: **Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Analysis

Construction Impacts

Construction of the proposed Project would involve several phases, including demolition of asphalt paving and the existing structures, excavation of the site for below-grade parking, and construction of the new buildings, parking areas, and related improvements. This process would occur over an approximately 36-month period and some construction phases may overlap.

Grading associated with Project development would not disrupt sewer services to adjacent uses, since the lines would be disconnected and diversions implemented prior to grading. Construction contractors would provide portable on-site sanitation facilities for worker use during demolition and construction, and these would be serviced at approved disposal facilities and/or treatment plants. For these reasons,

the amount of construction-related wastewater generated during Project construction would have a less than significant impact on wastewater disposal and treatment facilities.

Operational Impacts

The southern, developed portion of the Project site is within the Los Angeles County Department of Public Works' Consolidated Sewer Maintenance District 21 service area; however, the northern half of the site, which contains only playing fields and surface parking but no wastewater-generating uses or sewer lines, remains outside the service area. District 21 serves the cities of Claremont, Diamond Bar, Industry, La Puente, La Verne, Pomona, San Dimas, Walnut, and West Covina, as well as portions of eastern Los Angeles County. Project implementation would necessitates the construction of sewer lines on the northern half of the Project site, as well as wastewater connections and service to this portion of the Project site. The Los Angeles County Department of Public Works requires the Project Applicant to submit a Sewer Area Study for approval and agreement to annex the Project site into Consolidated Sewer Maintenance District 21.[18] The Applicant would be required to comply with the policies of District 21. With compliance with these policies, Project impacts related to the construction of new wastewater facilities (including wastewater conveyance and treatment facilities) would be less than significant. Although this impact would be less than significant, this policy is contained in recommended **Mitigation Measure 5.8-1** to ensure compliance with the applicable policy requirements.

To calculate the projected wastewater flows associated with the proposed Project, the Los Angeles County Department of Public Works' estimated average daily sewage flow generation factor for apartment/condominiums was used (0.001 cfs per unit). The County of Los Angeles Public Works standards were used to determine the discharge in cfs.[19]

As discussed above, the maximum design capacity of the existing 8-inch sewer line on the Project site ranges from 0.63 cfs to 1.04 cfs, depending on the slope of a given segment. The Project civil engineer evaluated two scenarios for connection of Project site sewer laterals to off-site main lines. As shown in **Table 5.8-2, Proposed Project Wastewater Impacts– Single Connection to Brea Canyon Cutoff Road Main Line**, assuming the proposed Project's sewer laterals connected only to the 8-inch main line within Brea Canyon Cutoff Road, the proposed Project alone would generate cumulative flows of 0.92 cfs at the on-site sewer line's point of connection with that main line (0.94 cfs minus a 0.02-cfs credit for the existing on-site school uses). This represents a net increase of 0.79 cfs over existing conditions (i.e., 0.13 cfs of

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18 The Project Applicant submitted a Sewer Area Study to LACDPW's Sewer Maintenance District 21, which is pending approval upon submittal of the Project's final construction plans.

19 KHR Associates, *Sewer Area Study for Canyon Residences*, Appendices: *Flow Diagram for the Design of Circular Sanitary Sewers* and *Estimates of Average Daily Sewage Flows for Various Occupancies* (2009). Provided in **Appendix 5.8**.

wastewater generation). Proposed Project cumulative flows would slightly exceed the Brea Canyon Cutoff Road 8-inch main line of 0.82 cfs by 10 cfs, causing the pipe to flow at 112.1 percent of design capacity between Manhole Nos. 81 (on site) and 74 (off site within Brea Canyon Cutoff Road).

Table 5.8-2
Proposed Project Wastewater Impacts – Single Connection to Brea Canyon Cutoff Road Main Line

Proposed Sub-Area (Acres)	No. of Units	Wastewater Generation Coefficient	Sub-Area Wastewater Generation (cfs)	Cumulative Flow (cfs)	On-Site Sewer Capacity (cfs) at 50% Full	Cumulative Flow/Capacity of On-Site Sewer
Wastewater Generated by Land Uses Upstream of Project Site						
Upstream R1 Sub-Area Total		0.004	0.06	0.06		
Upstream No Build Hillside Sub-Area Total		0.001	0.004	0.04		
Wastewater Generated by Project Site						
1.0	52	0.001	0.05	0.16[a]	0.63	24.7%
1.0	52	0.001	0.05	0.21	0.63	32.9%
1.0	52	0.001	0.05	0.26	0.63	41.1%
1.1	57	0.001	0.06	0.32	0.71	44.5%
1.1	57	0.001	0.06	0.37	0.71	52.5%
1.1	57	0.001	0.06	0.43	0.71	60.5%
1.6	83	0.001	0.08	0.51	1.04	49.2%
1.6	83	0.001	0.08	0.59	1.04	57.2%
1.6	83	0.001	0.08	0.68	1.04	65.1%
1.4	72	0.001	0.07	0.75	0.89	84.2%
1.4	72	0.001	0.07	0.82	0.89	92.4%
0.6	31	0.001	0.03	0.85	0.89	95.9%
0.5	26	0.001	0.03	0.88	**0.82**	**107.2%**
Adjustment for Existing School to be Eliminated from Project Site				**-0.02**		
4.0[b]			0.06	**0.92**	**0.82**	**112.1%**

Source: KHR Associates, Sewer Area Study for Canyon Residences, *2009,* Table I, 7-8.

[a] *Upstream land uses generate 0.06 and 0.04 cfs of wastewater, respectively, but with rounding total approximately 0.11 cfs, which is added to Project site wastewater generation since all are served by the 8-inch line within the Project site and the 8-icnh main line within Brea Canyon Cutoff Road.*

[b] *Represents the segment of 8-inch main line sewer serving the Project site, within Brea Canyon Cutoff Road immediately west of the Project site property line.*

Also under this scenario, Project-generated wastewater flows would also contribute to exceedance of the design capacity of a segment of the 8-inch main line farther downstream of the Project site, between Manhole Nos. 72 and 534 (i.e., between Brea Canyon Cutoff Road and Searls Drive). Cumulative wastewater flow in this segment, including Project-generated wastewater, would total 1.45 cfs, substantially exceeding the 8-inch pipe's design capacity of 0.55 cfs by 0.95 cfs and causing it to flow at 263.3 percent of design capacity.

Project implementation may therefore require upsizing approximately 2,300 feet of sewer line, including upsizing of the segment between Manhole Nos. 72 and 537 from 8 inches to 10 inches, and upsizing of the segment between Manhole Nos. 537 and 534 from 10 inches to 12 inches.

Under the second scenario modeled for the Project, it was assumed that sewer laterals for 103 units on the Project site would connect to the existing 8-inch main line within Sand Spring Drive, west of the Project site, while the remaining 674 units would connect to the 8-inch main line within Brea Canyon Cutoff Road at Reedview Drive, as under the first scenario. As shown in **Table 5.8-3, Proposed Project Wastewater Impacts – Secondary Connection to Sand Spring Drive Main Line**, this would avoid exceedance of the design capacity of the sewer line between Manhole Nos. 81 and 74, which would be significantly impacted and require upsizing under the first scenario. However, this would not prevent exceedance of the design capacity of the 8-inch main line farther downstream of the Project site, between Manhole Nos. 72 and 534 (i.e., between Brea Canyon Cutoff Road and Searls Drive). Under this second scenario, cumulative wastewater flow in this segment, including Project-generated wastewater, would total 1.15 cfs, still substantially exceeding the 8-inch pipe's minimum design capacity of 0.55 cfs by 0.60 cfs and causing it to flow at 244.5 percent of design capacity, nearly as great an increase as under the first scenario. Project implementation under this scenario may therefore require upsizing the approximately 2,300-foot sewer line segment between Manhole Nos. 72 and 537 from 8 inches to 10 inches, and upsizing of the segment between Manhole Nos. 537 and 534 from 10 inches to 12 inches.

Project-related wastewater generation would not contribute to the exceedance of design capacity of any other sewer lines serving the Project site or Project area.

Table 5.8-3
Proposed Project Wastewater Impacts – Secondary Connection to Sand Spring Drive Main Line

Proposed Sub-Area (Acres)	No. of Units	Wastewater Generation Coefficient	Sub-Area Wastewater Generation (cfs)	Cumulative Flow (cfs)	On-Site Sewer Capacity (cfs) at 50% Full	Cumulative Flow/Capacity of On-Site Sewer
Wastewater Generated by Land Uses Upstream of Project Site						
Upstream R1 Sub-Area Total		0.004	0.06	0.06		
Upstream No Build Hillside Sub-Area Total		0.001	0.004	0.04		
Wastewater Generated by Project Site						
1.0	52	0.001	0.05	0.16[a]	0.63	24.7%
1.0	52	0.001	0.05	0.21	0.63	32.9%
1.0	52	0.001	0.05	0.26	0.63	41.1%
1.1	57	0.001	0.06	0.32	0.71	44.5%
1.1	57	0.001	0.06	0.37	0.71	52.5%
1.1	57	0.001	0.06	0.43	0.71	60.5%
1.6	83	0.001	0.08	0.51	1.04	49.2%
1.6	83	0.001	0.08	0.59	1.04	57.2%
1.5	77	0.001	0.08	0.67	1.04	64.6%
1.0	52	0.001	0.05	0.72	0.89	81.3%
1.0	52	0.001	0.05	0.78	0.89	87.1%
Adjustment for Existing School to be Eliminated from Project Site				**-0.02**		
4.0[b]				**0.82**	0.82	99.55%
2.0	103	0.001	0.10	**0.10**	1.25	8.3%

Source: KHR Associates, Sewer Area Study for Canyon Residences, *2009*, Table II, 9-11.

[a] *Upstream land uses generate 0.06 and 0.04 cfs of wastewater, respectively, but with rounding total approximately 0.11 cfs, which is added to Project site wastewater generation since all are served by the 8-inch line within the Project site and the 8-icnh main line within Brea Canyon Cutoff Road.*

[b] *Represents the segment of 8-inch main line sewer serving the Project site, within Brea Canyon Cutoff Road immediately west of the Project site property line.*

Existing and Project-related wastewater flow calculations are based on formula calculations and not actual flow measurements. In order to confirm actual flow measurements, **Mitigation Measure 5.8-1** requires that, prior to replacement of the sewer pipe segments, flow monitoring would be conducted to confirm existing flows. Measurement of the pipe segments predicted to exceed capacity would also be conducted to ensure optimal pipe conditions. Sewer main line replacements would only be conducted as directed by the Los Angeles County Department of Public Works.

The County requires payment of sewer connection fees by property owners under certain circumstances: new connections to the sewerage system; increases in the volume of wastewater discharged because of the construction of additional dwelling units; changes in the land uses on a parcel already connected to the sewerage system; expansion of the square footage on a commercial or institutional parcel by more than 25 percent; and increasing the quantity and/or strength of wastewater from an industrial parcel. The connection fees are used for maintenance of sewer lines, wastewater treatment, and maintenance of disposal facilities. Connection fees are required to be paid prior to an issuance of the sewer permit to connect. The County Sanitation Division has indicated that a credit for the existing uses on the Project site would be given with proof of a demolition permit for the Project site.[20]

Connection fees do not account for any sewer upgrades required to accommodate increased wastewater flows or upsizing of sewer pipes. As such, any project requiring upgrades to main sewer lines are also responsible for its fair share of the cost associated with such upgrades.[21] Such costs are determined by the County Sanitation Division at the time construction drawings are submitted for approval. With compliance with the connection fee requirement and payment of the project's fair share of the costs associated with any required upgrades, Project impacts related to the provision of wastewater services to the Project site would be less than significant. Although impacts would be less than significant, these requirements are contained in recommended **Mitigation Measure 5.8-2**, which requires the applicant to pay the sewer connection fee, and **Mitigation Measure 5.8-3,** which requires the applicant to pay its fair share of any necessary upgrades to the main sewer lines, to ensure compliance with the appropriate County requirements.

Wastewater generated on the Project site would ultimately be conveyed to the San Jose Creek WRP for treatment, as described above. With the San Jose Creek WRP currently operating 20 millon gpd below capacity,[22] the additional wastewater generated by the proposed Project would not result in the plant exceeding capacity. Accordingly, the impact of the proposed Project on the wastewater treatment system would be less than significant.

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20 KHR Associates, *Sewer Area Study for Canyon Residences*, (2009). Provided in **Appendix 5.8**.

21 Allen Ma, Associate Civil Engineer, Land Development Division, Los Angeles County Public Works Department, personal communication, February 11, 2009.

22 Ruth I. Frazen, Customer Service Specialist, Facilities Planning Department, Sanitation District of Los Angeles County, personal communication with Anthony Curzi, Los Angeles County Department of Regional Planning, July 7, 2009.

Threshold 3: Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Analysis

Operational Impacts

An increase above the set limits in the amount of wastewater treated at the San Jose WRP could result in the plant being unable to meet pollutant standards outlined in the NPDES permit issued by the RWQCB. However, since there is sufficient treatment capacity at San Jose WRP to accommodate the wastewater discharged by the proposed Project, the limit on the amount of wastewater treated at San Jose WRP would not be exceeded. Therefore, the plant would be able to adequately treat Project-generated wastewater in addition to existing wastewater, and the treatment requirements of the RWQCB would not be exceeded.

Since the wastewater treatment provider has adequate capacity to meet the anticipated Project demand in addition to existing demand, no new wastewater treatment facilities or expansion of existing wastewater treatment facilities would be necessary, and the wastewater treatment requirements of the RWQCB would not be violated, impacts related to wastewater treatment would be less than significant.

Mitigation Measures

The following mitigation measures are not required for specific potentially significant impacts, but are recommended to ensure compliance with applicable policies governing wastewater service to the Project site:

5.8-1: Prior to issuance of the final certificate of occupancy, the Project Applicant shall obtain approval from LACDPW's Sewer Maintenance Division of the Sewer Area Study, flow monitoring, and gauging of sewer pipes potentially exceeding design capacity, in order to demonstrate sufficient wastewater capacity for the proposed Project and facilitate annexation of the Project site into Consolidated Sewer Maintenance District 21.

5.8-2: Prior to issuance of a sewerage connection permit, the Project Applicant shall pay annexation and connection fees to Consolidated Sewer Maintenance District No. 21.

5.8-3 The Project Applicant shall pay for its fair share of the cost of any necessary upgrades to main sewer lines related to the proposed Project.

Cumulative Impacts

The potential for Project contribution to cumulatively significant wastewater disposal impacts is assessed based upon consideration of the proposed Project in combination with the list of related projects in the Rowland Heights Community General Plan area. A list of the related projects is provided in **Section 4.0**, **Cumulative Projects,** of this Draft EIR. The proposed Project plus related projects (not including the Stadium) would result in a net increase of approximately 3.21 cfs of wastewater, as shown in **Table 5.8-4, Cumulative Wastewater Generation**.

Table 5.8-4
Cumulative Wastewater Generation

Land Use	Quantity (sf or ac)	Wastewater Generation Coefficient (cfs/ac)	Wastewater Generation (cfs)
Office	395,430 sf 9.07 ac	0.001	0.009
Commercial/Retail [2]	859,300 sf 19.73 ac	0.001	0.020
Restaurant	179,500 sf 4.12 ac	0.001	0.004
Multi-Family	332 units	0.001	0.332
Adult Day Care Facility[4]	10,755 sf .25 ac	0.001	0.00025
Single Family	3,726 units	0.004	1.49
Industrial	68,800 sf 1.58 ac	0.021	0.033
Stadium	1 Event Day	300,000 gal/event day	0.46
Subtotal			**2.35**
Project Net Total			0.86
Total			**3.21** (excluding the Stadium)

Source: Impact Sciences, Inc., 2009.

As previously discussed, Project implementation would require upsizing of segments of the downstream sewer main lines. However, because of distance from the Project site, none of the related projects are in sub-areas that contribute wastewater to the same sewer line segments that serve the Project site. Therefore, when considered together with related projects, the Project's contribution to cumulatively significant impacts on wastewater infrastructure would be less than cumulatively considerable.

Wastewater generated by the proposed Project and related projects would be conveyed to the San Jose Creek WRP for treatment. As previously discussed, the San Jose Creek WRP is currently operating 20 million gpd below capacity.[23] The addition of the wastewater projected to be generated by the proposed Project in combination with the related projects would not exceed the treatment plant capacity. Adequate capacity exists to treat wastewater generated by the Project and related projects. Additionally, as with the proposed Project, each related project would be required to pay the connection fee upon connection to the sewer system, which contributes to maintenance and any necessary expansions. Therefore, the Project's contribution to cumulatively significant impacts on the wastewater treatment system would be less than cumulatively considerable.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No unavoidable significant Project-specific or cumulative impacts to wastewater services are anticipated.

23 Ruth I. Frazen, Customer Service Specialist, Facilities Planning Department, Sanitation District of Los Angeles County, personal communication with Anthony Curzi, Los Angeles County Department of Regional Planning, July 7, 2009.