Addendum to the City of Laguna Hills General Plan Update EIR Five Lagunas Project (SCH No. 2008081100)

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ACM	asbestos-containing materials
ACWM	asbestos-containing waste materials
AQMP	Air Quality Management Plan
BMP	Best Management Practice
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CIDH	cast-in-drilled-hole
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DAMP	Drainage Area Management Plan
dBA	A-weighted decibel
DBH	diameter breast height
DSM	deep soil mixing
ECOS	Environmental Conservation Online System
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ETWD	El Toro Water District
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GCC	Global Climate Change
GFA	gross floor area
GHG	greenhouse gas
GIS	geographic information system
GWP	Global Warming Potential
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCM	Highway Capacity Manual
HMP	Hydromodification Management Plan
HVAC	heating-ventilation-air-conditioning
I-	Interstate
ICU	Intersection Capacity Utilization

Acronym/Abbreviation	Definition
LID	low impact design
LOS	Level of Service
LST	localized significance threshold
LUST	leaking underground storage tank
MND	Mitigated Negative Declaration
MSP	Master Sign Program
MWD	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
NAAQS	National Ambient Air Quality Standards
NCCP/HCP	natural community conservation plan and habitat conservation plan
NPDES	National Pollution Discharge Elimination System
OCFA	Orange County Fire Authority
OCSD	Orange County Sherriff's Department
OCTA	Orange County Transportation Authority
OEHHA	Office of Environmental Health Hazard Assessment
PDP	Priority Development Project
RCNM	Roadway Construction Noise Model
REC	Recognized Environmental Condition
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SJHBT	San Joaquin Hills Blind thrust
SOCWA	South Orange County Wastewater Authority
SR-	State Route
SSC	Species of Special Concern
SVUSD	Saddleback Valley Unified School District
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UVSP	Urban Village Specific Plan
V/C	volume to capacity
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	Water Quality Management Plan
WSA	Water Supply Assessment

1 INTRODUCTION

1.1 The General Plan Update Program EIR

This document is an Addendum to the previously certified Program Environmental Impact Report (Program EIR) (State Clearinghouse No. 20080811100) for the City of Laguna Hills General Plan Update (General Plan Update). This Addendum, along with the Program EIR, serves as the environmental review for the Five Lagunas Project (Project), as required pursuant to the provisions of the California Environmental Quality Act (CEQA), California Public Resources Code Sections 21000 et seq., and the CEQA Guidelines (14 CCR 15000 et seq.).

The Program EIR was prepared to address the environmental impacts associated with implementation of the General Plan Update and related actions and was originally certified by the Laguna Hills City Council on July 14, 2009. The Program EIR found that potentially significant impacts related to Aesthetics, Biological Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, and Public Services and Utilities (Solid Waste) caused by implementation of the General Plan Update could be mitigated to levels that are less than significant. However, the Program EIR determined that impacts related to Air Quality, Global Climate Change (Greenhouse Gas Emissions), and Public Services and Utilities (Water Supply) caused by implementation of the General Plan Update could not be mitigated to levels that are less than significant, and therefore, these impacts were identified as significant and unavoidable. Accordingly, in approving the General Plan Update and certifying the Program EIR, and consistent with CEQA Guidelines Sections 15091, 15093, et al., the City of Laguna Hills (City) made written findings and adopted a statement of overriding considerations, which concluded that the benefits of the General Plan Update and related actions would outweigh its significant and unavoidable environmental impacts in the areas of Air Quality, Global Climate Change (Greenhouse Gas Emissions), and Public Services and Utilities (Water Supply).

The Project proposes redevelopment and reconfiguration of uses within an approximately 68-acre portion of the approximately 240-acre Urban Village Specific Plan (UVSP) area of the City at the Laguna Hills Mall. Germane to the Project and this Addendum, the Program EIR analyzed the impacts generated by more intense development under the UVSP than was originally anticipated when the UVSP was adopted in 2002 (City of Laguna Hills 2002). In 2011, after certification of the Program EIR and adoption of the General Plan Update in 2009, the City adopted an addendum (2011 Addendum) to the Program EIR analyzing an amendment of the UVSP to increase anticipated development to reflect the General Plan Update. Accordingly, the term "Program EIR," as used in this Addendum, refers to the 2009 Program EIR together with the 2011 Addendum and the 2012 Addendum to the City of Laguna Hills General Plan Update EIR for the Oakbrook Village Residential Project.

The Project represents an increment of the total development anticipated pursuant to the amended UVSP (2011), as evaluated in the Program EIR. As documented in this Addendum, the Project would not result in any new or substantially more severe environmental impacts than those considered and addressed in the Program EIR.

Program EIRs generally analyze broad environmental effects of the program with the acknowledgment that development- and site-specific environmental review may be required. The Project is a subsequent activity within the program covered by the Program EIR and is within the scope of the Program EIR. The analysis in this document compares the Project with the assumptions and analysis presented in the Program EIR.

Pursuant to the provisions of CEQA and the CEQA Guidelines, the City is the lead agency with the principal responsibility for deciding whether or not to approve the requested action. As part of the decision-making process, the City is required to review and consider the potential environmental effects that could result from construction and operation of the Project.

1.2 Environmental Procedures

The Program EIR was prepared in conformance with CEQA Guidelines Section 15168. Section 15168(c) states that a later activity within the program analyzed in a program EIR is to be examined under Guidelines Section 15162. CEQA Guidelines Section 15168(c)(3) requires that feasible mitigation measures developed in a program EIR be incorporated into subsequent actions in the program. Finally, CEQA Guidelines Section 15168(c)(4) calls for a "written checklist or similar device" to document the agency's analysis.

Pursuant to Section 21166 of CEQA and Section 15162 of the CEQA Guidelines, if the lead agency determines that one or more of the following conditions are met, a subsequent EIR or negative declaration shall be prepared for the Project:

- Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted shows any of the following:

  A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration.

  B. Significant effects previously examined will be substantially more severe than identified in the previous EIR.

  C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives.

  D. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

Where none of the conditions specified in Section 15162 are present, the lead agency shall not prepare a subsequent or supplemental EIR (CEQA Guidelines Section 15162(a)), but may prepare a negative declaration, an addendum, or no further CEQA documentation. Section 15164 of the CEQA Guidelines states that an addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

In accordance with the CEQA Guidelines, the City has determined that an Addendum to the Program EIR is the appropriate environmental document for the Project. This Addendum analyzes the changes proposed by the Project and any pertinent changes to the circumstances under which the Project is undertaken that have occurred since the Program EIR was certified. It also analyzes any new information of substantial importance that was not known and could not have been known with exercise of reasonable diligence at the time that the Program EIR was certified. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required.

The environmental checklist form and analysis have been completed by the lead agency, the City of Laguna Hills. Each environmental topic discussed in this Addendum includes an overview of the impacts to the environment evaluated in the Program EIR, a comparison between this Project's effects on the environment and the effects evaluated in the Program EIR, and a determination as to whether or not the Project's physical effects on the environment are

within the scope of those analyzed in the Program EIR. The applicable mitigation measures of the Program EIR that are being carried forward and incorporated into the Project are also identified in this Addendum to ensure that the potentially significant effects identified by the Program EIR are addressed (pursuant to CEQA Guidelines Section 15168[c]).

1.3 Environmental Documentation

This Addendum relies on the environmental analysis in the Program EIR. This Addendum incorporates by reference the Program EIR and the technical analyses and documents that relate to the Project or provide additional information concerning the environmental setting of the Project.

The analysis disclosed in this Addendum is based on the knowledge and expertise of the City's Community Development staff, as well as the following technical studies and/or planning documents:

- City of Laguna Hills General Plan and Municipal Code
- The uncodified UVSP adopted in 2002 by Ordinance No. 2002-8, as amended in 2011 by Ordinance No. 2011-3
- 2002 Mitigated Negative Declaration for the UVSP, adopted by Resolution No. 2002-11-26-3
- Certified Program EIR for the Laguna Hills General Plan Update (SCH No. 20080811100) adopted by Resolution No. 2009-07-14-1 and the Associated Statement of Overriding Considerations (Appendix A of this Addendum contains the Program EIR Mitigation Monitoring and Reporting Program)
- 2011 Addendum to the General Plan Update EIR for the 2011 UVSP Amendment
- 2012 Addendum to the City of Laguna Hills General Plan Update EIR for the Oakbrook Village Residential Project
- Air Quality and Greenhouse Gas Emissions (Appendix B)
- Cultural Resources Letter Report (Appendix C)
- Geotechnical Study (Appendix D)
- Water Quality Management Plan (Appendix E)
- Hydrology and Hydraulic Report (Appendix E)
- Noise Technical Report (Appendix F)
- Traffic Impact Analysis (Appendix G)
- Water Supply Assessment (Appendix H)

- Parking Study (Appendix I)
- Phase I Environmental Site Assessment (Appendix J)
- Biological Resource Tables (Appendix K)

The technical studies/documents are available for review at the City of Laguna Hills Community Development Department, 24035 El Toro Road, Laguna Hills, California 92653.

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2 PROJECT DESCRIPTION

2.1 Project Overview

Urban Village Specific Plan

The UVSP, adopted by the City in 2002, applies to the UVSP area, which consists of 240 acres within the City bounded by Paseo de Valencia on the north and west, Los Alisos Boulevard on the south, and Interstate 5 (I-5) on the east. The UVSP area consists of a mixture of existing uses, including retail, office, financial, medical, residential, and transportation uses (City of Laguna Hills 2002).

The UVSP regulates development within the Village Commercial zoning district area of Laguna Hills, which includes the Project site, through a land use plan, design guidelines, and land use regulations. The purpose of the UVSP is to develop a community core in which a variety of public, regional commercial, retail, recreational, hotel, medical and general office, and high-density residential uses work in concert to create an urban village (UVSP, p. 4; 2014–2021 Housing Element, p. H-84).

The UVSP, as amended in 2011, anticipated an additional 300,000 square feet of new retail uses, a 250-room hotel, 200 dwelling units, and 380,000 square feet of general office uses within the UVSP area (UVSP, p. 35). These references are not development ceilings; rather, the UVSP expressly provides that a mixture of various new land uses may be developed at various intensities, as long as AM and PM peak hour vehicle trip budgets established by the UVSP are not exceeded (UVSP, pp. 35–36). The UVSP describes the aforementioned development mix as "new development anticipated to occur within the Urban Villagebased upon the City's knowledge of potential projects anticipated in the area…" (UVSP, p. 35). The Housing Element of the General Plan provides for residential development within the UVSP at a minimum density of 30 units per acre and a maximum density of 50 units per acre, as further described below, in order to promote new, high-density housing.

The UVSP includes provisions for flexibility in development options, so there could be, for example, more residential uses and less retail uses established, or vice-versa, as long as the overall AM and PM peak hour vehicle trip budgets are not exceeded. At the time that the General Plan Update was adopted in July 2009, it was determined that the UVSP area could accommodate 1,243 additional AM peak hour trips and 2,272 additional PM peak hour trips. This trip cap was set to ensure that the maximum buildout trip levels evaluated in the Program EIR were not exceeded as a result of new development projects within the UVSP area (UVSP, pp. 35–36).

General Plan Update

The City's 2009 General Plan Update and its associated Program EIR, identify the UVSP area as an "opportunity area" that would undergo expansion/revitalization in the future through commercial and residential development. Specifically, the General Plan Update and Program EIR assume 300,000 square feet of new retail uses within the UVSP area, 117,000 square feet more than anticipated by the prior General Plan and UVSP as originally adopted. The General Plan Update and Program EIR describe, as an estimated development mix, a 250-room hotel, 200 dwelling units, and 380,000 square feet of office uses within the UVSP area (General Plan Update, Land Use Element, p. LU-28, Table LU-2; Program EIR, pp. 3-10–3-11, Table 3-2).

The General Plan Update included an Implementation Program requiring that the UVSP be amended by the City to include this new development and its associated vehicle trips, and to ensure consistency with the General Plan and help implement the General Plan goals and policies (General Plan Appendix A, p. A-5). To further promote residential development, the Housing Element of the General Plan Update also required that the UVSP be amended to establish a minimum residential density of 30 units per acre and reduce high-density residential open space standards (2008–2013 Housing Element, p. H-82).

These General Plan Update policies, which encourage high-density residential development, were implemented in 2011 via an amendment to the UVSP and an associated addendum to the Program EIR. Although the Program EIR contemplated 300,000 square feet of additional retail uses, other uses such as high-density residential were permitted to be developed within the Project site, consistent with the General Plan Update and the UVSP, as amended. More specifically, as outlined in the General Plan Update's Housing Element, the City has taken steps toward attracting residential development to the UVSP area and has worked with real estate and development interests to develop residential mixed use in the UVSP area, including the site of the existing Laguna Hills Mall (Mall). The Housing Element states:

> The City has taken steps toward attracting residential development to the UVSP area. The City has worked with real estate and development interests to develop residential mixed use in the UVSP area. Over the past eight years, the City has held numerous meetings with property owners and residential builders to promote new residential development in the UVSP area (2014–2021 Housing Element, p. H-84).

Further, at the time of adoption of the 2014–2021 Housing Element, the City had recently approved 489 residential units on the Oakbrook Village site, alone. Notwithstanding the approval of the Oakbrook Village project, the Housing Element states that "the City continues to engage residential builders about development opportunities that exist in the UVSP area..." (2014–2021

Housing Element, p. H-84). The Housing Element's Figures H-5 and H-6 identify the Mall site as a "potential housing site" (2014–2021 Housing Element, pp. H-85; H-87).

The General Plan Update's Implementation Program (see below) included a number of items directly related to the UVSP, including, but not limited to: (i) a minimum residential dwelling unit density of 30 units per acre (LU-4(1)) (Appendix A, p. A-5); (ii) a mandate for the city to "inform existing property owners and prospective developers that housing opportunities are available in the Urban Village Specific Plan area…" and for the City to "promote housing incentives consistent with Chapter 9-72 of the Zoning Ordinance" (H-6) (Appendix A, p. A-41); and (iii) a requirement for the City to monitor and market housing opportunities in the UVSP area (H-19(2)) (Appendix A, p. A-50).

Urban Village Specific Plan Amendment

As required by the General Plan Update's Implementation Program and the Program EIR's mitigation measures, the City Council amended the UVSP in 2011 to intensify the mixed-use development program allowed on the project site. In addition to adding 117,000 square feet of retail uses within the UVSP area (for a total of 300,000 new commercial square feet) to reflect the development intensification approved in the General Plan Update and covered in the Program EIR, the UVSP amendment included other changes that (1) modified the development standards in order to integrate and improve internal consistency between the existing commercial and residential development standards, (2) incorporated the mixed-use application process and development standards already contained in the City's Development Code, (3) added the new AM and PM peak hour trips that would be generated by the 117,000 square feet of additional development compared to the 2002 UVSP, and (4) updated the Public Art section to clarify the management of the funds collected. The UVSP was also amended to add the Housing Element requirements that establish a minimum residential density standard of 30 units per acre and reduce high-density residential open space standards from 30% to 10%.

No changes were made to the permitted land use matrix for the UVSP. However, to ensure a compatible mix of uses, the UVSP was amended to require that new mixed-use developments be approved through a Precise Plan permit process, which requires the careful consideration of potential impacts from proposed development and ensures a City-approved balance of uses.

Furthermore, the 2011 UVSP amendments included provisions for enhanced security, restrictions on activities, and standards for noise, vibrations, odors, and lighting applicable to mixed-use projects to ensure that residential uses are not adversely impacted by commercial uses.

The environmental document prepared for the UVSP amendment was an addendum to the Program EIR, which was approved in April 2011.

Addendum to the City of Laguna Hills General Plan Update EIR for the Oakbrook Village Residential Project

In 2012, the Council adopted an addendum to the Program EIR related to the approval of the Oakbrook Village Residential Project (Oakbrook Village Project). The Oakbrook Village Project involves redevelopment of a shopping center to the south of the project site (and also within the UVSP) as part of a two-phased development that would ultimately yield 489 dwelling units in multi-story residential buildings and up to 82,574 square feet of new retail space (2012 Addendum, p. 15, Table 1). In adopting the addendum, the City concluded that implementation of the Oakbrook Village Project would not involve new or more severe impacts beyond what was evaluated in the Program EIR, and that the project did not involve changes to the project evaluated in the Program EIR or with respect to the underlying project that would require supplemental environmental review.

2.2 Project Summary

2.2.1 Project Location

The 240-acre Urban Village area is generally bounded by I-5 to the north and east, Paseo De Valencia to the south and west, and Los Alisos Boulevard to the south and east. As described above, the Urban Village is the entire area covered by the UVSP. The Project site is limited to an approximately 68-acre subarea located within the UVSP (Figure 1). The irregularly shaped site is generally bound by Avenida De La Carlota and I-5 to the northeast, Calle De Los Caballeros and the Oakbrook Village shopping center to the southeast, the Orange County Transportation Authority (OCTA) Laguna Hills Transportation Center to the south, Calle De La Louisa and the Saddleback Memorial Medical Center campus to the southwest, and El Toro Road and Laguna Hills City Hall to the northwest (Figure 2). Regional access to the Project site is provided by I-5 and El Toro Road.

Currently, the Laguna Hills Mall (Mall) property consists of the central, enclosed Mall structure and six outlying buildings housing retail, dining, and professional services. The Mall site consists of the following Assessor's Parcel Numbers: 621-141-51, -53, -48, -58, -80, -81; and 621-051-25, -29, -33, -34, and -35.

The Project site is designated by the General Plan Land Use Map as Village Commercial (City of Laguna Hills 2009a); the City's Zoning District Map also identifies the site as Village Commercial. The site is located within the UVSP (Figure 3), which designated it as Village Commercial.

2.2.2 Project History

The Mall opened in 1973. Original anchor tenants included Broadway, Buffum's, JC Penney, and Sears. Buffum's closed in 1991, at which point the store's second floor was converted into a food court. The Mall underwent a renovation in 1994, which was the only significant renovation in its history. Due to declining visitor traffic, the Mall's food court was closed in 2011, prior to which the Mall was approximately 88% occupied. Merlone Geier Partners LLC (Applicant) acquired the Mall property in 2013. In anticipation of the Project and associated construction, the Applicant elected to lease only limited areas of the Mall to prospective tenants. Currently, anchor tenants consist of JC Penney, Macy's, and Nordstrom Rack.

Beginning in the early 2000s, the City initiated a process to transform the existing, 240-acre mixed commercial, business, and residential sector of the City "into a village-like downtown district that could serve the community needs and provide a regional destination for surrounding cities." This area, known as the Urban Village, includes a number of large properties subject to specific planning controls established in the UVSP. In 2002, the UVSP projected that the properties within the specific plan area, including the Mall, would add nearly 200,000 square feet of additional retail development, additional dwelling units and various commercial uses.

The City's goal of redeveloping the Urban Village into a vibrant, mixed-use town center development was slowed by the economic downturn. In terms of residential development within the UVSP, the City's 2008–2014 Housing Element noted that prior to its adoption, a potential project (involving the Mall's former owner and a residential builder) that would have converted the Mall into a mixed-use commercial and residential project, "was determined to be economically unfeasible and did not move forward" due to prevailing market conditions. More favorable economic conditions now make such a project feasible. For example, the current Housing Element notes that "conditions for redevelopment and reuse are favorable in Laguna Hills" which would pertain to an infill site zoned for mixed commercial and residential use such as the Mall (Housing Element, p. H-86). Consumer demand for retail products and services has significantly returned. Moreover, there is now a significant deficit in the supply of regional housing opportunities, including multifamily properties. The Project would convert the aging Mall into a modern, pedestrian-oriented town-center facility complete with new retail and entertainment offerings and interconnected multifamily housing.

2.2.3 Project Description

The Project includes the redevelopment of the existing Mall property through the partial demolition and reconstruction of the southern portion of the central Mall building (the location of the former Sears store), the construction of new commercial spaces on development pads, and development of high-density multifamily dwelling units.

Demolition, Reconstruction, and Renovation of Mall

A key feature of the Project is the renovation of the outdated, 1970s-era Mall to create a modern facility on par with other regional shopping destinations, consistent with the City's vision in the UVSP and the General Plan Update.

To accomplish this, the Applicant proposes to convert what is currently the enclosed Mall into a pedestrian-oriented, open-air experience with connectivity to surrounding commercial and residential uses. This will require demolition and reconstruction of portions of the existing Mall structure. The northern portion of the Mall would be renovated with updated design, improved pedestrian circulation, and better access to natural light and air. In addition, the southern portion of the Mall would be demolished and replaced with new offerings, including an outdoor plaza surrounded by small shops. The existing Mall consists of approximately 965,512 square feet of gross floor area (GFA), comprised predominately of department store and other retail space, but also containing restaurant and cinema uses. With implementation of the Project, the total commercial GFA would decrease to roughly 926,429 square feet of GFA, which includes a substantial decrease in department store and retail GFA, but an increase in restaurant, health club, cinema, and flex retail/medical office uses.

A number of additional uses would also be constructed around the central Mall building. These structures would include additional retail offerings and dining locations. The various structures include sites for large retailers, small retailers, and development pads for future construction. The Project is designed so that pedestrians can traverse the site in order to frequent the various offerings.

Approximately 449,611 square feet of existing GFA would be demolished and replaced with roughly 410,528 square feet of various commercial uses (Figures 4a and 4b). Table 1 provides a summary of the Project's planned uses and parking supply.

Residential Dwelling Units

The Project includes high-density multifamily dwelling units. Specifically, the Applicant proposes to construct 988 dwelling units comprised of the following:

- 63 studio apartments
- 493 one-bedroom apartments
- 407 two-bedroom apartments
- 25 three-bedroom apartments

The dwelling units would be housed in three apartment-style buildings (one of which would also include retail uses) not exceeding five stories in height, located on the south side of the Mall site

immediately adjacent to Calle De Los Caballeros. In total, the Project includes approximately 1,300,000 square feet of residential GFA. Resident-dedicated parking facilities are included within each of the three buildings. The proposed residential buildings would incorporate similar architectural elements, including a neutral, complementary color palette and a variety of building materials, as other land uses in the Project area. As currently designed, the apartment buildings would consist of multistory structures designed using contemporary architectural elements (Figure 5b). In an effort to break up the massing of the building and provide visual interest, the residential buildings would feature a variety of complementary building materials and both vertical and horizontal elements and features.

Table 1
Project and Parking Supply Summary

Commercial/Retail/Restaurant/Office/Residential Uses			
Use Type	*Square Feet (GFA)*		
	Existing Uses	*Proposed Uses*	*Net Total (Proposed minus Existing)*
Retail	873,551	616,013	-257,538
Restaurant	78,795	115,354	36,559
Health Club	0	40,102	40,102
Cinema	13,166	109,070	95,904
Flex Retail/Medical Office	0	45,890	45,890
Residential	0	1,300,000 (988 dwelling units)	1,300,000 (988 dwelling units)
	Project Totals	**926,429 Commercial/ Retail/ Restaurant/ Office; 1,300,000 (988 dwelling units) of Residential**	**-39,083 Commercial/ Retail/ Restaurant/ Office; 1,300,000 (988 dwelling units) of Residential**
Parking Supply			
Parking Type	*Parking Spaces*		
	Proposed Spaces		
Mall	3,824		
Residential	1,933		
Total Parking Provided	**5,757**		

Source: Perkowitz+Ruth Architects 2015; LLG 2015.

As described in the foregoing sections, the 2011 amendments to the UVSP regulate development intensity within the UVSP according to vehicle trip budget availability, and the General Plan Update's Housing Element identifies the Mall site as a "development opportunity" area for implementation of the City's goal to develop high-density uses within the UVSP. The Project fits within the trip budget, as shown by Table 2, and further documented in Section 3.16, and the Traffic Impact Analysis (TIA) prepared for the Project (Appendix G).

Table 2
UVSP Trip Budget Summary

Trip Budgets Identified in Program EIR	AM Peak Trip Budget	PM Peak Budget
	1,243	*2,272*
Less Chevron (approved May 2011)	0	27
Less Taj Mahal (approved June 2011)	(9)	(44)
Less Ashley Furniture / Chick-Fil-A (approved July, 2011)	0	(12)
Less Oakbrook Village Project (approved November, 2012)	(194)	(44)
Less Raising Cane's (approved April 2015)	(32)	3
Remaining Trip Budgets (not counting the Project)	**1,008**	**2,202**
Residual Trip Budgets (after accounting for the Project)	**(less 558 Project trips) = 450 residual trip budgets**	**(less 569 Project trips) = 1,633 residual trip budgets**

Source: City of Laguna Hills 2015.

Ancillary Improvements

Roadways, Rights-of-Way, and Site Access

In anticipation of implementing the UVSP, the City has already worked with state, regional, and other local jurisdiction to widen both El Toro Road and Avenida De La Carlota to accommodate more vehicle trips. These Project-related traffic improvements include a new signal along Avenida De La Carlota, right-turn in/out restrictions and related median modifications along Avenida De La Carlota, provision of adequate driveway "throat" lengths to address 95th percentile queues, and lane geometry restriping at specific driveway locations. These Project design features are shown on Figure 21 in the TIA prepared for the Project (Appendix G). In addition, the Applicant proposes to dedicate a 6-foot-wide landscaped strip along Avenida de La Carlota to the City.

The site is bounded by four OCTA bus stops, including two stops on Avenida De La Carlota (at Avenida De La Carlota/El Toro Road, and roughly adjacent to proposed Pad E), a stop at Calle De La Louisa/Calle De La Plata, and a stop at El Toro Road/Paseo De Valencia. No OCTA bus stops will be relocated as a result of the Project.

Utilities

Domestic Water

The Project site and existing on-site uses are currently served by both wet and dry utilities. Domestic water service on the Project site is provided by the El Toro Water District (ETWD). The ETWD provides water and sewer service to over 50,000 customers, including northern portions of the City. The ETWD has a number of service connection agreements with the Municipal Water District of Orange County (MWDOC), which entitle the ETWD to receive water from available Metropolitan Water District of Southern California (MWD) sources via the regional distribution system located in Orange County. MWDOC delivers water from the MWD in the amount requested by the ETWD, subject to capacity limitations of the service connections and the capacity limits of the ETWD.

An approximate 20-inch-diameter domestic water line is located within El Toro Road, while water lines ranging between roughly 8 and 12 inches in diameter run adjacent to the site within Avenida De La Carlota, Calle De Los Caballeros, Calle De La Louisa, and other local streets. The Project would include both the installation of new and the rerouting of existing on-site water lines that would connect to these existing main lines.

ETWD adopted a Project-specific Water Supply Assessment (WSA) on December 17, 2015. This WSA is included in this Addendum as Appendix H. As further described in Section 3.17, the WSA quantifies anticipated Project water demands, and evaluates ETWD's capacity deliver a commensurate supply of water over a 20-year planning horizon based on average-year, dry-year, and multiple dry-year scenarios. The WSA "concludes that the total projected water supplies available to ETWD during average, single-dry, and multiple dry-year water years over the next 20 years are sufficient to meet the projected water demands for the proposed Project, in addition to ETWD's existing uses" (see Appendix H, p. 29).

Wastewater

Wastewater service, including sanitary sewer conveyance, on the Project site is also provided by the ETWD. Wastewater generated within the project area is collected via a network of gravity lines, lift stations, and force mains and conveyed to the South Orange County Wastewater Authority (SOCWA) plants for treatment and disposal. SOCWA is a Joint Powers Authority that collects, treats, and disposes of wastewater and sludge in south Orange County. The ETWD is a member agency of SOCWA.

An approximately 8-inch sanitary sewer service line runs within Calle de La Louisa. Similar to the domestic water lines, the Project would include both new and rerouted on-site sewer lines that would connect to this existing main line.

Storm Drain Facilities

The largely paved and impervious Project site generally drains from north to south via an existing network of shallow concrete ribbon gutters that convey stormwater to storm drains. The system has multiple lines that all connect to an existing 69-inch storm drain main that exits the site at Calle de la Louisa and Health Center Drive.

The Project would upgrade these current storm drain facilities. As proposed, runoff will be collected into a subsurface storm drain, which is to be connected to the existing subsurface storm drain. Surface flows from the parking and drive aisle will flow to modular wetland detention basins and swales. The Project calls for the construction of three detention basins (Basins A, B, and C) designed to collect on-site stormwater flows, which are to be located in the basements of two residential structures and the commercial parking structure, and bearing a total combined storage capacity of 8.5 acre-feet. In addition to these basins, other infiltration-based stormwater best management practices (BMPs) would be incorporated into the Project design, including permeable pavements, landscape areas, vegetated swales, and other low impact design (LID) drainage improvements designed to slow and treat runoff. The Water Quality Management Plan (WQMP) included in this document as Appendix E lists the specific BMPs to be used on the Project site.

Sustainable/"Green" Building Strategies

The Project would include various sustainable or "green" building strategies as Project design features, including the following:

- Optimization of natural lighting by creating an open-air, natural lit environment in the interior Mall pedestrian corridors, as well as incorporation of skylights.
- Conserve water by installing low-flow water fixtures in the interior spaces, planting native and drought-tolerant plant species for landscaping, and using recirculating water for water features.
- Install electric vehicle charging facilities in parking lots.
- Construct pedestrian paseos to connect on-site land uses, as well as Class II and III bicycle paths to connect to off-site uses.

Pedestrian and Bicycle Connectivity, Greenspace, and Plazas

The Project will enhance the site's pedestrian and bicycle connectivity. Pedestrian pathways are provided throughout the interior of the site in order to promote circulation amongst the various commercial uses, and also to provide connectivity with the three residential structures. Class II bicycle lanes will be provided along Calle De La Louisa, Calle De Los Caballeros, and Health Center Drive, thereby connecting the site to Paseo De Valencia and to the adjacent Oakbrook Village development, as well as to the off-site hospital and office uses. Three Class III bicycle paths extend between Calle De La Louisa and Main Street Promenade (the primary interior street) and a portion of Calle De La Louisa extending northwest from the intersection of Calle De La Plata will serve as a fourth Class III bicycle lane.

The Project incorporates over 300,000 square feet of landscaped areas and open space. A primary feature is the Village Green (also known as Sycamore Park), which includes an amphitheater, a water feature and wetland plantings, and which is proposed to be located adjacent to the existing Mall structure. In addition, the Project calls for approximately 38,000 square feet of open pedestrian plazas, including one such plaza adjacent to the Village Green and another plaza adjacent to the Shops G structure and immediately across Health Center Drive from Residential Building C.

Public Art

Pursuant to the UVSP, the City requires that all new developments within the UVSP with construction costs of at least $250,000 provide public art or contribute to the City's Public Art In-Lieu Fund. In furtherance of the City's public art policy, the Project would implement a robust public art program that includes, among other aspects, five significant pieces of art from local artists.

Parking Controls and Features

As further described in the Project's Parking Study (Appendix I), the Project incorporates a shared parking approach that maximizes shared use of parking spaces among the various on-site uses. To further implement the Project's parking strategy, and as recommended by the Parking Study, the following are included as Project design features:

- On-site valet service;
- Installation of electronic parking counters and parking board in Mall parking structure;
- Signage prohibiting hospital and other medical office visitors from on-site parking;

- If necessary, provision of off-site parking for employees during peak shopping season in December;
- Designated pick-up/drop-off areas on site;
- Designated shuttle stops on site (that serve Laguna Woods, Laguna Hills Transportation Center, hospital, and medical office); and
- Provision of bicycle racks, bike-share facilities, and electric vehicle charging stations on site.

Moreover, parking structures are designed to include pavement treatments/materials that reduce noise generated by tire squeal.

Demolition and Construction

The Project includes partial demolition and reconstruction of the southern portion of the central Mall building (the location of the former Sears store) to accommodate the redevelopment of the Mall. The central Mall structure would be renovated to create an updated retail concept within the northern portion of the existing Mall, and the southern portion would be demolished and reconstructed to accommodate a new plaza and shops. Additional structures would be constructed around the periphery of the existing structure for retail and dining, and a new 6-story, approximately 1,581-space parking structure would be built to serve the Mall. In addition to the commercial uses, one mixed-use retail and residential building, and two residential-only buildings would be constructed. Significant streetscape and pedestrian walkway improvements are contemplated along with this development. The entire demolition and construction schedule is anticipated to last approximately 31 months and is expected to be completed in several – at times overlapping – phases. While various construction activities would occur on the Project site over the duration of the construction schedule, the basic construction phases would include the following: demolition; site preparation; grading; trenching/utility installation; building construction; paving; and architectural coating, which are generally expected to require the following time periods to complete:

- Site Preparation - 61 weeks
- Grading - 65.4 weeks
- First Building Construction Phase - 60.6 weeks
- Architectural Coating for First Building Construction Phase - 60.7 weeks
- First Demolition Phase - 13 weeks
- Second Building Construction Phase - 99.9 weeks

- Paving - 38.7 weeks
- Third Building Construction Phase - 103.9 weeks
- Architectural Coating for Third Building Construction Phase - 103.9 weeks
- Trenching (for utilities) - 108.6 weeks
- Fourth Building Construction Phase - 69.4 weeks.

There will be significant overlap in the described time periods as construction processes will happen in parallel; i.e., these time periods are not cumulative. Overall, the construction phase is anticipated to take 31 months, or approximately 124 weeks.

Construction will not incorporate the use of traditional pile-driving methods. Rather, proposed multi-level structures may be supported on a shallow foundation system using a designed ground improvement program such as deep soil mixing (DSM). As further explained in Section 3.12, DSM is a methodology that blends in-situ soil with cementious materials to create solidified soil-cement "columns" in order to reduce settlement of the ground surface, and which achieves the same results of pile driving, albeit with reduced noise and vibration.

In a proactive effort to minimize air emissions, any construction activity requiring the use of diesel-powered equipment would employ only machinery equipped with diesel engines that meet or exceed Tier 4 Interim emission standards, as set forth by the U.S. Environmental Protection Agency (EPA). If asbestos is encountered during demolition, such material would be removed by a licensed contractor, in accordance with applicable regulations.

Refer to the CalEEMod outputs found in Appendix B for specific construction assumptions used in the air quality and other analyses.

Travel routes for construction employees, demolition export, and heavy equipment transport would be determined in consultation with City staff to avoid peak traffic periods. There would be a maximum of approximately 100 construction workers on the Project site at any one time under the development schedule. Parking for construction workers would be located on the Project site.

Temporary lane closures and occasional street closures may be required, particularly during the delivery of heavy equipment. A Traffic Control Plan to provide safe and efficient traffic flow in the area and on the Project site would be prepared prior to construction. The Traffic Control Plan would be prepared in consultation with the City and would contain project-specific measures for noticing, signage, policy guidelines, and the limitation of lane closures to off-peak hours.

To accommodate excavation of the three stormwater detention basins on the Project site, approximately 63,000 cubic yards would be excavated and exported from the site, which would require approximately 3,939 haul truck round trips. Additional volumes of excavated soils may also require exporting from the Project site during the site preparation, grading, and trenching/utility installation phases, which would potentially require 2,500 haul truck round trips over the duration of construction. Assuming the use of 18-wheel dump trucks, an estimated total of 1,023 haul truck round trips would be required during the two demolition phases. Additional vendor (i.e., delivery) truck trips would occur during the building construction, paving, and architectural coating phases. The peak number of vendor deliveries during Project construction would occur during the building construction phases, with up to 10 delivery trucks arriving on the Project site per day.

2.2.4 Project Objectives

The Project Objectives embody General Plan and UVSP goals and policies that promote the redevelopment of the Urban Village and the Project site in particular, including:

- Establish a community core where commercial, civic, and high-density residential uses would be appropriate.
- Redevelop the City's aging commercial centers, including the Urban Village, to create additional economic opportunities.
- Encourage new mixed-use developments in the Urban Village that complement and enhance Laguna Hills' existing community character.
- Work closely with the private sector to update and expand the Mall.
- Encourage infill development that involves the revitalization of property in an economically and environmentally sustainable manner.
- Encourage new development that uses land efficiently and offers flexibility to changing resident and shopping needs, contributing to the long-term vitality of the community.
- Develop flexible and creative solutions for parking in the Urban Village that respect its proximity to transit and park and ride, and its mix of uses.
- Encourage higher density and mixed use development in appropriate areas such as the UVSP area.
- Increase employment opportunities, tax revenues and ensure the long-term viability of the Urban Village.

3 INITIAL STUDY CHECKLIST

1. Project title:

Five Lagunas

2. Lead agency name and address:

City of Laguna Hills
24035 El Toro Road
Laguna Hills, California 92653

3. Contact person and phone number:

Julie A. Molloy, Senior Planner
949.707.2671

4. Project location:

24155 Laguna Hills Mall
Laguna Hills, California 92653

5. Project sponsor's name and address:

Merlone Geier Partners
3580 Carmel Mountain Road, Suite 260
San Diego, California 92130

6. General plan designation:

Village Commercial

7. Zoning:

Village Commercial

8. Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):

The Project includes the redevelopment of the existing Mall property through the partial demolition and reconstruction of the southern portion of the central Mall building (the location of the former Sears store), the construction of new commercial spaces on outer development pads, and development of high-density multi-family dwelling units. A full description of the Project is in Section 2.2 of this Addendum.

9. Surrounding land uses and setting (Briefly describe the project's surroundings):

The Project site is located within a predominantly developed area of the City. As such, the land uses surrounding the site are generally urbanized and include the following uses:

- Northeast: Avenida De La Carlota; I-5
- Southeast: Calle De Los Caballeros; the Oakbrook Village shopping center
- South: OCTA Laguna Hills Transportation Center
- Southwest: Calle De La Louisa; the Saddleback Memorial Medical Center campus
- Northwest: El Toro Road; Laguna Hills City Hall

10. Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

Implementation of the Project may require discretionary approvals by state and local agencies, as shown in Table 3.

Table 3
Project Approvals

Agency	Jurisdiction	Permit Regulatory Requirement
State		
Regional Water Quality Control Board (RWQCB), Region 9 (San Diego)	• Clean Water Act, Section 402 • Porter–Cologne Water Quality Control Act • California Water Code Division 7, Water Quality	• Stormwater Construction General Permit 2009-0009-DWQ National Pollution Discharge Elimination System (NPDES) Permit
Local		
City of Laguna Hills	• Lead Agency • Local/City roads and rights-of-way	• Precise Development Plan • Major Site Development Permit • Conditional Use Permits (for health club use and shared parking) • Master Sign Program • Vesting Tentative Subdivision Map • Road Encroachment Permit
Orange County Fire Authority	• Reviewing Agency	• Permit to store, use, and transport hazardous materials • Plan review
ETWD	• Reviewing Agency	• Water Supply Assessment • Sewer Infrastructure

Note: N/A = Not applicable

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☒ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

David Chantry

Signature

March 10, 2016

Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

Section 15168(c) of the CEQA Guidelines provides that when the lead agency adopts a program EIR, subsequent activities in the program are examined in light of the program EIR to determine whether an additional environmental document must be prepared. If the lead agency finds that pursuant to CEQA Guidelines Section 15162, no new effects could occur or mitigation measures would be required, the activity may be approved as being within the scope of the Project covered by the program EIR (CEQA Guidelines Section 15162(c)(2)). Pursuant to Section 21166 of CEQA and Section 15162 of the CEQA Guidelines, if the lead agency determines that one or more of the following conditions are met, a subsequent EIR or negative declaration shall be prepared for the Project:

1. Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted shows any of the following:
    A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    B. Significant effects previously examined will be substantially more severe than identified in the previous EIR;
    C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives; or
    D. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

Where none of the conditions specified in Section 15162 are present, the lead agency cannot prepare a subsequent or supplemental EIR (CEQA Guidelines Section 15162(a)), but may prepare a negative declaration, an addendum, or no further CEQA documentation. Section 15164 of the CEQA Guidelines states that an addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

In accordance with the CEQA Guidelines, the City has determined that an Addendum to the Program EIR is the appropriate environmental document for the Project. This Addendum reviews the changes proposed by the Project and any pertinent changes to the circumstances under which the Project is undertaken that have occurred since the Program EIR was certified. It also reviews any new information of substantial importance that was not known and could not have been known with exercise of reasonable diligence at the time that the Program EIR was certified. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required. This examination includes an analysis of the provisions of Section 21166 of CEQA and Section 15162 of the CEQA Guidelines and their applicability to the Project.

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
I. AESTHETICS – Would the project**:**				
a) Have a substantial adverse effect on a scenic vista?	☒	☒	☐	☒
b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☒	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☒	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
c) 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)?	☒	☒	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☒	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☒	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☒	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☒
ii) Strong seismic ground shaking?	☒	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☒	☒	☐	☒
iv) Landslides?	☒	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☒	☒	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
d) 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?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☒	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☒	☐	☒
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☒	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☒	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☒	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒
XII. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☒	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☒	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☒	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☒	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC – Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

	Did the Program EIR Identify a Significant Impact and Mitigation Measures?	Do General Plan Program EIR Mitigation Measures Apply to the Project?	Does New Information of Substantial Importance Require Preparation of a Supplemental/ Subsequent EIR?	Is There No New Information of Importance Requiring Preparation of a Supplemental /Subsequent EIR?
g) Result in inadequate parking capacity?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☒	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

3.1 Aesthetics

a) Would the project have a substantial adverse effect on a scenic vista?

No New or Substantially More Severe Significant Impact. The Program EIR found that impacts associated with scenic vistas would be less than significant with incorporation of mitigation from the General Plan Program EIR.

According the General Plan Update's Conservation and Open Space Element, several scenic vistas are present throughout the City and represent locations where residents can obtain views and get an overall visual impression of the community. Specifically, General Plan Update, Figure COS-2 identifies the location of scenic vistas, landscape corridors, waterways and open space areas in the City, all of which are considered to be scenic resources. The nearest designated scenic vista to the Project site is associated with the area around Veeh Reservoir, which is located approximately 1.5 miles northwest of the Project site. Other visual resources identified in Figure COS-2, including Aliso Creek and an open space area around the creek, are located roughly 0.35 mile southeast of the Project site. Because of the distances between the designated scenic vistas/resources and the Project site, and due to the considerable amount of intervening natural topographical features and urban development, the Project is located outside of the viewshed of any significant visual resource. Furthermore, General Plan Program EIR Mitigation Measure A-3, which requires that the developer work with the city to preserve scenic views and vistas of natural and man-made landmarks visible from public locations and streets would be implemented. Accordingly, the Project would cause no impact to scenic vistas.

b) Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No New or Substantially More Severe Significant Impact. The Program EIR found that impacts associated with scenic highways would be less than significant with incorporation of mitigation from the General Plan Program EIR.

The only State Scenic Highway in the County, as designated by the California Department of Transportation (Caltrans), is a 4-mile stretch of State Route 91 (SR-91) extending from the intersection of SR-55 with SR-91 to the eastern limits of the city of Anaheim (Caltrans 2015). The Project site is located approximately 25 miles south of this designated State Scenic Highway.

The General Plan Update designates a portion of La Paz Road as a landscape corridor. A landscape corridor, as defined in the General Plan Update, is a corridor that traverses developed or developing areas and has been designated for special treatment to provide a pleasant driving environment as well as community enhancement. The Project site is not located near La Paz Road, which is 1.5 miles away. Additionally, because of intervening natural topography and urbanized development, the Project site is not located within the viewshed of this roadway. Therefore, similar to those impacts identified in the Program EIR, the Project's impacts associated with scenic vistas would be less than significant.

Therefore, no impacts associated with scenic highways would occur, and level of impact would not increase from those levels identified in the Program EIR.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No New or Substantially More Severe Significant Impact. The Program EIR found that impacts associated with visual character and quality would be less than significant with incorporation of mitigation from the General Plan Program EIR.

The Project includes the redevelopment of the existing Mall property through the partial demolition and reconstruction of the southern portion of the central Mall building, the construction of new commercial spaces on development pads, and development of high-density multifamily dwelling units. When the southern portion of the Mall is demolished, it will be replaced with an array of new offerings to the community of Laguna Hills and the surrounding areas. An upscale theater will serve as a new anchor to the redeveloped Project, bringing with it the opportunity to create a wide array of dining and entertainment options within an outdoor plaza area. The outdoor plaza will serve as a gathering node, as described in the UVSP. In addition to the new theater, restaurants, and shops, a nationally recognized fitness facility will likely also be incorporated in the redevelopment. The fitness operator will bring daily visits back to the Mall. Other new tenants may include a market, soft good/clothing sales, furniture, and more. Additionally, the Project will become a true mixed-use town center with the introduction of residential uses into the southern end of the Project. The residential component will create an active Project with a 24-hour population and will also provide a connection to the nearby Oakbrook Village project now under construction. The inclusion of residential uses provides additional customers for the retail tenants of the newly redeveloped Project.

The redevelopment will further the goals of the UVSP by creating a pedestrian-oriented streetscape along the northern portion of the Mall. New shops and restaurants will be oriented toward the street and the current Nordstrom Rack building. A new entrance to the Mall will also be included in this area. As a result, a true pedestrian experience will connect City Hall to dining, shopping, and entertainment uses, and to the outdoor plaza. Figures 4a and 4b show the proposed site design and layout of the Project, and Figures 5a and 5b show conceptual building elevations and the proposed architectural style and elements of the Project.

The reconstructed Mall buildings, commercial spaces on outer development pads, and residential buildings would be designed with a strong and appropriately scaled

framework of architectural and landscape architectural elements. The building masses and landscaping throughout the Project site would be designed to create a sense of unity. High-quality development features would be provided throughout the Project site through site design (e.g., building orientation, screening and placement of service areas), architecture (e.g., mass, scale and form, style, material, and color) and streetscape elements (e.g., lighting, paving materials). Development of the Project would enhance and strengthen the character of the existing center through new landscaping, hardscape, and other improvements on site and along the street edges.

Additionally, the Project would be required to adhere to the design guidelines and development standards in the UVSP, which regulate design, lighting, building placement, landscaping, etc. Table 4 demonstrates how the Project promotes consistency with the design guidelines and development standards of the UVSP.

Table 4
UVSP Design Guideline and Development Standard Consistency Table

UVSP Design Guideline and Development Standard	Five Lagunas Project Design
Streetscape Edge Conditions	
El Toro Road • 20-foot minimum parkway • 5-foot sidewalk • Buildings should be oriented toward El Toro Road	• No modifications or additions are proposed for El Toro Road streetscape.
Perimeter Streets (Avenida de la Carlota) • A landscaped setback of 10-foot minimum behind the sidewalk will be required • A 4-foot sidewalk is required within the parkways behind the curb • All landscaped material should be the same along the perimeter edges	• 10-foot minimum setback to residential buildings shown along Avenida de la Carlota. • Landscaped setback and compliant sidewalks have been provided along the commercial portion of the project.
Entry Streets (Health Center Drive and Calle de la Plata) • 6-foot minimum landscape area behind sidewalk for landscaping and screen wall or hedge • A 15-foot building setback should be maintained along the edges • All landscape material should be the same along these entry streets • A 6-foot sidewalk is required on both sides of all entry streets behind the curb • Enhanced paving should occur at all intersections and tree bulb/well locations	• Landscaped setbacks, compliant sidewalks, and enhanced paving have been provided along Health Center Drive.

Table 4
UVSP Design Guideline and Development Standard Consistency Table

UVSP Design Guideline and Development Standard	Five Lagunas Project Design
Main Street (Regional Center Drive) • The ground floor of the buildings along the entire length of Main Street will have continuous active uses – i.e., retail, service retail, restaurant, (with outside eating), entertainment, etc. • All landscaping along Main Street should be consistent, there should only be one street tree used with accent trees being used at key locations – such as mid-block crossings or mid-block plazas • A 0- foot setback shall be encouraged along Main Street • Activity nodes should be created to encourage outside eating and people places. • Buildings should address (face) the Main Street in a manner that supports and encourages pedestrian interaction. • All building entries along Main Street will be orientated to the street rather than to parking areas to encourage pedestrian traffic to move longitudinally along the street in front of the shops. Locating the primary storefront entry for access directly from parking areas to stores should be discouraged. • Parking structures along Main Street should include ground floor retail if placed adjacent to Main Street. • Sidewalks should be designed to serve many functions, from pedestrian movement, window shopping, encounters with other pedestrians, retail opportunities, outdoor eating, etc. • Sidewalks need to be a minimum of 12 feet wide • There should be very few separations between buildings to enhance the pedestrian walking experience.	• Main Street provides a continuous streetscape and pedestrian network that provides retail, service retail, restaurant & outdoor dining experiences. • Landscaping along Main Street is consistent and unified with one street tree. Accent trees are used at key pedestrian spaces and entries. • The existing mall setback is being utilized, with additional exterior-facing retail, restaurant, and service retail uses proposed. • New outward-facing mall retail & restaurant uses in combination with new Boardwalk area shops encourage pedestrian interaction through outdoor dining areas, seating and gathering areas. The addition of Shops F & G provides continuity and longitudinally extends the Main Street experience. • The addition of Shops F & G as liner shops in front of the parking garage facing Main Street serve to provide ground floor retail and restaurant choices. • Ample sidewalks provide a variety of experiences, including pedestrian flow, seating and gathering, and outdoor dining. The sidewalks connect throughout the project, linking Main Street with Sycamore Park and Plaza, the new theater and Shops H. • Buildings have been thoughtfully grouped as to encourage a continuous pedestrian network.
Calle de la Louisa • Buildings should be orientated to Calle de la Louisa • A 10-foot building setback should be maintained from the back of sidewalks if it is the front of the building and 20 feet if it is any other orientation. • All landscape material should be the same along Calle de la Louisa • An 8-foot sidewalk is required on both sides of Calle de la Louisa • Enhanced paving should occur at all intersections and tree bulb/well locations	• Residential buildings orientate to Calle de la Louisa • The 10-foot minimum setback from the back of sidewalk is currently shown at Calle de la Louisa • Landscaped setback and compliant sidewalks have been provided along the commercial portion of the project. • The streetscape is consistent with UVSP requirements..

Table 4
UVSP Design Guideline and Development Standard Consistency Table

UVSP Design Guideline and Development Standard	Five Lagunas Project Design
Pedestrian Pathways	
Paseos • Appropriate landscaping should be used to help provide shade along pedestrian paths • Building entrances should connect and face onto the paseos • All new and reconstructed pedestrian paths, walkways, sidewalks, etc. will meet current ADA standards • Connectivity is very important with all pedestrian paths • Incorporate flowering vegetation that provides a variety of blooming patterns throughout the growing season. • Enhanced paving will be used in some unique pattern to help identify the paseo • Where the paseo interfaces with the buildings or other important elements, large pots with colorful trees, shrubs, groundcover, or annuals may be placed for visual interest. Pottery shall be placed so that it does not impede the pedestrian path of travel.	• Landscaping has been designed to provide shade along pedestrian paths. • New outward-facing mall retail & restaurant uses at Shops D and E, in combination with new theater and retail building all face the proposed street. The reuse of the Pavilion area as a shaded gathering space reinforces the connection of the new street to adjacent retail frontage and Sycamore Park. • Proposed landscaping provides year-round interest with a variety of foliage types, textures, colors and blooms. • Major entries and areas at Sycamore Park are delineated with special paving. • Large accent pots with a variety of plantings and light standards are used to accentuate pedestrian entries to surrounding spaces.
Parking Lot Paseos • Appropriate landscaping should be used to help provide shade along pedestrian paths • All new and reconstructed pedestrian paths, walkways, sidewalks, etc. will meet current ADA standards • Connectivity is very important with all pedestrian paths • Incorporate ornamental lighting along all paseos. Light standards along the pedestrian paseo routes should not exceed 10–12 feet in height.	• Parking lot shading provided through a combination of existing and new parking lot trees. Accent trees and light standards in combination with signage and graphics are proposed to maintain pedestrian pathway connectivity.
Open Space	
Public Open Space • This space should be flexible enough to hold a variety of activities • This space should include a special icon (fountain, artwork, etc.) that has local significance. • The perimeter of this space should be fronted by various commercial activities, such as outdoor eating and shops. • This space should include enough flexible space for very small children to play in • Sidewalks need to be a minimum of 6 feet wide	• Project proposes Sycamore Park, and open space with water feature and amphitheater. A grassy area for play is incorporated. • A public art program throughout the project proposes to bring in five sculptures by local artists. One sculpture is located in Sycamore Park, and one adjacent to the park in the Pavilion area. • Sycamore Park is surrounded on three sides by retail, restaurant, and entertainment uses, including outdoor dining and gathering spaces, as well as an ample sidewalk system.

Table 4
UVSP Design Guideline and Development Standard Consistency Table

UVSP Design Guideline and Development Standard	Five Lagunas Project Design
Plazas • Pedestrian plazas should be a minimum of 3% of the total floor area of the building to be constructed, replaced, or modified and should include the following items: • Areas for users to sit and enjoy their surroundings. • Plazas should. provide a pleasant human scaled environment. • Plaza areas should be located such that building users are not required to cross parking areas to gain access to them. • Pedestrian amenities (e.g., site furnishings, shading devices, landscape, water features, etc.) should be carefully integrated into a unified design. • Plazas should incorporate some type of civic artwork. • Plazas should accommodate visitors passing through the space, as well as those that choose to sit and use the plaza. • A comfortable micro climate that encourages the use of the plaza through the use of shade trees and placement of landscape materials in a configuration so as to reduce wind. • Plazas should incorporate a variety of seating options, such as benches, low walls, etc. • A variety of planting material, including color, massing, and texture should be incorporated into Plazas • Plazas should incorporate lawn area to provide some relief from the hardscape area. • Plazas should provide for clear pedestrian circulation, including varying paving patterns to help delineate circulation flow through the plaza or open space. • Building frontages should orient and help activate adjacent plazas and greens. The use on the first floor should complement the plaza so as to encourage its use—such uses might include restaurants (outside eating) retail (outside displays) etc.	• Sycamore Park and the surrounding areas have been designed with outdoor dining and passive spaces for gathering and socializing around a village green, providing a human-scale environment. • Sycamore Park and associated plaza is directly accessible from several adjacent areas, including the mall interior, Boardwalk shops, new exterior mall shops, Pavilion, and theater anchor and shops. • Site furnishings including trash receptacles, light fixtures, and benches are integral to the hardscape composition, with a variety of each type being proposed. • A public art program throughout the project proposes to bring in five sculptures by local artists. One sculpture is located in Sycamore Park, and one adjacent to the park in the Pavilion area. • The plaza and surrounding area will provide benches, low walls at planters, and patio furniture as seating options. • Planting material is varied, and includes landscaping at the water's edge at the Sycamore Park pond. Proposed landscaping provides year-round interest with a variety of foliage types, textures, colors and blooms. • Shade trees in conjunction with architectural shading devices such as trellises and tenant-provided umbrellas will provide comfortable shading. Building orientation surrounding the plaza provides a wind buffer. • The created shops buildings and architecture reinforces the pedestrian network and the first floor of the theater building contains shops and restaurant uses that will serve to activate the park.

As shown in Table 4, the Project would be consistent with the UVSP. Further, the General Plan Program EIR found that with implementation of the existing regulations and with incorporation of the General Plan Program EIR Mitigation Measures A-5 through A-6, implementation of the General Plan Update, which includes future development within

the Project site, would not result in any significant aesthetic impacts. Therefore, with incorporation of mitigation from the General Plan Program EIR, impacts associated with visual character and quality would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with light and glare would occur.

Nighttime lighting, including lit signage, is present in the Project area and contributes to the existing quality of nighttime views afforded to motorists, residents, and other local receptors.

The Project would result in new nighttime lighting sources. Lighting would be installed to provide general illumination of proposed buildings, parking areas, and sidewalks. Nighttime lighting would also be used to enhance security and safety for pedestrians and vehicles. Similar to existing conditions, nighttime traffic would also be a source of nighttime lighting. New sources of nighttime lighting have the potential to increase nighttime light and glare in the Project area.

In addition to the nighttime lighting sources described above, the Project applicant has developed a Master Sign Program (MSP) to facilitate modern signage for the redeveloped Mall. Installation of the signs and monuments envisioned in the MSP would also serve to rejuvenate the Mall site in a manner consistent with contemporary mixed-use developments of comparable size and nature while at the same time attract potential customers. A comprehensive MSP will be submitted to the City describing the various signage types proposed. A total of 27 different types of signs are proposed, including rooftop signs, freeway pylon signs, large entryway pylon and monument signs, smaller pylon secondary entryway signs, tenant signs of various sizes interior to the Mall and on building facades, banner graphics, and directional signs in the parking areas. The physical characteristics of signs, including color and materiality and the location of proposed signs, will be provided in the MSP. Most of the signs identified in the MSP will contain lighting elements to illuminate the signage. The new Mall signage would be introduced to the UVSP area, which is a mostly commercial area with some high-density residential development.

Below is a description of the proposed types of signs, lighting, and materials.

Types of Signs

- Roof-Top Building Mounted Project Identity
- Freeway Project Pylon
- Primary Project Entry Pylon Identity
- Secondary Project Entry Pylon Identity
- Project Entry Monument Identity
- Project Corner Monument Identity
- Project Identity on Parking Garage
- Primary Project Parking Garage Entry Identity
- Secondary Project Parking Garage Entry Identity
- Project Building Entry Identity
- Tenant Wall
- Project Identity on Parking Garage Corner
- Project Identity and Tenant Identity on Building Canopy
- Primary Vehicular Directional
- Secondary Vehicular Directional
- Pedestrian Directional
- Pedestrian Directory
- Residential Identity Monument
- Enhanced Regulatory Signage (e.g., stop signs, etc.)
- Enhanced Street Sign Identity
- Restroom Identity Plaque
- Typical Room Identity Plaque
- Crosswalk Graphics
- Ghosted Painted Mural
- Paving Graphics
- Banner Graphics
- Parking Identity Blade

Lighting

The lighting proposed for the Mall is both interior and exterior to the Mall. Interior lighting is lighting on building exteriors, along walkways and paseos, and in parking lots. This lighting is focused inward, and its purpose is for general illumination, safety, and security. This signage would be similar to the signage present on commercial and office uses in the surrounding area. Parking lot lighting would be similar to what exists at the site currently, and as with existing conditions, new parking lot lighting would be directed downward and hooded to minimize spillover light.

Exterior lighting includes lighting installed along the perimeter of the Mall site and at entryways. Exterior pylon and monument sign lighting would serve to direct visitors to

the Mall from the freeway and surrounding roadways and also to specific stores in the Mall. This signage is also directional, so that visitors can find particular stores, the parking structure, or parking lots. Many of the signs would feature internally illuminated panels or lettering that is not anticipated to generate particularly bright or direct lighting. Some signs would feature neon accents along borders and edges. For example, signs on the parking garage (i.e., parking garage entry identity signs) are proposed to be internally illuminated open-face fabricated aluminum channel letters with three rows of exposed neon letters that would produce a halo illumination. As part of the MSP, the Project applicant will provide a detailed lighting schedule that includes the type, number, and total wattage of all proposed signs and lighting fixtures and would be subject to lighting requirements established by Chapter 9-42, Signs and Advertising Device (Subsection 9-42.060 Lighting Requirements) of the City of Laguna Hills Municipal Code. None of the proposed lighting is anticipated to generate particularly bright, direct, or glaring light.

Materials

As detailed in the MSP, proposed materials for signs include wood or trespa material with internally illuminated fabricated aluminum removable tenant panels with white acrylic translucent material. The sign frames are proposed to be constructed of stainless steel and some signs may have perforated aluminum cladding painted silver to add decorative interest. Paints are proposed to have a satin finish and all painted surfaces would be on aluminum. The materials proposed in the MSP are not anticipated to be particularly reflective such that substantial glare would be reflected back to viewers or motorists traveling along the I-5 freeway or surrounding roadways.

Because the Project site and surrounding area are largely developed and contain existing sources of nighttime lighting, including lit signage, the lighting associated with proposed improvements and structures and nighttime traffic generated by the proposed Project would not substantially increase nighttime light and glare in the Project area. Moreover, signs that would be illuminated during nighttime hours would not be oriented toward residential buildings. Therefore, impacts associated with light and glare would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following aesthetics mitigation measures from the General Plan Program EIR are applicable to the Project:

MM A-1 The City shall plan and encourage strong unifying gateways at major entrances to the City and in community activity centers, and new private and public infrastructure and development projects to achieve strong gateway features through the use of signage and iconic design, architecture, and/or landscaping components that communicate Laguna Hills' identity and character.

MM A-2 Enhance the City's identity and promote walkability by developing a program whereby businesses or residents may sponsor street furniture, public art, and/or landscaped areas; continue to install public amenities such as streetscape, lighting, and landscaping.

MM A-3 The City shall require that as new development and revitalization projects come forward, the city will work with developers to preserve scenic views and vistas of natural and man-made landmarks visible from public locations and streets.

MM A-5 Review discretionary proposals to assess the compatibility of proposed development with adjacent/surrounding uses and activities, including the requirement of site design, buffers, architectural and buffering techniques, and other measures to be incorporated into projects to ensure compatibility between uses and activities.

MM A-6 Review development and revitalization projects for consistency with Zoning Ordinance Section 9-40, Design Regulations and Standards.

3.2 Agriculture and Forestry Resources

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with conversion of Important Farmland would occur.

According to the California Department of Conservation's California Important Farmland Finder, the Project site and the surrounding project area are identified as "Urban and Built-Up Land." No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) is located in the project area (California Department of

Conservation 2014). Therefore, no impacts associated with conversion of Important Farmland would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with agricultural zoning or Williamson Act contract would occur.

A review of the City's Zoning District Map found that neither the Project site nor the surrounding project area are zoned for agricultural use. Additionally, per the California Department of Conservation's Agricultural Preserves 2004: Williamson Act Parcels Map, no parcels under a Williamson Act contract are located in the project area (California Department of Conservation 2004). The nearest such parcels are located several miles from the Project site in and around the cities of Rancho Santa Margarita and San Juan Capistrano, as well as in the unincorporated area of North Tustin. Therefore, no impacts associated with agricultural zoning or Williamson Act contract would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with forest land or timberland zoning would occur.

The California Department of Forestry and Fire Protection's Land Cover map does not identify forestland or timberland as occurring either on the Project site or in the project area (CAL FIRE 2011). The closest forested areas suitable for timberland activities are located in San Bernardino National Forest, located more than 50 miles from the Project site. Therefore, no impacts associated with forest land or timberland zoning would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with forest land conversion would occur.

Neither the Project site nor the project area contain forestland or timberland. Therefore, no impacts associated with forest land conversion would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with farmland or forest land conversion would occur.

No farmland, forestland, or areas zoned for either agricultural or timberland production are located on the Project site or in the project area. Because of the substantial distance between the Project site and any such agricultural or forested areas, implementation of the Project would not result in conversion of off-site farmland or forestland. Therefore, no impacts associated with farmland or forest land conversion would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No agriculture or forestry mitigation measures were required in the General Plan Program EIR.

3.3 Air Quality

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with General Plan buildout conflicting with or obstructing implementation of the applicable air quality plan would be significant and unavoidable, even with incorporation of mitigation from the General Plan Program EIR.

The Project site is located within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San

Bernardino Counties, and is within the jurisdictional boundaries of the South Coast Air Quality Management District (SCAQMD).

The SCAQMD administers the Air Quality Management Plan (AQMP) for the SCAB, which is a comprehensive document outlining an air pollution control program for attaining all California Ambient Air Quality Standards (CAAQS) as well as National Ambient Air Quality Standards (NAAQS). Each AQMP incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. At the time the Program EIR was prepared, the current approved SCAQMD AQMP was the 2007 AQMP. Currently, the most recent AQMP is the SCAQMD Final 2012 AQMP (SCAQMD 2013), which was adopted by SCAQMD in December 2012 and finalized in February 2013. Like the 2007 AQMP, the 2012 Final AQMP is designed to meet applicable federal and state requirements for ozone (O_3) and particulate matter with an aerodynamic diameter equal to or less than 2.5 microns (fine particulate matter; $PM_{2.5}$). The 2012 AQMP was approved by the California Air Resources Board (CARB) on January 25, 2013, and the portions of the AQMP that address the O_3 NAAQS were approved by the U.S. EPA on September 3, 2014. The Final 2012 AQMP demonstrates attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the SCAB through adoption of all feasible measures. The 2012 AQMP also updates the EPA-approved 8-hour O_3 control plan with new measures designed to reduce reliance on the Clean Air Act Section 182(e)(5) long-term measures for oxides of nitrogen (NO_x) and volatile organic compound (VOC) reductions. The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD recommends that environmental documents should discuss the project's consistency with the current AQMP (Final 2012 AQMP), including consistency with a local government's general plan.

There are two key indicators of consistency with the AQMP:

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

As discussed in Section 2.2.1 Project Location, the Project site is designated by the General Plan Land Use Map as Village Commercial, identified as Village Commercial the City's Zoning District Map, and is located within the UVSP. Accordingly, the Project's retail and residential land uses, as described in Sections 2.2.3 and 3.10, are consistent with the zoning and general plan land use designations.

To address the criterion regarding the Project's potential to result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP, an air quality modeling analysis that identified the Project's impact on air quality was performed. Results of this analysis are included in Appendix B. The California Emissions Estimator Model (CalEEMod) Version 2013.2.2, available online (http://www.caleemod.com), was used to model emissions for the Project and analyzed for significance for Section 3.3(b).

The General Plan Program EIR concluded that, "The General Plan would result in emissions in excess of thresholds for criteria air pollutants and precursors for which the region is in nonattainment. This would conflict with SCAQMD air quality planning efforts resulting in a significant project-level and cumulative impact" (City of Laguna Hills 2009b). General Plan Program EIR Mitigation Measures AQ-3 through AQ-18 were identified to reduce General Plan buildout-generated operational emissions and associated impacts. However, the General Plan Program EIR determined that impacts related to the potential to conflict with the applicable AQMP would be significant and unavoidable with the implementation of required mitigation from the General Plan Program EIR.

The SCAB is a nonattainment area for O_3, NO_2, PM_{10}, and $PM_{2.5}$ under the NAAQS and/or CAAQS (CARB 2014; EPA 2015). As concluded in Section 3.3(b) below, the Project would result in a net increase of VOC (an O_3 precursor) emissions that would exceed the SCAQMD thresholds. Therefore, the Project would contribute to the frequency or severity of existing air quality violations or delay timely attainment of the ambient air quality standards or interim emission reductions in the Final 2012 AQMP. Thus, the project would contribute to the General Plan's conflict with SCAQMD air quality planning efforts resulting in a significant impact. However, the Project is not anticipated to result in new or substantially more severe impacts related to consistency with the SCAQMD air quality planning efforts than what was assessed in the General Plan Program EIR.

Therefore, with incorporation of General Plan Program EIR mitigation, impacts associated with implementation of an applicable air quality plan would be significant,

although the level of impact would not be substantially more severe than those levels identified in the General Plan Program EIR.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with air quality standard violations would be significant and unavoidable, even with incorporation of mitigation from the General Plan Program EIR.

Construction Emissions

The General Plan Program EIR stated that because the General Plan identified future land uses and did not contain specific development proposals, construction-related emissions would be speculative and could not be accurately determined at that stage of the planning process. Accordingly, construction emissions were not estimated in the General Plan Program EIR. The General Plan Program EIR determined that assuming relatively robust economic conditions over the next 20 to 25 years, construction activity would occur throughout the planning area, but the rate of development could not be anticipated. As such, construction impacts were determined to be potentially significant. Implementation of General Plan Program EIR Mitigation Measures AQ-1 and AQ-2 would reduce the impact to the extent feasible; however, the General Plan Program EIR determined that this impact would remain significant and unavoidable with mitigation incorporated.

Construction emissions associated with the Project were estimated using the CalEEMod Version 2013.2.2. CalEEMod default values were used to estimate potential Project-generated construction emissions. Construction of the Project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance (i.e., dust emissions), and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Emissions that would result from mobile, stationary, and area sources during construction (and operation) of the Project are subject to the rules and regulations of the SCAQMD.

For example, Rule 403 (Fugitive Dust)[1] requires the implementation of measures to control the emission of visible fugitive/nuisance dust, such as wetting soils that would be disturbed, and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities)[2] addresses asbestos emissions from demolition and renovation activities, which requires the safe handling of known or suspected asbestos-containing materials. In addition, the Project would be required to comply with General Plan Program EIR Mitigation Measure AQ-1, which includes a list of measures that would reduce fugitive dust during construction in accordance with SCAQMD Rule 403. The Project would also implement General Plan Program EIR Mitigation Measure AQ-2, which includes measures to reduce exhaust emissions from construction equipment.

Implementation of the Project is anticipated to generate construction-related air pollutant emissions from three general activity categories: entrained dust, equipment and vehicle exhaust emissions, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. To account for dust-control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction, to represent compliance with SCAQMD standard dust control measures. Exhaust from internal combustion engines used by construction equipment and hauling trucks (dump trucks) and vendor trucks (delivery trucks) and worker vehicles would result in emissions of VOCs, nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113 (Architectural Coatings).[3]

1 SCAQMD Rule 403, Fugitive Dust, requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD 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.

2 The purpose of SCAQMD Rule 1403, Asbestos Emissions from Demolition/Renovation Activities, is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials (ACWM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

3 SCAQMD Rule 1113, Architectural Coatings, 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.

For purposes of estimating project emissions, and based on information provided by the applicant, it is assumed that construction of the Project would commence in January 2016 and will last approximately 31 months, ending in August 2018.[4] As discussed in Section 2.2.3, project construction would entail demolition, site preparation, grading, trenching/utility installation, building construction, paving, and architectural coating. Demolition is anticipated to be completed in two separate demolition phases that would be approximately three months and 2 months, respectively Four distinct building construction phases and associated architectural coating phases were assumed to reflect buildout of the proposed retail, parking, and residential components. See Appendix B for project construction assumption details.

Table 5, Estimated Maximum Daily Construction Criteria Air Pollutant Emissions, shows the estimated maximum daily construction emissions associated with construction of the Project in 2016, 2017, and 2018.

Table 5
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
2016	48.14	120.97	212.05	0.36	10.95	3.63
2017	50.17	137.32	239.29	0.42	13.53	4.47
2018	49.99	66.75	125.89	0.22	6.71	2.30
Maximum Daily Project Emissions	50.17	137.32	239.29	0.42	13.53	4.47
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: SCAQMD 2015a (significance thresholds)
Notes: See Appendix B for detailed results.
Emissions presented are the maximum daily winter or summer emissions results from CalEEMod.

These estimates reflect compliance with SCAQMD standard dust control measures (Rule 403), resulting in a 61% reduction of on-site fugitive dust, and incorporation of Tier 4 Interim equipment. As shown in Table 5, daily construction emissions are not anticipated to exceed the SCAQMD thresholds for VOC, CO, SO_x, PM_{10}, or $PM_{2.5}$. The Project would exceed NO_x thresholds during construction. Therefore, impacts associated with

[4] The analysis presented herein assumes a construction start date of January 2016, which represented the earliest date at which construction would initiate, as anticipated by the applicant's construction team. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

construction emissions would be significant, although the level of impact would not be substantially more severe than the significant unavoidable impact identified in the Program EIR.

Operational Emissions

Criteria air pollutant emissions from mobile and area sources associated with the General Plan were modeled in the Program EIR using the URBEMIS 2007 Version 9.2.4 computer program, which was designed to estimate emissions for land use development projects. URBEMIS was originally developed for the SCAQMD by Jones and Stokes and was the industry standard emissions estimator model for projects within the SCAQMD's jurisdiction boundaries when the EIR was prepared in 2009.[5] URBEMIS 2007 estimates emissions resulting from project construction, project-generated mobile source emissions (vehicle emissions), and area source emissions.[6] Area sources estimated include emissions related to fuel combustion (natural gas, hearths, and landscape maintenance) and evaporative emissions from consumer products and architectural coatings.

The Program EIR estimated City-wide buildout operational emissions using URBEMIS for 2030 full-buildout conditions, assuming that the entire Program EIR development projections would be constructed within the 20-year planning horizon. It was estimated that City-wide General Plan buildout operational activities would result in emissions of VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ that would exceed the SCAQMD's applicable thresholds. Accordingly, the Program EIR concluded that operational emissions of ozone precursors and particulate matter could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations. General Plan impacts to air quality were determined to be potentially significant in the Program EIR.

Following the completion of construction activities, the Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from vehicular traffic, area sources (consumer products, architectural coatings, landscaping equipment), and energy sources (natural gas appliances, space and water heating). CalEEMod, which is the emission estimator model currently recommended by the SCAQMD, was used to estimate daily emissions from the

[5] The first version of URBEMIS was released in 2001, which was subsequently updated; URBEMIS 2007 Version 9.2.4 was released in February 2008. URBEMIS 2007 Version 9.2.4 used CARB's EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions.

[6] Default average daily trip generation rates in URBEMIS 2007 Version 9.2.4 were based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, sixth edition (1996). The trip rates assumed in the EIR URBEMIS run did not match the default ITE values for each land use modeled; as such, it is assumed that the EIR trip rates were tailored, project-specific trip rates developed for the analysis.

operational sources. For Project land uses that CalEEMod does not include as input options, surrogate land uses were selected to represent the proposed land use based on similar land use characteristics and associated model default values. Total gross-leasable space for the restaurant land use is estimated to be 115,354 square feet; however, the restaurant space would also include an additional 17,858 square feet of occupied patio space. As such, for the purposes of emissions modeling, the patio space was conservatively assumed in the total land use square footage for the restaurant use.

The Project would primarily impact air quality through vehicular traffic generated by employees and customers/patients of the commercial/retail and medical office land uses and residents of the apartment land uses. Emission factors representing the vehicle mix and emissions for the year 2018 were used to estimate emissions, which is conservative as the Project's first full year of operation would likely occur in a later year.[7] On-road vehicular emissions associated with the Project and Existing scenarios were modeled using trip-generation rates for the Project from the Traffic Impact Analysis prepared for the Project (Appendix G). As presented in the Traffic Impact Analysis and Table 17, Project Trip Generation, trip rates were identified for the following land uses for typical weekday and Saturday operational scenarios: Mall (including retail, cinema, health club, and restaurant), medical office, and apartments. As noted above, the emissions analysis included the patio space in the restaurant land use total; however, the trips associated with the restaurant land use would remain the same with and without the patio space. As such, the mall trip rate was adjusted and applied to the retail, cinema, health club, and restaurant land uses so that the total weekday trips and total Saturday trips would match the daily trips estimated in the Traffic Impact Analysis. Because the Traffic Impact Analysis did not include a separate Sunday trip rate, the Saturday trip rate identified in the Traffic Impact Analysis was assumed for the Sunday trip rate in CalEEMod.

The California Air Pollution Control Officers Association (CAPCOA) has developed methodologies for quantifying the emission reductions associated with numerous mitigation measures (CAPCOA 2010).[8] Several of the measures are related to land use

[7] To be conservative, as well as consistent with the Traffic Impact Analysis, operational emissions were modeled in CalEEMod under the assumption that Project buildout would occur in 2018. Assuming the earliest start date for Project buildout represents the worst-case scenario for criteria air pollutant emissions because vehicle emission factors for later years would be slightly less due to more stringent standards, as well as fleet turnover replacing older vehicles in later years.

[8] In 2010, CAPCOA published a resource document titled *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. Although this resource was intended to develop methods to quantify GHG emission reductions, measures that would reduce emissions associated with mobile sources (motor vehicle trips), natural gas consumption, and landscape maintenance equipment operation would also reduce criteria air pollutant emissions.

and transportation planning that would reduce vehicle trips and/or trip lengths, enhance walking and bicycles as alternative modes of transportation, enhance availability of transit, and incorporate other approaches. Based on the Project site setting, it was assumed that the Project would represent an increase in diversity, the residential component of the Project would represent an increase in density, and the Project would result in an improvement to the pedestrian network, which would result in emissions reductions from mobile sources. Appendix B describes the emission reductions associated with these various site characteristics and enhancements.

Emissions from energy sources include natural gas combustion for appliances and space and water heating. For the Project, 2013 Title 24 values and default non-Title 24 energy intensities were used.[9] For the Existing scenario, default historical Title 24 and non-Title 24 energy intensities were used.[10]

Area sources include gasoline-powered landscape maintenance equipment, consumer products, and architectural coatings for the maintenance of buildings. For all residential and non-residential use architectural coatings, the interior and exterior VOC content was assumed to be 50 grams per liter (g/L) and 100 g/L, respectively.

Area, energy, and vehicle source emissions were estimated for the Project and the Existing scenarios to calculate the net change in operational emissions as a result of the Project.

Table 6, Estimated Maximum Daily Net Operational Criteria Air Pollutant Emissions, summarizes the average daily mobile, energy, and area emissions of criteria pollutants that would be generated by development of the Project, as well as emissions associated with Existing land uses.

[9] Title 24 of the California Code of Regulation serves to enhance and regulate California's building standards. The most recent amendments, referred to as the 2013 standards, became effective on July 1, 2014. Buildings constructed in accordance with the 2013 standards will use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 standards (CEC 2012). For the proposed Project emissions scenario, a 25% reduction from the 2008 standards (the basis for the default energy usage factors in CalEEMod) to reflect the benefits of compliance with the 2013 standards.

[10] The use of "Historical Data" in CalEEMod assumes building operation in compliance with building code standards that were in effect in 2005 (CAPCOA 2013). Because the existing structures were constructed prior to 2005, it is reasonable to assume use of historical data estimate energy source emissions.

Table 6
Estimated Maximum Daily Net Operational Criteria Air Pollutant Emissions

Emission Source	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Proposed Project						
Area Sources	108.88	0.96	82.45	0.01	0.45	0.45
Energy	1.34	12.01	9.17	0.07	0.92	0.92
Mobile Sources	113.26	190.56	932.01	2.23	165.96	45.96
Total	**223.48**	**203.53**	**1,023.63**	**2.31**	**167.33**	**47.33**
Existing Land Uses						
Area Sources	65.68	0.01	0.32	0.00	0.01	0.01
Energy	0.71	6.50	5.46	0.04	0.49	0.49
Mobile Sources	97.65	182.93	870.88	2.21	166.19	45.99
Total	**164.04**	**189.44**	**876.66**	**2.25**	**166.69**	**46.49**
Net Change (Proposed Project minus Existing)	*59.44*	*14.09*	*146.97*	*0.06*	*0.64*	*0.84*
SCAQMD Emissions Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 2015a (significance thresholds)
Notes: See Appendix B for detailed results.
Emissions presented are the maximum daily winter or summer emissions results from CalEEMod.
Emissions presented in Table 6 for the proposed Project are provided in the "mitigated" CalEEMod output. These estimates reflect compliance with 2013 Title 24 energy efficiency requirements resulting in a minor decrease in energy (natural gas) emissions compared to the model default assumption of compliance with 2008 Title 24 standards. In addition, it was assumed that the project would increase diversity, increase residential density, and improve the pedestrian network (see Section 3.7 for details). Although these assumptions are not considered mitigation measures for the analysis presented herein, the emission estimates are presented as "mitigated" emissions in the CalEEMod output as these assumptions are inputted in the mitigation option of the model.

As shown in Table 6, the net change in emissions associated with operation of the Project would not exceed the SCAQMD thresholds for NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. However, the increase in emissions associated with operation of the Project would exceed the SCAQMD threshold for VOC. Therefore, impacts would be considered significant for Project operational emissions.

Although the Project would result in an increase in emissions compared to existing conditions, the Project would be built in compliance with the California Title 24 and California Building Code requirements, as well as the California Mechanical Code, Plumbing Code, Electrical Code, and Energy Code, which would ensure that the Project would be substantially more energy efficient than the current Mall buildings. In addition, the Project would include various sustainable or "green" building strategies as Project design features, including optimization of natural lighting by creating an open-air, natural lit environment in the interior Mall pedestrian corridors, as well as

incorporation of skylights. The Project would also conserve water by installing low-flow water fixtures in the interior spaces, planting native and drought-tolerant plant species for landscaping, and using recirculating water for water features. Furthermore, the Project would include electric vehicle charging facilities, pedestrian paseos connecting on-site land uses, and Class II and III bicycle paths off site, which support alternative technologies and modes of transportation. As such, the Project would support the General Plan Program EIR Mitigation Measure AQ-14 (similar to General Plan Program EIR Mitigation M GCC-2), which encourages incorporation of green building standards. Various green building features would reduce different sources of emissions, including energy, water, wastewater, and solid waste. Only natural gas consumption is evaluated in the criteria air pollutant analysis; the GHG emissions assessment (Section 3.7) evaluates emissions associated with natural gas, electricity, water, wastewater, and solid waste.

Table 7 presents a comparison of the Project net increase maximum daily emissions and General Plan City-wide buildout maximum daily emissions as estimated in the Program EIR. The Program EIR emission estimates assume that the entire General Plan EIR development projections would be constructed within the 20-year planning horizon and 2030 would represent full buildout conditions.

Table 7
Comparison of the Project and General Plan EIR City-Wide Buildout Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
General Plan EIR Area Sources[a]	103.7	20.5	209.1	<0.1	30.8	29.6
General Plan EIR Mobile Sources	120.2	136.1	1,165.9	3.9	648.1	125.6
General Plan EIR 2030 City-wide Buildout (2030) Total	**223.9**	**156.6**	**1,374.9**	**3.9**	**678.9**	**155.2**
Project Net Change (Project minus Existing) (2018) Total	**59.44**	**14.09**	**146.97**	**0.06**	**0.64**	**0.84**
Project Emissions Inconsistent with Estimate for General Plan Buildout?	No	No	No	No	No	No

Source: City of Laguna Hills 2009b
Notes: See Appendix B for detailed results. Based on Table 5.3-4 Summary of Modeled Operational Emissions of Criteria Air Pollutants and Precursors – 2030 Conditions upon Buildout of the General Plan
Emissions were estimated in the EIR using URBEMIS 2007 Version 9.2.4.
[a] Emissions from area sources include area and energy (natural gas) sources.

As shown in Table 7, the net change in Project emissions compared to Existing conditions (Table 6) are less than, and do not represent a disproportionate share of, the net increase in General Plan Buildout emissions compared to existing City-wide operation as estimated in the General Plan Program EIR.

The Program EIR concluded that, "Implementation of the General Plan would result in significant short-term construction-related air quality impacts at both the project and cumulative levels" (City of Laguna Hills 2009b). General Plan Program EIR mitigation Measures AQ-1 and AQ-2 were identified to reduce Project-generated construction emissions and associated impacts. In regards to potential impacts associated with buildout operation, the Program EIR concluded that, "The General Plan would result in significant long-term operational air quality impacts at both the project and cumulative levels" (City of Laguna Hills 2009b). General Plan Program EIR Mitigation Measures AQ-3 through AQ-18 were identified to reduce project-generated operational emissions and associated impacts. The Program EIR determined that short-term construction and long-term operational impacts resulting from implementation of the General Plan would remain significant and unavoidable with the implementation of required mitigation.

Therefore, with incorporation of General Plan Program EIR mitigation, Project impacts associated with air quality standard violations would be significant, although the level of impact would not be substantially more severe than the levels identified in the General Plan Program EIR.

c) Would the project 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)?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with a cumulatively considerable net increase of a non-attainment criteria pollutant would be significant and unavoidable, even with incorporation of mitigation from the General Plan Program EIR.

Air pollution by nature is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. In addition to the SCAQMD efforts, CARB has comprehensive regulatory programs in place for new and existing sources of air pollution. Local policies, such as land use decisions that involve siting, zoning, and permitting actions, in conjunction with air

agency efforts have the potential to greatly enhance the effectiveness of these programs by addressing cumulative impacts in local areas. Cumulative air quality impacts are the effect of long-term emissions of the Project plus any existing emissions at the same location, as well as the effect of long-term emissions of reasonably foreseeable similar projects, on the projected regional air quality or localized air pollution in the SCAB and surrounding areas. Based on the cumulative nature of air pollution and the various mechanisms in place to reduce cumulative air pollutant emissions, Project-level thresholds of significance for criteria pollutants, as analyzed in Section 3.3(b), are relevant in the determination of whether the Project's individual emissions would have a cumulatively significant impact on air quality.

The SCAB is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under the NAAQS and/or CAAQS (CARB 2014; EPA 2015). The nonattainment status in the SCAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (e.g., VOC and NO_x for O_3,) potentially contribute to poor air quality. A project would be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact) for pollutants for which the SCAB is designated as nonattainment for the NAAQS or CAAQS (i.e., O_3, PM_{10}, and $PM_{2.5}$). If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. If a project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a cumulative impact on air quality; however, the basis for analyzing the Project's cumulative considerable contribution under CEQA is the Project's potential to exceed SCAQMD thresholds and its consistency with the most recent AQMP.

Implementation of the Project would generate emissions of VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ associated with construction and increased vehicle traffic to and from the site as well as energy use during operation. As indicated in Tables 5 and 6, the construction emissions generated by the Project and net operational emissions from the Project minus Existing land use emissions would exceed the SCAQMD significance thresholds for NO_x and VOC, respectively. Accordingly, the Project would result in a significant contribution to cumulative air quality impacts related to O_3.

As shown in Table 7, the General Plan Program EIR estimated that the net increase in criteria air pollutant emissions resulting from General Plan buildout in 2030 compared to

existing (2008) Citywide land use operation would be approximately 224 pounds/day VOC, 157 pounds/day NO_x, 1,375 pounds/day CO, 4 pounds/day SO_x, 679 pounds/day PM_{10}, and 155 pounds/day $PM_{2.5}$. The net change in Project emissions compared to Existing is estimated to be an increase in 59 pounds/day VOC; 14 pounds/day NO_x; 147 pounds/day CO; and less than 1 pound/day SO_x, $PM_{2.5}$, and PM_{10}, Accordingly, the net change in Project criteria air pollutant emissions compared to Existing conditions are less than the respective net increase in General Plan Buildout emissions compared to existing City-wide operation as estimated in the Program EIR, but in the case of VOC, the Project's contribution is cumulatively considerable.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the Project site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative. The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and comply with CEQA's information disclosure requirements. Future projects would be subject to CEQA, which would involve an evaluation of potential air quality impacts and, where necessary, mitigation if the project would exceed SCAQMD thresholds. If a project requiring approval from the City is exempt from CEQA, it would be reviewed by City staff and would be required to comply with standard conditions of approval, which may include best management construction practices. In addition, air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD.

As discussed in Section 3.3(b), the General Plan Program EIR concluded that implementation of the General Plan would result in significant short-term construction-related and long-term operational cumulative air quality impacts (City of Laguna Hills 2009b). General Plan Program EIR Mitigation Measures AQ-1 through AQ-18 were identified to reduce General Plan buildout-generated construction and operational emissions and associated impacts; however, the General Plan Program EIR determined that the Project would result in significant and unavoidable cumulative impacts.

Project impacts associated with a cumulatively considerable net increase of a criteria air pollutant that the SCAB is designated as a non-attainment area for would be significant even

with the incorporation of General Plan Program EIR mitigation, although the impacts are not substantially more severe those identified in the General Plan Program EIR.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with exposing sensitive receptors to substantial pollutant concentrations would be significant and unavoidable, even with incorporation of mitigation from the General Plan Program EIR.

Operational Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, schoolchildren, hospital patients, and the elderly. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS E or worse). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. However, because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing (CARB 2004).

The Program EIR analysis included a qualitative screening evaluation based on the procedures and guidelines contained in *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) to determine whether a project poses the potential for a CO hotspot (Caltrans 1997). As discussed in the Program EIR, according to the CO Protocol, projects may worsen air quality if they significantly increase the percentage of vehicles in cold start modes by 2% or more; significantly increase traffic volumes (by 5% or more) over existing volumes; or worsen traffic flow, defined for signalized intersections as increasing average delay at intersections operating at LOS E or F or causing an intersection that would operate at LOS D or better without the project, to operate at LOS E or F.

The General Plan Program EIR traffic analysis indicates that the Avenida de La Carlota at El Toro Road intersection would operate at LOS E under cumulative conditions in 2030. Traffic volumes at this intersection would also increase significantly over existing volumes (by more than 5%) as a result of General Plan buildout; as such, the EIR further investigated the potential CO impacts at this intersection. The Program EIR utilized the

methods of the Sacramento Metropolitan Air Quality Management District (SMAQMD 2004), which is based on background CO concentrations and project trip generation and is not dependent on the traffic volumes or geometry for a specific intersection. Based on the guidance provided by the Sacramento Metropolitan Air Quality Management District, the Program EIR estimated that the background CO concentration for 1-hour was 2 ppm and the General Plan would generate a 1-hour concentration of 9.34 ppm, resulting in a total of 11.34 ppm. This would not exceed the 1-hour NAAQS of 35 ppm or the 1-hour CAAQS of 20 ppm. Similarly, the estimated 8-hour CO concentration of 7.94 ppm, which is calculated by multiplying the 1-hour concentration by a persistence factor of 0.7, would not exceed the 8-hour CAAQS of 9.0 ppm.

The General Plan Program EIR determined that Project-generated long-term local mobile-source emissions of CO would not violate or substantially contribute to a violation of the CAAQS or NAAQS, or expose sensitive receptors to substantial pollutant concentrations. To verify that the project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted based on the evaluation of potential traffic impacts associated with the Project. Subsequent to the traffic study prepared for the General Plan Update, a site-specific traffic study was prepared for the Project (LLG 2015; Appendix G). The project's Traffic Impact Analysis evaluated whether there would be a decrease in LOS (e.g., increased congestion) at the intersections affected by the project. Traffic conditions for the Project were evaluated for each of the following scenarios: Existing (2015), Existing (2015) Plus Project, Year 2018 Cumulative Base, Year 2018 Cumulative Plus Project. A total of 61 key intersections were selected for detailed peak hour traffic impact/LOS analysis during the weekday AM and PM, and Saturday midday, peak hours under each of the four aforementioned traffic scenarios. Included in the TIA was the intersection of Avenida de La Carlota and the I-5 southbound on-ramp at El Toro Road, as assessed in the Program EIR. Additional street intersections with Avenida de La Carlota in the Project area, as well El Toro intersections in the Project area were assessed.

As discussed in Section 3.16, Transportation and Traffic, and further detailed in the TIA (Appendix G), based on the application of the significance criteria applicable to the Project, the Project is not expected to cause significant traffic impacts at any of the 61 key intersections under Existing (2015) and Year 2018 conditions. Accordingly, studied intersections would operate at an acceptable LOS and potential CO concentrations are not expected to be greater than what was analyzed in the General Plan Program EIR for a maximum case scenario.

Toxic Air Contaminants

Toxic air contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. The nearest sensitive receptors to the Project area are multi-family residences located approximately 50 feet from the proposed construction boundary. Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 30-year exposure for individual receptors will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology. In addition, some TACs have non-carcinogenic effects. The SCAQMD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) effects.[11] TACs that would be potentially emitted during demolition and construction activities associated with Project development would be asbestos and diesel particulate matter.

The Project is not anticipated to result in substantially more severe impacts related to the Project's potential to expose sensitive receptors to substantial pollutant concentrations (health risk) than what was assessed in the Program EIR.

Demolition activities could result in airborne entrainment of asbestos, particularly where structures built prior to 1980 (such as the existing buildings on the Project site) would be demolished. However, these materials would be removed in accordance with regulatory requirements prior to demolition (pursuant to SCAQMD Rule 1403 [Asbestos Emissions]), which establishes survey, notification, and work practice requirements to prevent asbestos emissions during building demolition. Therefore, asbestos would not be emitted to any substantial degree during demolition.

Diesel particulate matter emissions would be emitted from heavy equipment operations and heavy-duty trucks. Heavy-duty construction equipment is subject to a CARB Airborne Toxics Control Measure (ATCM) for in-use diesel construction equipment to reduce diesel particulate emissions, as described in further detail below.

[11] Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various non-carcinogens from the Project to published reference exposure levels that can cause adverse health effects.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 as compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. In particular, these ATCM prohibit idling for more than 5 minutes for all commercial trucks with a gross vehicle weight rating over 10,000 pounds; require that specific fleet average requirements are met for NO_x emissions and for particulate matter emissions; and require fleets of on-road trucks to limit their NO_x and particulate matter emissions through a combination of exhaust retrofit equipment and new vehicles.

According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. The construction period for the Project would total approximately 31 months (approximately 2.6 years), after which construction-related TAC emissions would cease. The 31-month construction duration represents approximately 9% of the total 30-year exposure period. Due to this relatively short period of exposure and minimal particulate emissions on site (see Table 3), TACs generated during construction would not be expected to result in concentrations causing significant health risks.

Operation of the proposed Project would not result in any non-permitted direct emissions (e.g., those from a point source such as diesel generators) or result in a substantial increase in diesel vehicles (i.e., delivery trucks) over existing baseline conditions.

Therefore, Project impacts associated with exposing sensitive receptors to substantial pollutant concentrations would be less than significant and the level of impact would not be substantially more severe than the levels identified in the General Plan Program EIR.

e) Would the project create objectionable odors affecting a substantial number of people?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with creating objectionable odors would be less than significant.

The SCAQMD identifies several land use types that are known to cause odors, including agriculture, wastewater treatment plants, rail yards, and dairies. The General Plan Program EIR identifies only one major potential source of odor in the City (a composting facility on Moulton Parkway) and states that the General Plan Update does not propose the development of any major odor sources such as those listed by SCAQMD.

Long-term, the Project does not include land uses that are typically associated with a major source of odor, as it would consist of typical residential and commercial retail uses. The Mall may include food service uses (cooking facilities), such as sit-down restaurants. In general, these odors are not considered to create a significant nuisance, and it is not likely that these odors would cause a significant impact to surrounding receptors. In addition, the existing Mall includes food service uses; as such, implementation of the Project would not result in a new land use with the potential to generate odors related to food preparation.

The General Plan Program EIR also found that short-term construction-related odors, such as from diesel equipment, would not be significant. The Project would use equipment during construction that may produce odors. However, these would be temporary and fall within the parameters of the General Plan Program EIR. During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Further, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Therefore, impacts associated with creating objectionable odors would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following air quality mitigation measures from the General Plan Program EIR are applicable to the Project:

MM AQ-1 The City shall implement the following measures to reduce the amount of fugitive dust that is re-entrained into the atmosphere from unpaved areas, parking lots and construction sites.

1. Require the following measures to be taken during the construction of all projects to reduce the amount of dust and other sources of PM_{10}, in accordance with SCAQMD Rule 403:
   - Dust suppression at construction sites using vegetation, surfactants and other chemical stabilizers
   - Wheel washers for construction equipment
   - Watering down of all construction areas
   - Limit speeds at construction sites to 15 miles per hour
   - Covering of aggregate or similar material during transportation of material
2. Adopt incentives, regulations, and/or procedures to reduce paved road dust emissions through targeted street sweeping of roads subject to high traffic levels and silt loadings.
3. Pave currently unpaved roads and parking lots or establish and enforce 15 miles per hour speed limits on low-use unpaved roads as permitted under California Vehicle Code section 22365.

MM AQ-2 The City shall require each project applicant, as a condition of project approval, to implement the following measures to reduce exhaust emissions from construction equipment.

1. Commercial electric power shall be provided to the Project site in adequate capacity to avoid or minimize the use of portable gas-powered electric generators and equipment.
2. Where feasible, equipment requiring the use of fossil fuels (e.g., diesel) shall be replaced or substituted with electrically driven equivalents (provided that they are not run via a portable generator set).
3. To the extent feasible, alternative fuels and emission controls shall be used to further reduce exhaust emissions.
4. On-site equipment shall not be left idling when not in use.

5. The hours of operation of heavy-duty equipment and/or the amount of equipment in use at any one time shall be limited.
6. Staging areas for heavy-duty construction equipment shall be located as far as possible from sensitive receptors.
7. Before construction contracts are issued, the project applicants shall perform a review of new technology, in consultation with SCAQMD, as it relates to heavy-duty equipment, to determine what (if any) advances in emissions reductions are available for use and are economically feasible. Construction contract and bid specifications shall require contractors to utilize the available and economically feasible technology on an established percentage of the equipment fleet. It is anticipated that in the near future, both NO_x and PM_{10} control equipment will be available.

MM AQ-6 The City shall work with project proponents to ensure that safe and attractive sidewalks, walkways, bike lanes, and cross walks that facilitate use are provided in accordance with City standards. The City shall work with developers to construct links to adjacent communities, using open space easements and utility easements when appropriate.

MM AQ-7 The City shall provide bike support facilities (e.g., bicycle racks, personal lockers, showers, and other bicycle support facilities) in new development and revitalization projects to encourage bicycle riding as a transportation mode. The City shall adopt a formal bike support facility ordinance and/or guidelines applicable to private and public development.

MM AQ-11 The City shall provide incentives such as preferential parking for alternative fuel vehicles.

MM AQ-12 The City shall actively encourage the development and maintenance of mixed uses, particularly in the Mixed Use and Neighborhood Mixed Use areas, by maintaining a list of sites available for mixed use and infill development and making the list available to developers. The City shall establish developer incentives to encourage well-designed mixed use and infill development projects in these areas.

MM AQ-13 The City shall adopt a sustainable development program with the goal of reducing ownership costs, reducing water and energy consumption,

reducing driving, and reducing greenhouse gas and criteria pollutant emissions. This Sustainable Development program shall incorporate the following programs that address environmental sustainability: Green Building Standards; Mixed Use; Bikeways, Sidewalks, Walkways, Crosswalks; Orange County Transportation Authority; Climate Action Plan; Water Conservation; Recycled and Reclaimed Water; and Community Gardens. In addition, the City will consider incorporating the following measures in the program:

1. Adopt a formal green building program, such as Leadership in Energy and Environmental Design (LEED), GreenPoint Rated and/or other programs applicable to Laguna Hills.
2. Provide developer incentives for green buildings.
3. Adopt a native tree preservation ordinance and encourage planting of new, drought-tolerant trees.
4. Promote and incentivize alternative energy such as wind and solar in new development and revitalization projects.
5. Institute green purchasing practices in all City operations, including alternative or very fuel efficient vehicles.
6. Establish a marketing and education plan for City residents to encourage green building standards, alternatives to driving, energy conservation through high efficiency lighting and appliances, and alternative energy such as wind and solar.
7. Measure annual progress in City operations, and private development as applicable.
8. During the development review process for large development projects (greater than 10 units and/or 10,000 square feet), the City will coordinate with energy providers to determine if additional energy efficiency measures can be incorporated into the project design.

MM AQ-14 The City shall evaluate proposed development projects throughout the City using LEED standards, GreenPoint Rated, and/or other green building standards. The City encourages all future development and major renovation projects within the following General Plan designations to achieve LEED certification, and/or other green certifications: High Density Residential, Village Commercial, Freeway Commercial,

Community Commercial, Office Professional, Mixed Use, Neighborhood Mixed Use, and Community/Private Institution. The City shall investigate the potential to offer density bonus incentives on residential projects that achieve LEED certification, and other green certifications and ratings.

MM AQ-15 The City shall support, through the use of development standards, the use of fuel-efficient heating equipment, and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces, boiler units, and low or zero-emitting architectural coatings.

MM AQ-16 The City shall work with the SCAQMD and the SCAG to implement the AQMP and meet all federal and state air quality standards for pollutants. The City shall participate in any future amendments and updates to the Plan. The City shall also implement, review, and interpret the General Plan and future discretionary projects in a manner consistent with the Air Quality Management Plan to meet standards and reduce overall emissions from mobile and stationary sources.

MM AQ-17 The City shall continue to implement solid waste diversion programs as well as public education programs as outlined in the City's Source Reduction and Recycling Element required by Assembly Bill 939. As part of this program, the City shall work with the private sector contractor providing solid waste services within the City to ensure that appropriate recycling containers, procedures, and education are readily available throughout the community. The City shall develop programs to maximize recycling of waste products generated by the community to reduce the amount of solid waste disposed and prolong useful life of the local landfills.

MM AQ-18 The City shall review all future development proposals for potential regional and local air quality impacts per CEQA. If potential impacts are identified, mitigation will be required to reduce the impact to a level less than significant, where technically and economically feasible.

MM AQ-19 The City shall implement the following measures to minimize exposure of sensitive receptors and sites to health risks related to air pollution.

1. Encourage site plan designs to provide the appropriate set-backs and/or design features that reduce TACs at the source.

2. Encourage the applicants for sensitive land uses to incorporate design features (e.g., pollution prevention, pollution reduction, barriers, landscaping, ventilation systems, or other measures) in the planning process to minimize the potential impacts of air pollution on sensitive receptors.
3. Actively participate in decisions on the siting or expansion of facilities or land uses (e.g., freeway expansions), to ensure the inclusion of air quality mitigation measures.
4. Where decisions on land use may result in emissions of air contaminants that pose significant health risks, consider options, including possible relocation, recycling, redevelopment, rezoning, and incentive programs.
5. Activities involving idling trucks shall be oriented as far away from and downwind of existing or proposed sensitive receptors as feasible.
6. Strategies shall be incorporated to reduce the idling time of main propulsion engines through alternative technologies such as IdleAire, electrification of truck parking, and alternative energy sources for transportation refrigeration units (TRUs) to allow diesel engines to be completely turned off.

3.4 Biological Resources

The following analysis relies on a biological resources assessment conducted by Dudek in November 2015 and February 2016. The assessment included a review of available relevant literature and data on special-status habitats and species distribution to determine those resources that have the potential for occurrence within approximately 100 feet of the Project site (i.e., the study area). All appropriate and available biological documentation, surveys, published research, and maps were compiled, reviewed, and analyzed.

The most recent versions of the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB; CDFW 2016), U.S. Fish and Wildlife Service's (USFWS') Environmental Conservation Online System (ECOS; USFWS 2016a), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS Inventory; CNPS 2016) were reviewed to identify sensitive biological resources present or potentially present for the U.S. Geological Survey (USGS) 7.5-minute quadrangle on which the Project site is located (i.e., San Juan Capistrano) and the eight surrounding quadrangles (i.e., Dana Point, San Clemente, Canada Gobernadora, Santiago Peak, El Toro, Tustin, and Laguna

Beach). These databases provided information regarding special-status plants, wildlife, and habitats recorded for the Project site and vicinity. Dudek also reviewed the Orange County Central and Coastal Subregion Natural Communities Conservation Plan and Habitat Conservation Plan (NCCP/HCP) database of occurrences, soil survey maps (Wachtell 1978), USGS National Hydrography Dataset of aquatic resources, USFWS National Wetlands Inventory maps (USFWS 2016b), and other in-house documentation, geographic information system (GIS) layers, and sources for locations of special-status species and water resources.

Following the literature review, Dudek Senior Biologist Ryan Henry conducted a general survey of the study area on February 26, 2016, to identify existing biological resources and confirm potential biological constraints. During the field survey, land covers and vegetation communities were confirmed and a general inventory of plant and wildlife species detected by sight, calls, tracks, scat, or other sign was compiled, as well as a determination of potential special-status species that could occur within the study area.

The study area contained "developed" non-natural land covers according to the Central and Coastal NCCP/HCP. Results from the general biological survey confirmed the non-natural land cover, which includes commercial buildings, paved surfaces, arterial roads, and scattered ornamental plantings. Vegetation was limited to the ornamental plantings that included planted species of pine (*Pinus* sp.), eucalyptus (*Eucalyptus* sp.), India hawthorne (*Rhaphiolepis indica*), English ivy (*Hedera helix*), myoporum (*Myoporum laetum*), bronze loquat (*Eriobotrya deflexa*), queen palm (*Archontophoenix cunninghamiana*), Mexican fan palm (*Washingtonia robusta*), Chinese elm (*Ulmus parvifolia*), sweet gum (*Liquidambar* sp.), and oleander (*Nerium oleander*).

The following wildlife species were detected on or adjacent to the study area: American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Spinus psaltria*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), and cedar waxwing (*Bombycilla cedrorum*). One special-status bird species was observed foraging within the Project site, the Cooper's hawk (*Accipiter cooperii*). No active bird nesting was observed during the site visit, but the various trees and shrubs in the study area could support nesting birds. No amphibian, reptile, invertebrate, mammal, or fish species were observed within the study area.

The results of the biological resources database searches and site visit are included as Appendix K of this document.

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

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with species identified as a candidate, sensitive, or special-status species (collectively referred to as special-status species) would be less than significant with incorporation of mitigation from the General Plan Program EIR (General Plan Program EIR Mitigation Measure B-1).

The Project site is predominantly developed and located within a largely urbanized area of the City. As a result, the potential for special status plant and wildlife species were limited.

Plant Species

Special-status plants include those listed, or candidates for listing, as threatened or endangered by the USFWS and CDFW, and species identified as rare by the CNPS (particularly California Rare Plant Rank [CRPR] 1A – Presumed extinct in California; CRPR 1B – Rare, threatened, or endangered throughout its range; and CRPR 2 – Rare or endangered in California, more common elsewhere). A total of 70 special-status plant species were reported in the CNDDB, USFWS, and CNPS databases as occurring in the region (see Appendix K). However, none of the plant occurrences are located within the study area. Additionally, no USFWS-designated critical habitat for listed plant species occurs within the study area.

No special-status plant species were observed within the study area during the site visit. Based on the species' ranges and developed land cover that characterize the Project site, there is no potential for special-status plants to occur. As a result, no direct or indirect impacts to special-status plant species are anticipated.

Wildlife Species

Special-status wildlife include those listed, or candidates for listing, as threatened or endangered by the USFWS and CDFW, and designated as a Species of Special Concern (SSC) by CDFW. A total of 62 special-status wildlife species were reported in the CNDDB and USFWS databases as occurring in the region (Appendix K). One special-status wildlife species was recorded within the most westerly corner of the Project site: the western mastiff bat (*Eumops perotis*). However, the record was for an unknown location and dates back to July 28, 1949, prior to the development of the Project vicinity.

Due to the developed condition of the study area, this species is no longer expected to occur. No USFWS-designated critical habitat for listed wildlife species occurs within the study area.

One special-status wildlife species was observed within the study area during the site visit: Cooper's hawk. An individual was observed foraging within the central portion of the site next to the mall. Cooper's hawks are not expected to nest on site due to lack of suitable nesting habitat. Regardless, any disturbance to the existing landscape trees within the study area would need to occur outside the nesting season in order to comply with the California Fish and Game Code and the Migratory Bird Treaty Act. The nesting season generally occurs from February through August. If tree trimming or removal are deemed necessary during the nesting season, then all suitable nesting habitat should be thoroughly surveyed for the presence of nesting birds by a qualified biologist at least 7 days prior to Project-related vegetation clearing. Typically, if an active nest is detected, then an appropriate avoidance buffer around the nest, as determined by a qualified biologist, is flagged and avoided until the nesting cycle is complete. As a result, direct or indirect impacts to this species would be less than significant.

Based on the species' ranges, non-natural land covers, and urban pressures present on the Project site, there is little to no potential for other special-status wildlife to occur. As a result, no direct or indirect impacts to special-status wildlife species are anticipated.

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

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with riparian habitat or other sensitive natural communities would be less than significant with incorporation of mitigation (General Plan Program EIR Mitigation Measures B-1, B-2, and B-3).

Much like the broader project area, the Project site is predominantly developed and urbanized. No riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS were identified on the Project site during the site visit conducted on February 26, 2016. Therefore, no impacts to riparian habitat or other sensitive natural communities associated with the Project would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with federally protected wetlands would be less than significant with incorporation of mitigation (General Plan Program EIR Mitigation Measure B-3).

According to the federal Clean Water Act, Section 404, wetlands are defined as:

> Those areas that are inundated or saturated by surface or ground water (hydrology) at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation (hydrophytes) typically adapted for life in saturated soil conditions (hydric soils). Wetlands generally include swamps, marshes, bogs, and similar areas.

Based on the site visit, the Project site does not contain any federal jurisdictional wetlands as defined above. Further, the Project site does not support any aquatic resources regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, or the CDFW as jurisdictional "waters of the U.S." or "waters of the state." Therefore, no impacts associated with federally protected wetlands would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with movement of any native resident or migratory fish or wildlife species would be less than significant.

Several local and regional roadways traverse the immediate project area, including I-5, El Toro Road, Avenida de La Carlota, and Calle de La Louisa. These roadways, along with the extensive amount of existing development that surrounds the Project site, creates a highly fragmented, noncontiguous landscape that is not conducive to substantial wildlife movement. Additionally, the Project site itself is developed and does not provide native

wildlife nursery habitat. Therefore, no impacts associated with wildlife movement corridors or nursery sites would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Numerous mature landscape trees are currently located on the Project site. Despite the disturbed nature of the Project site, these trees could potentially provide nesting opportunities for resident and migratory bird and raptor species. Direct and indirect impacts to nesting birds must be avoided to comply with the California Fish and Game Code and the Migratory Bird Treaty Act. Any disturbance to the existing landscape trees, including, but not limited to, trimming or removal, would generally be required to occur outside of the nesting season. The nesting season generally occurs from February through August. If tree trimming or removal are deemed necessary during the nesting season, then all suitable nesting habitat should be thoroughly surveyed for the presence of nesting birds by a qualified biologist at least 7 days prior to Project-related vegetation clearing. Typically, if an active nest is detected, then an appropriate avoidance buffer around the nest, as determined by a qualified biologist, is flagged and avoided until the nesting cycle is complete. As a result, direct and indirect impacts to nesting birds from Project-related disturbances would be less than significant.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with local policies or ordinances protecting biological resources would be less than significant with incorporation of mitigation (General Plan Program EIR Mitigation Measure B-4).

Implementation of the Project would likely require removal of most of the mature ornamental trees currently located on the Project site. Additionally, depending on final designs, some trees currently located in public rights-of-way may also require removal or maintenance (e.g., trimming, pruning). If City-owned trees or shrubs that occur within City rights-of-way need to be trimmed or removed, then the Project would be required to comply with all applicable provisions of the City's Tree Protection Ordinance (Laguna Hills Municipal Code, Section 8-08.010 through 8-08.110), which regulates the planting, maintenance, protection, and removal of City-owned trees and shrubs in City rights-of-way, as well as in City parks and open space. Consistent with General Plan Program EIR Mitigation Measure B-4, a permit is required from the Public Services Director to plant, move, spray, trim, remove, prune, replace, cut, or otherwise disturb any tree in any public place. Any city tree removed shall be replaced by the caliper inch measured at diameter

breast height (DBH). For every inch of DBH removed, an equal number of caliper inches shall be replaced. Therefore, with incorporation of mitigation from the General Plan Program EIR, impacts associated with local policies or ordinances protecting biological resources would be less than significant, and level of impact would not increase from those levels identified in the General Plan Program EIR.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with an adopted conservation plan would be less than significant.

The Project site occurs within the boundaries of the Orange County Central and Coastal NCCP/HCP. The NCCP/HCP identifies and protects individual species whose numbers have declined significantly by conserving natural communities at the ecosystem level while accommodating compatible land uses. The measures contained in the NCCP/HCP mitigate direct and indirect impacts to 39 covered species and 4 covered habitats identified within designated development sites in the NCCP/HCP area. The Project site does not support natural communities or covered habitats protected by the NCCP/HCP. Further, no land designated as Habitat Reserve, Non-Reserve Open Space, or Conservation Easement Area occurs within the Project site. The closest Habitat Reserve lands occur approximately 2.5 miles to the west of the Project site (County of Orange 1996).

Due to the completely developed nature of the Project site, implementation of the Project would not conflict with the provisions of the Orange County Central and Coastal NCCP/HCP or other approved habitat conservation plan. Therefore, impacts associated with an adopted conservation plan would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following biological resources mitigation measures from the General Plan Program EIR are applicable to the Project:

MM B-1 Activities implemented under the General Plan will undergo project-specific review for potential impacts to biological resources in accordance with CEQA. The City shall require that all General Plan implementation

activities adhere to California and federal legislation that protects all sensitive plants, wildlife, habitats and wetlands. The City shall work closely with the USACE [U.S. Army Corps of Engineers], USFWS, RWQCB, and the CDFG during the discretionary project permitting and CEQA review of any project that may result in the alteration of a stream bed, involve the removal of vegetation in wetland and riparian habitats, disturb waters of the U.S. or otherwise impacts sensitive biological resources. If recommended or required by the resource agencies, project-specific measures to mitigate potential impacts to sensitive species, such as native birds and bats, will be established as conditions of project approval. Mitigation measures for habitat and species may include, but are not limited to, avoidance, enhancement, restoration, or a combination of any of the three.

MM B-2 The City shall continue to implement the National Pollutant Discharge Elimination System (NPDES) stormwater permits issued by the State and Regional Water Quality Control Board. Require new development and revitalization projects to incorporate Best Management Practices (BMPs) pursuant to the NPDES permit to ensure that the City complies with applicable state and federal regulations.

MM B-3 As a condition of project-specific approval, the City shall require new development and redevelopment to provide adequate on-site and off-site stormwater and flood management facilities to control direct and indirect erosion and discharges of pollutants and/or sediments. To determine the facility and Best Management Practices (BMP) needs, the City will require, when necessary, a hydrological/drainage analysis be performed by a state licensed and City-approved engineer, with the cost of said analysis the responsibility of the project applicant.

MM B-4 In accordance with the City of Laguna Hills Tree Protection Ordinance, a permit shall be required from the Public Services Director to plant, move, spray, trim, remove, prune, replace, cut, or otherwise disturb any tree in any public place. Section 8-08.050 of the Laguna Hills Tree Protection Ordinance requires that City trees be replaced by the caliper inch measured at diameter breast height (DBH). For every inch of DBH removed, an equal number of caliper inches shall be replaced. For example, the removal of one 12-inch tree shall necessitate the planting of a

total of 12 inches of new tree(s) (e.g., one 12-inch tree, six 2-inch trees, or four 3-inch trees).

3.5 Cultural Resources

The following analysis is based, in part, on the September 2015 Cultural Resources Letter Report prepared by Dudek and included in this document as Appendix C.

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with historical resources would be less than significant.

The Project includes the redevelopment of the existing Mall property through the partial demolition and reconstruction of the southern portion of the central Mall building. Historic aerial photographs of the Mall reveal that the existing free-standing structure, located east of Macy's, was the first building completed and it was completed by 1972 (NETR 2016). The same photographs reveal that the southern portion of the extant Macy's building was completed by 1972. Historic aerial photographs of the Mall from 1980 reveal a substantial addition on the north and east elevations of the Macy's building. The same photographs reveal the remainder of the extant Mall structure was completed by 1980. As such, with the built date of less than 45 years, the Mall does not necessitate a historic assessment.

As described in the General Plan Program EIR, no historical resources were identified through the cultural resources site records search, which included a review of the Project site. Thus, the Program EIR found that impacts to the significance of historical resources would be less than significant. No historical resources in the project area have been identified since the certification of the General Plan Program EIR. Therefore, no impacts associated with historical resources would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with archaeological resources would be less than significant.

Much like the broader project area, the Project site is predominantly developed and urbanized. Due to the highly disturbed nature of the Project site, the potential for discovery of archaeological resources or an impact to such resources is not considered significant with development of the Project. Research conducted for the Program EIR revealed 14 archaeological sites within the City, which indicates the potential for other archaeological resources to exist within the City as a whole. However, this research did not identify the Project site as a likely potential location for archaeological resources.

As part of the Cultural Resources Letter Report (Appendix C), a records search of the Project site and a surrounding 1-mile radius was completed at the South Central Coastal Information Center (SCCIC). This search included the SCCIC's collection of mapped prehistoric, historical, and built-environment resources, Department of Parks and Recreation Site Records, technical reports, archival resources, and ethnographic references. Additional sources consulted include the National Register of Historic Places, California Inventory of Historical Resources/California Register of Historic Resources and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, and California Historical Landmarks.

The records search found that no cultural resources have been identified within the Project site. Ten sites, isolates, and built-environment resources have been recorded within the surrounding 1-mile records search area, with the nearest resource to the site being the Taj Mahal Medical Center, which is located immediately south of the site. No other resources are within 500 meters (1,640 feet) of the Project site. Based on a review of the previous cultural resources studies and the records available at the SCCIC, all of the prehistoric resources in the area of potential effect have been destroyed by prior development activities, indicating that there is no potential for the Project to impact such prehistoric resources.

In addition to the SCCIC records search, an archaeologist performed an intensive pedestrian survey of the Project site. No archaeological or built-environment artifacts or features were identified during the survey. The archaeologist noted that the entire Project site has been previously disturbed through grading for the Mall, paving for the parking lots, and installation of underground utilities, and as such, it is unlikely that intact subsurface cultural deposits or features are present within the Project site.

Overall, the subsurface conditions underlying the Project site remain the same as those considered in the General Plan Program EIR, and thus, no new or increased impacts to archaeological resources beyond what was evaluated in the General Plan Program EIR would occur as a result of the Project. Therefore, impacts associated with archaeological

resources would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with paleontological resources would be less than significant.

The Project site is predominantly developed and urbanized, and because of the highly disturbed nature of the Project site, the potential for discovery of paleontological resources or the impact to such resources is not considered significant with development of the Project. Research conducted for the General Plan Program EIR did not identify the Project site as a likely potential location for paleontological resources. Additionally, according to the Geotechnical Study (Appendix D) prepared for the Project, the Project site is underlain by approximately 8.5 feet of artificial fill, which further reduces any potential to encounter paleontological resources during earthwork activities. Overall, the subsurface conditions underlying the Project site remain the same as those considered in the Program EIR, and thus, no new impacts on paleontological resources would occur as a result of the Project that have not already been identified and analyzed in the General Plan Program EIR.

Further, there are no unique geological features on or adjacent to the Project site, and as such, Project development would not destroy any unique geological features. Therefore, impacts associated with paleontological resources would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with human remains would be less than significant.

No existing or known formal cemeteries are on or adjacent to the Project site. Thus, development of the Project is not anticipated to impact human remains associated with a formal or informal cemetery. In the event that any human remains or related resources are discovered, such resources would be treated in accordance with all applicable federal, state, and local regulations and guidelines for disclosure, recovery, relocation, and preservation, including California Health and Safety Code Section 7050.57.98, which

states that no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to California Public Resources Code Section 5097.98. Under these provisions, the County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner would notify the Native American Heritage Commission, which would determine and notify a Most Likely Descendant. With the permission of the landowner or an authorized representative, the Most Likely Descendant may inspect the location of the discovery. The Most Likely Descendant would complete the inspection within 48 hours of notification by the Native American Heritage Commission and make recommendations or provide preferences for treatment. Therefore, impacts associated with human remains would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No cultural resources mitigation measures were required in the General Plan Program EIR.

3.6 Geology and Soils

The following geological analysis is based, in part, on the May 2015 Geotechnical Study prepared by Kleinfelder and included in this document as Appendix D. This study consists of a literature review, subsurface explorations, geotechnical laboratory testing, and engineering evaluation and analysis. Based on the results of these undertakings, the Geotechnical Study presents site-specific recommendations to be incorporated into the Project design and construction in order to address geotechnical concerns identified in the study.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with earthquake fault rupture would be less than significant with incorporation of mitigation from the General Plan Program EIR.

No portion of the City is located within a designated Alquist–Priolo fault zone. Two known faults have been documented to directly underlie the City. These active and potentially active faults are referred to as the San Joaquin Hills blind thrust (SJHBT) and an unnamed "young" fault at the west edge of the City. The SJHBT fault underlies the City and surrounding areas (City of Laguna Hills 2009b). While the location and characteristics of this fault are less well-known than for surface faults, if movement were to occur on a buried fault like the SJHBT fault, the most likely results would be regional uplift (i.e., regional elevational increases in the Earth's crust) and not isolated surface rupture.

In addition to the SJHBT, one short, nearly northeast–southwest trending "young" fault segment has been mapped at the far western edge of the City, near the intersection of Moulton Parkway and Aliso Creek Road. No determination has been made by the state that this fault is either active or potentially active, and the potential for surface fault rupture is unknown. A similar young fault is mapped approximately 2,000 feet west of, and roughly parallel to the long dimension of, the City. These faults are unlikely to be capable of independently generating a moderate-size earthquake. If fault movement were to occur on the "young" fault, it would likely be in conjunction with a large earthquake on the SJHBT.

Additionally, the Geotechnical Study (Appendix D) reviewed the potential for fault rupture hazards to affect the Project site, concluding that because of the depth of the SJHBT (approximately 2 kilometers below ground surface), the potential for ground surface rupture as a result of a seismic event along the SJHBT is remote. Therefore, impacts associated with earthquake fault rupture would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

ii) Strong seismic ground shaking?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with seismic ground shaking would be less than significant with incorporation of mitigation from the General Plan Program EIR.

The potential earthquake events from the largest potential earthquakes for the SJHBT and the unnamed young fault discussed previously could result in moderate-to-heavy damage from very intense ground shaking. While this condition exists in all of Southern California, widespread damage and loss of

life in the event of a major seismic event could result in localized and potentially significant impacts. Further, the Geotechnical Study (Appendix D) reviewed the potential for earthquakes to affect the Project site, finding that the Project site could potentially experience an earthquake of magnitude 6.6 during the life of the Project.

However, much like other development projects in the City and throughout the broader Southern California region, the Project will be required to comply with all applicable requirements contained in the current California Building Code (CBC), which was adopted and amended by the City in Chapter 10-28 of its Municipal Code, and regulates "the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and/or structures" in the City. The CBC includes specific provisions related to earthquake loads and seismic stress and would apply not only to demolition and construction associated with the Project, but also renovation of the portions of the Mall that would remain in place. Compliance with these CBC seismic requirements will ensure that structural integrity is maintained in the event of an earthquake. Therefore, impacts associated with seismic ground shaking would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

iii) Seismic-related ground failure, including liquefaction?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with seismic ground failure would be less than significant with incorporation of mitigation from the General Plan Program EIR.

According to the General Plan Update, Figure S-1, portions of the Project site are located in liquefaction hazard zones (City of Laguna Hills 2009a). Additionally, according to the Geotechnical Study (Appendix D), because of the depth to groundwater and soil types encountered during the geotechnical investigation, the potential for liquefaction at the Project site exists in subsurface layers of medium dense sandy silt and silty sand. However, the Geotechnical Study (Appendix D) also found that although the potential for localized liquefaction cannot be ruled out, the potential for larger-scale widespread liquefaction affecting the proposed structures is considered low. If localized sandy layers were to liquefy, the resulting minor settlements should not induce substantial property damage, because the layers are isolated and not continuous.

Much like other development projects in the City and throughout the broader Southern California region, the Project would be required to comply with all applicable requirements contained in the current CBC, which includes specific provisions related to seismic-related ground failure and liquefaction. Further, consistent with General Plan Program EIR Mitigation Measure GS-3, a Geotechnical Study has been prepared for the Project (Appendix D), which includes recommendations designed to ensure structural integrity over the life of the Project, regardless of the specific characteristics of the underlying soils. Specifically, Appendix D presents recommendations to help minimize the potential for loss or injury as a result of liquefaction and other geotechnical issues, some of which are summarized as follows:

- Site preparation and earthwork operations should be performed in accordance with applicable codes, safety regulations, and other local, state, or federal specifications, and the recommendations included in the report. References to maximum unit weights are established in accordance with the latest version of ASTM Standard Test Method D1557. The earthwork operations should be observed and tested by a representative of Kleinfelder (i.e., the preparer of Appendix D).
- To reduce the potential for volume changes of the existing fill soils, which may result in undesirable movement, the fill soils should be overexcavated and replaced with structural fill below any exterior item where such movement would not be acceptable. Placing a geogrid over the existing fill could also be considered to reduce the risk of differential settlements within the existing fill; however, this would not be as effective as overexcavation and replacement.
- Shallow foundations may need to be tied together with grade beams.
- The proposed five- and six-level parking structures, five- level residential apartment complexes, any two- to three-level major retail structures should be supported on a pile foundation system (driven or drilled piles). As an alternative to piles, these multi- level structures may be supported on shallow foundation system on ground improved by deep soil mixing.
- The proposed new, lightly loaded one-story structures may be supported on a conventional shallow foundation system (spread footings) supported on engineered fill designed to accommodate the estimated static and seismically-induced differential settlement.

- The multi-level structures may be supported on either driven or drilled piles. Driven piles are preferred due to the shallow groundwater conditions and the potential for caving during drilling. However, noise and vibrations associated with pile driving operations may be a concern. Design and construction recommendations for 14-inch and 16-inch-square precast pre-stressed concrete driven piles and for 30-inch-diameter cast-in-drilled-hole (CIDH) piles are presented in the following sections. Other pile systems such, as auger-cast displacement, Tubex, or Fundex piles may be considered. If these alternative pile foundation systems are desired, further evaluation will be required.

Compliance with the recommendations set forth in the Geotechnical Study would be required as a condition of approval for the Project. With incorporation of the recommended measures as required by the General Plan Program EIR Mitigation Measure GS-3, impacts associated with seismic ground failure would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

iv) Landslides?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with landslides would be less than significant with incorporation of mitigation from the General Plan Program EIR.

Both the Project site and the surrounding area are predominately flat and lack any substantial variation in topography such as hillsides or riverbanks that are typically associated with landslides. Additionally, the Project site is not located in or near an area prone to landslides as depicted on Figure 5.6-2 of the General Plan Program EIR. Therefore, no impacts associated with landslides would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project result in substantial soil erosion or the loss of topsoil?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with soil erosion and topsoil loss would be less than significant since projects are required to comply with (1) local and state building codes and requirements for erosion control and grading, (2) the City's Grading and Excavation Code, and (3) a National Pollution Discharge Elimination System (NPDES) permit and

consequently the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP).

The Project would involve earthwork activities that would disturb soil and leave exposed soil on the ground surface. Common causes of soil erosion from construction sites include water, wind, and being tracked off site by vehicles. However, construction activities would comply with state and local regulations for erosion control and grading during construction. The Project would be required to comply with standard regulations, including SCAQMD Rule 402 (Nuisance) and Rule 403 (Fugitive Dust), which would reduce construction erosion impacts. Rule 403 requires control measures to reduce fugitive dust from active operations, storage piles, or disturbed surfaces so as to not be visible beyond the property line or exceed 20% opacity. Rule 402 requires dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance off site. Specific BMPs associated with Rule 402 and Rule 403, which could be implemented on site, include, but are not limited to, the following:

- During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.
- During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas later in the morning, after work is completed for the day, and whenever winds exceed 15 miles per hour.
- Soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation.
- Speeds on unpaved roads shall be reduced to less than 15 miles per hour.
- All grading and excavation operations shall be halted when wind speeds exceed 25 miles.
- Dirt and debris spilled onto paved surfaces at the Project site and on the adjacent roadways shall be swept, vacuumed, and/or washed at the end of each workday.
- Should minor import/export of soil materials be required, all trucks hauling dirt, sand, soil, or other loose material to and from the construction site shall be tarped or a minimum 2 feet of freeboard shall be maintained.
- At a minimum, at each vehicle egress from the project site to a paved public road, a pad shall be installed consisting of washed gravel (minimum size: 1 inch)

maintained in clean condition to a depth of at least 6 inches and extending to a width of at least 30 feet and a length of at least 50 feet (or as otherwise directed by SCAQMD) to reduce trackout and carry out onto public roads.

Additionally, Project development would be subject to local and state building codes and requirements for erosion control and grading. For example, the Project would be required to comply with the City's Grading and Excavation Code. Further, since the Project is greater than 1 acre, it would be subject to NPDES requirements. Under the NPDES, a SWPPP would be required, along with BMPs designed to prevent erosion and siltation during construction. Therefore, with compliance with these federal, state, and local requirements, impacts associated with soil erosion and topsoil loss would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

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

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with unstable geologic units or soils would be less than significant with incorporation of mitigation from the General Plan Program EIR.

Landslide

Both the Project site and the surrounding area are predominately flat and lack any substantial variation in topography such as hillsides or riverbanks that are typically associated with landslides and the area in and around the Project site is not identified as being prone to landslide.

Liquefaction and Lateral Spreading

According to the General Plan Update, Figure S-1, portions of the Project site are located in liquefaction hazard zones (City of Laguna Hills 2009a). Additionally, according to the Geotechnical Study (Appendix D), because of the depth to groundwater and soil types encountered during the geotechnical investigation, the potential for liquefaction at the Project site exists in subsurface layers of medium dense sandy silt and silty sand. However, the Geotechnical Study also found that although the potential for localized liquefaction cannot be ruled out, the potential for larger-scale widespread liquefaction affecting the proposed structures is considered low. If localized sandy layers were to liquefy, the resulting minor

settlements should not induce substantial property damage, because the layers are isolated and not continuous.

Much like other development projects in the City and throughout the broader Southern California region, the Project will be required to comply with all applicable requirements contained in the current CBC, which includes specific provisions related to seismic-related ground failure and liquefaction. Further, consistent with General Plan Program EIR Mitigation Measure GS-3, a Geotechnical Study has been prepared for the Project (Appendix D), which includes recommendations designed to ensure structural integrity over the life of the Project, regardless of the specific characteristics of the underlying soils. Specifically, the Geotechnical Study presents recommendations to help minimize the potential for loss or injury as a result of liquefaction and other geotechnical issues, some of which are summarized in Section 3.6 (a.iii) above.

Lastly, lateral spreading related to liquefaction is more prevalent adjacent to topographic depressions or valley areas that form unsupported slopes or "free faces," none of which are present on the Project site or in the surrounding area.

Subsidence and Collapse

Neither natural nor man-made subsurface features that are known to encourage collapse, including mines, aggregate extraction operations, or karst topography, are known to underlay or occur adjacent to the Project site.

Subsidence due to groundwater withdrawal can occur due to substantial pumping of groundwater aquifers. However, the City does not overlie a groundwater basin, and there are no records of such subsidence occurring within the planning area (City of Laguna Hills 2009b). All of the areas of shallow groundwater are located within alluvial channels and creeks where unconfined groundwater exists at depths ranging from 5 to 20 feet. While these areas of unconfined shallow groundwater do exist within the City, the degree of hazard is generally low.

The Geotechnical Study (Appendix D) prepared for the Project found that during subsurface exploration, groundwater was encountered generally between 9 and 20 feet below ground surface, while historic high groundwater levels are mapped approximately 10 feet below the natural ground surface. Consistent with General Plan Program EIR Mitigation Measure GS-5, the Geotechnical Study (Appendix D) includes project-specific recommendations related to construction approaches and design features to protect the proposed structural improvements from the potential hazard posed by high groundwater.

Specifically, in regards to high groundwater, the Geotechnical Study (Appendix D) recommends that dewatering activities occur during construction, and that all subterranean walls and floor slabs that extend to and below a depth of 8 feet below current grades be designed for hydrostatic pressures and be waterproofed, as appropriate.

Therefore, with incorporation of the Geotechnical Study recommended measures, as required by General Plan Program EIR Mitigation Measures GS-3 and GS-5, impacts associated with unstable geologic units or soils would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) 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?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with expansive soils would be less than significant.

In the City, expansive clays occur in the soils covering the older alluvial deposits and all bedrock formations in the hillside areas and the upper reaches of canyons where colluvium is present (City of Laguna Hills 2009b). Additionally, according to the Geotechnical Study (Appendix D), the existing artificial fill and upper younger alluvial soils (upper 10 feet) that underlay the Project site generally consist of lean clay. Expansion index testing of clay soils indicates that the potential for expansion is moderate. However, much like other development projects in the City and throughout the broader Southern California region, the Project will be required to comply with all applicable requirements contained in the current CBC, which includes specific provisions related to expansive soils.

Moreover, consistent with General Plan Program EIR Mitigation Measure GS-3, a Geotechnical Study has been prepared for the Project (Appendix D), which includes recommendations designed to ensure structural integrity over the life of the Project, regardless of the specific characteristics of the underlying soils. Specifically, the Geotechnical Study presents recommendations to help minimize the potential for loss or injury as a result of expansive soil issues, some of which are summarized in Section 3.6 (a.iii) above.

Therefore, impacts associated with expansive soils would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with adequacy of soils to support septic systems would occur.

Wastewater service is currently provided on the Project site, and the Project would connect with the existing municipal sanitary sewer system. Septic or other alternative wastewater disposal systems would not be used since sufficient capacity exists to serve the Project, as indicated in Section 3.17(e). Therefore, no impacts associated with adequacy of soils to support septic systems would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following geology and soils mitigation measures from the General Plan Program EIR are applicable to the Project:

MM GS-3 The City shall require geologic and/or geotechnical studies for proposed new development and redevelopment projects located in areas identified as susceptible to landslides and liquefaction, and binding mitigation strategies must be adopted. Compliance with the recommendations set forth in site-specific geologic and/or geotechnical studies will be made a condition of the site development permit for subsequent projects. In addition, the City may require applicants to incorporate measures to stabilize and maintain slopes on a site-by-site basis, such as, but not limited to, proper planting, irrigation, retaining walls, and benching.

MM GS-5 The City shall require detailed groundwater studies in areas with known or suspected high groundwater levels that identify site-specific conditions. Where groundwater is identified as a potential site-specific hazard, construction approaches shall be incorporated into the design of projects to protect structures from the potential hazard, to the satisfaction of the City Engineer and Building Official.

3.7 Greenhouse Gas Emissions

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with generation of greenhouse gas (GHG) emissions would be significant and unavoidable, even with incorporation of mitigation from the General Plan Program EIR.

GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2E).[12] Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. This approach is consistent with the *Final Statement of Reasons for Regulatory Action* for amendments to the CEQA Guidelines, which confirms that an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009).

Here, the General Plan Program EIR estimated GHG emissions from construction and operations with General Plan buildout and compared those emissions to the City's existing (2008) GHG emissions. Because the margin of increase – 24% – was substantial,

[12] The CO_2E for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO_2E = (metric tons of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH_4 is 21, which means that emissions of 1 metric ton of CH_4 are equivalent to emissions of 21 metric tons of CO_2, and the GWP for N_2O is 310, based on the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report. Although the IPCC has released subsequent Assessment Reports with updated GWPs, CARB reporting and other statewide documents utilize the GWP in the IPCC Second Assessment Report. As such, it is appropriate to use the hardwired GWP values in CalEEMod from the IPCC Second Assessment Report.

the General Plan Program EIR determined that the climate change impact of General Plan buildout was significant.

Construction Emissions

The General Plan Program EIR estimated GHG emissions associated with construction activities for development under the General Plan. The EIR calculated CO_2 emissions associated with construction in tons per year using URBEMIS 2007 Version 9.2.4. The results were converted to metric tons of CO_2E using the conversion rate of 1 ton of CO_2 equals 0.90718474 MT CO_2E. Construction of the anticipated General Plan buildout for the City was estimated to total approximately 17,603 MT CO_2E over the 20-year buildout.

Project GHG emissions associated with temporary construction activity have been quantified using default values in CalEEMod. Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. On-site sources of GHG emissions include off-road equipment, and off-site sources include hauling and vendor trucks and worker vehicles. Emissions from on-site and off-site sources are combined for the purposes of this analysis; a breakdown of emissions by source is provided in Appendix B.

Table 8, Estimated Annual Construction Greenhouse Gas Emissions, presents construction emissions for the Project in 2016, 2017, and 2018 from on-site and off-site emission sources.

Table 8
Estimated Annual Construction Greenhouse Gas Emissions

	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
2016	2,918.21	0.54	0.00	2,929.50
2017	3,352.56	0.51	0.00	3,363.38
2018	892.34	0.12	0.00	894.90
Total Emissions	**7,163.11**	**1.17**	**0.00**	**7,187.78**

Notes: See Appendix B for detailed results.
MT CO_2 = metric tons carbon dioxide; MT CH_4 = metric tons methane; MT N_2O = metric tons nitrous oxide; MT CO_2E = metric tons carbon dioxide equivalent
Emissions presented in Table 8 reflect both the "unmitigated" and "mitigated" CalEEMod output. Incorporation of dust control measures and Tier 4 Interim equipment, as discussed in Section 3.3, do not reduce Project-generated construction GHG emissions.

As shown in Table 8, the estimated GHG emissions generated during Project construction would be approximately 2,930 MT CO_2E in 2016, 3,363 MT CO_2E in 2017, and 895 MT CO_2E in 2018 for a total of 7,188 MT CO_2E over the approximately 31 months of construction.

Estimated Project-generated construction emissions annualized over 20 years would be approximately 359 MT CO_2E per year. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the following operational emissions analysis.

As previously discussed, the General Plan Program EIR analysis estimated that construction of the anticipated General Plan buildout for the City would result in approximately 17,603 MT CO_2E over the 20-year buildout, and concluded that City-wide development would result in significant and unavoidable impacts to climate change as a result of General Plan 20-year buildout construction and operational GHG emissions combined. Project-generated construction emissions are estimated to be a total of 7,188 MT CO_2E over the 31 months of construction, which is consistent with the estimated General Plan buildout construction GHG emissions.

Operational Emissions

The General Plan Program EIR estimated GHG emissions (CO_2, CH_4, and N_2O) associated with vehicle miles traveled (VMT), electricity and natural gas consumption of buildings, and energy embodied in water consumption (i.e., the electricity required to extract, convey, treat, and distribute treated water to the project site) resulting from future development activities under the General Plan. The Program EIR estimated that existing (2008) VMT resulted in approximately 285,018 MT CO_2 per year, while VMT under buildout of the General Plan (2030) was projected to result in approximately 358,588 MT CO_2 per year. GHG emissions associated with VMT under buildout of the General Plan would increase by 73,570 MT CO_2E, which is an increase in approximately about 26% relative to existing conditions vehicle emissions. The total existing (2008) emissions were estimated to be 373,651 MT CO_2 per year, and buildout of the General Plan (2030) was projected to result in approximately 462,545 MT CO_2 per year. Overall, GHG emissions associated with buildout of the General Plan would increase by 88,894 MT CO_2E, which is approximately 24% relative to existing (2008) conditions. General Plan impacts to climate change were determined to be significant in the Program EIR on the basis of this 24% estimated increase.

Operation of the Project would result in GHG emissions from energy use (natural gas and generation of electricity consumed by the Project), vehicular traffic, solid waste generation, and generation of electricity associated with water supply and wastewater treatment. GHG emissions associated with Project-generated daily traffic were estimated using CalEEMod and were based on the trip generation rates described in Section 3.3, Air Quality. CalEEMod default values for mobile sources were used consistent with the

assumptions used in the air quality impact analysis. As discussed in Section 3.3, Air Quality, and Appendix B, it was assumed that the Project site enhancement would represent an increase in land use diversity, an increase in density for the residential component, and an improvement to the pedestrian network, which would result in a reduction in mobile source emissions.

CalEEMod has also been used to estimate emissions from the area and indirect (i.e., not generated on, but associated with, the Project site) sources during operation of the Project and operation of the existing land uses, which include operation of gasoline-powered landscape maintenance equipment; energy use (natural gas and generation of electricity consumed by the Project); generation of electricity associated with water supply, treatment, and distribution and wastewater treatment; and solid waste disposal. The estimation of proposed non-mobile operational emissions was based on CalEEMod land use defaults and total area (i.e., square footage) of the proposed land use. Annual electricity emissions were estimated using the emissions factors for Southern California Edison, which would provide electricity for the project. Default electricity and natural gas usage factors in CalEEMod were used for analyzed land uses. As explained in Section 3.3, Air Quality, and Appendix B, it was assumed that the Project would comply with 2013 Title 24 standards, which would represent an improvement of 25% above 2008 Title 24 energy efficiency standards.

CalEEMod default values for consumption factors for water supply, wastewater treatment, and solid waste were also used to estimate GHG emissions. It was assumed that a water conservation strategy would be applied that would result in a 20% reduction in indoor water use per the California Green Building Standards (CALGreen). In regards to solid waste, a 75% diversion rate was assumed consistent with Assembly Bill 341 (Chesbro, Chapter 476, Statutes of 2011), which represents a 25% increase from the solid waste diversion requirements of Assembly Bill 939, Integrated Waste Management Act.

The estimated operational project-generated GHG emissions from area sources (landscape maintenance), energy usage, motor vehicles, solid waste generation, water supply, and wastewater treatment for the Project is shown in Table 9, Estimated Annual Net Operational Greenhouse Gas Emissions.

Estimated amortized construction emissions of 357 MT CO_2E per year over 20 years was added to the net change in operational emissions and compared to the proposed SCAQMD GHG threshold for commercial projects and residential projects.

Table 9
Estimated Annual Net Operational Greenhouse Gas Emissions

	MT CO_2/year	MT CH_4/year	MT N_2O/year	MT CO_2E/year
Proposed Project				
Area Sources	16.73	0.02	0.00	17.08
Energy (Electricity and Natural Gas)	8,837.02	0.34	0.11	8,876.85
Mobile Sources	26,215.98	1.03	0.00	26,237.67
Solid Waste	204.71	12.10	0.00	458.78
Water and Wastewater	880.89	0.24	0.13	926.89
Combined Emissions	***36,155.33***	***13.73***	***0.24***	***36,517.27***
Existing				
Area Sources	0.08	0.00	0.00	0.08
Energy (Electricity and Natural Gas)	6,184.46	0.25	0.07	6,211.46
Mobile Sources	25,103.69	0.98	0.00	25,124.14
Solid Waste	201.60	11.91	0.00	451.81
Water and Wastewater	521.83	0.14	0.08	548.89
Combined Emissions	***32,011.66***	***13.28***	***0.15***	***32,336.38***
Net increase (Proposed Project minus Existing)				**4,180.89**
Net increase (Proposed Project minus Existing) Plus Amortized Construction Emissions				***4,537.89***

Notes: See Appendix B for detailed results.
MT CO_2 = metric tons carbon dioxide; MT CH_4 = metric tons methane; MT N_2O = metric tons nitrous oxide; MT CO_2E = metric tons carbon dioxide equivalent
Emissions presented in Table 8 reflect compliance with 2013 Title 24 energy efficiency requirements, an increase in land use diversity, increase in residential density, improvement of the pedestrian network, application of an indoor water conservation strategy (20% reduction consistent with CALGreen requirements), use of water-efficient irrigation systems, and a 75% diversion of solid waste per Assembly Bill 341.

Table 10 presents a comparison of the Project annual net change in GHG emissions and General Plan annual City-wide buildout GHG emissions as estimated in the General Plan Program EIR. The General Plan Program EIR emission estimates assume that the entire General Plan Program EIR development projections would be constructed within the 20-year planning horizon and 2030 would represent full buildout conditions.

Table 10
Comparison of the Project and General Plan EIR City-Wide Buildout Annual Operational Greenhouse Gas Emissions

Emission Source	Existing GHG Emissions (2008) (MT CO_2E/year)	Buildout GHG Emissions (2030) (MT CO_2E/year)	Net Increase In GHG Emissions (MT CO_2E/year)
General Plan EIR Vehicle Sources	285,018	358,588	73,570
General Plan EIR Building Energy Source	86,365	101,587	15,222

Table 10
Comparison of the Project and General Plan EIR City-Wide Buildout Annual Operational Greenhouse Gas Emissions

Emission Source	Existing GHG Emissions (2008) (MT CO_2E/year)	Buildout GHG Emissions (2030) (MT CO_2E/year)	Net Increase In GHG Emissions (MT CO_2E/year)
General Plan EIR Embodied Energy of Water Consumption	2,268	2,370	**102**
General Plan EIR 2030 City-wide Buildout (2030) Total	**373,651**	**462,545**	**88,894**
Project Net Change (Project minus Existing) (2018) Total	**32,336**	**36,517**	**4,181[a]**
Project Emissions Disproportionate to Estimate for General Plan Buildout?	No	No	No

Source: City of Laguna Hills 2009b
Notes: Based on Table 6-4 City of Laguna Hills General Plan Summary of Greenhouse Gas Emissions under Existing Conditions and Buildout of the General Plan.
MT CO_2E – metric tons carbon dioxide equivalent
[a] Project-generated amortized construction emissions not included in the operational emissions estimate to provide a comparison to the General Plan Program EIR operational emissions that do not include amortized construction emissions.

As shown in Table 10, the General Plan Program EIR analysis estimated that GHG emissions associated buildout of the General Plan in 2030 would result in an increase by 88,894 MT CO_2E/year relative to existing conditions, and concluded that operational and construction GHG emissions resulting from planned City-wide development in 2030 would result in significant and unavoidable impacts to climate change. Project-generated net operational GHG emissions are estimated to be approximately 4,181 MT CO_2E/year. With the addition of amortized construction emissions, annual net operational emissions would be approximately 4,538 MT CO_2E/year. Project-generated net-operational emissions (4,181 MT CO_2E/year without amortized construction emissions) would not exceed or absorb a disproportionate share of the increase in GHG emissions estimated for buildout of the General Plan (88,894 MT CO_2E/year).

The General Plan Program EIR concluded that, "The General Plan's incremental contribution to global climate change would be considered cumulatively significant because it would generate a substantial increase in GHG emissions relative to existing conditions." General Plan Program EIR Mitigation Measures GCC-1 through GCC-14 were identified to reduce project-generated GHG emissions and associated impacts. However, the Program EIR determined that impacts related to climate change would be significant and unavoidable with the implementation of required mitigation from the General Plan Program EIR.

Therefore, with incorporation of General Plan Program EIR mitigation, impacts associated with generation of GHG emissions would be significant, although the level of impact would not be substantially more severe than those levels identified in the General Plan Program EIR.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No New or Substantially More Severe Significant Impact. The question whether a project or program would "conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases" was not part of the CEQA Guidelines when the General Plan Program EIR was certified, and the General Plan Program EIR did not address this question. Accordingly, this Addendum is not required to address the question because changes in CEQA regulations do not require additional analysis after an EIR has been certified.

Nevertheless, it is noted that the Project is not inconsistent with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. The Climate Change Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the 2010 amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009b). The First Update to the Climate Change Scoping Plan was approved by the CARB Board on May 22, 2014. The Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The Scoping Plan Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments, and defines CARB's climate change priorities for the next 5 years and sets the groundwork to reach California's long-term climate goals. Under the Scoping Plan and the Scoping Plan Update, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles) and associated fuels, among others.

The City of Laguna Hills 2009 General Plan includes goals and policies to reduce GHG emissions and the City's cumulative impact to global climate change. As part of the Conservation and Open Space Chapter, the City adopted implementation measure COS-8 which calls for preparation of a Climate Action Plan; however, a Climate Action Plan consisting of the specified components (e.g., GHG inventory, reduction target, feasible mitigation measures to meet the reduction target) has yet to be adopted. The Program EIR prepared for the Laguna Hills General Plan included the General Plan implementation programs that would reduce GHG emissions as mitigation measures to be adopted in the Mitigation Monitoring and Reporting Program.

The Project would be built in compliance with the California Title 24 and California Building Code requirements, as well as the California Mechanical Code, Plumbing Code, Electrical Code, and Energy Code, ensuring that the Project would be built consistent with current energy efficient standards. In addition, the Project would include various sustainable or "green" building strategies as Project design features, as described in Section 3.3, Air Quality. As such, the Project would implement the General Plan Program EIR GHG Mitigation Measures GCC-2, which encourages incorporation of green building standards (similar to General Plan Program EIR Mitigation Measure AQ-14). In addition, the Project would comply with General Plan Program EIR Mitigation Measure GCC-3, which that encourages mixed-use and infill development, and would support General Plan Program EIR Mitigation Measure GCC-6 and GCC-7, which encourage provision of pedestrian and bicycle improvements and support facilities.

Because the City of Laguna Hills has not adopted a climate action plan, there is currently no local guidance that would be applicable to the proposed construction project. At this time, no mandatory GHG regulations or finalized agency guidelines would apply to implementation of this project, and no conflict would occur.

Applicable General Plan Program EIR Mitigation Measures

The following GHG emissions mitigation measures from the General Plan Program EIR are applicable to the Project:

MM GCC-2 The City shall evaluate proposed development projects throughout the City using LEED standards, GreenPoint Rated, and/or other green building standards. The City encourages all future development and major renovation projects within the following General Plan designations to achieve LEED certification, and/or other green certifications: High Density Residential, Village Commercial, Freeway Commercial,

Community Commercial, Office Professional, Mixed Use, Neighborhood Mixed Use, and Community/Private Institution. The City shall investigate the potential to offer density bonus incentives on residential projects that achieve LEED certification and other green certifications and ratings.

MM GCC-3 The City shall actively encourage the development and maintenance of mixed uses, particularly in the Mixed Use and Neighborhood Mixed Use areas, by maintaining a list of sites available for mixed use and infill development and making the list available to developers. The City shall establish developer incentives to encourage well-designed mixed use and infill development projects in these areas.

MM GCC-6 The City shall work with project proponents to ensure that safe and attractive sidewalks, walkways, bike lanes, and crosswalks that facilitate use are provided in accordance with City standards. The City shall work with developers to construct links to adjacent communities, using open space easements and utility easements where appropriate.

MM GCC-7 The City shall provide bicycle support facilities (e.g., bicycle racks, personal lockers, showers, and other bicycle riding support facilities) in new development and revitalization projects to encourage bicycle riding as a transportation mode. The City shall adopt a formal bike support facility ordinance and/or guidelines applicable to private and public development.

MM GCC-11 The City shall encourage water conservation throughout Laguna Hills in the following ways:

1. Encourage water developments to apply water-conserving principles, including such techniques and materials as native or low water use (drought-tolerant) plants, low precipitation sprinkler heads, bubblers, drip irrigation systems, and timing devices.
2. Support the production of recycled water and develop new uses for recycled water.
3. Apply water conservation techniques/project "water budgets" to achieve a significant reduction over historic use and over average uses for the proposed type of development by incorporation of water conservation devices, such as low-flow toilets, flow restriction

devices, and water conserving appliances in new public and private development and rehabilitation projects.

MM GCC-14 The City shall continue to implement solid waste diversion programs as well as public education programs as outlined in the City's Source Reduction and Recycling Element required by Assembly Bill 939. As part of this program, work with the private sector contractor providing solid waste services within the City to ensure that appropriate recycling containers, procedures, and education are readily available throughout the community. Develop programs to maximize recycling of waste products generated by the community to prolong useful life of the local landfills.

3.8 Hazards and Hazardous Materials

The following analysis is based on the Phase I Environmental Site Assessment conducted for the Five Lagunas Project site, included as Appendix J to this Addendum, as well as database searches of the Cortese, Envirostor, and Geotracker websites conducted by Dudek staff.

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with routine transport, use, or disposal of hazardous materials would be less than significant.

During Project construction, potentially hazardous materials would be handled in small quantities on the Project site. These materials would include gasoline, diesel fuel, lubricants, and other petroleum-based products used to operate and maintain construction equipment. Handling of these potentially hazardous materials would be temporary and would coincide with the short-term construction phase of the Project. Although these materials may be stored on the Project site, only the quantities needed are expected to be kept on site, and excessive amounts are not expected to be stored. Consistent with federal, state, and local requirements, removal and disposal of hazardous materials from the Project site would be conducted by a permitted and licensed service provider. Federal regulations related to the transport of hazardous materials include the Standards Applicable to the Transporters of Hazardous Waste of the Resource Conservation and Recovery Act of 1976 (Code of Federal Regulations, Part 263) and the Hazardous Materials Transportation Act of 1975 (Code of Federal Regulations, Parts 105–109). State regulations include the California Health and Safety Code (Section 25160–25166.5) and the Standards Applicable to Transporters of Hazardous Waste (CCR Title 22, Division 4.5, Chapter 13), both of which are administered

by the Department of Toxic Substances Control. Local regulation includes the County of Orange Municipal Code, Chapter 15.33 Hazardous Materials.

Any handling, transport, use, or disposal would comply with all applicable federal, state, and local agencies and regulations, including the EPA, the California Department of Toxic Substances Control, Caltrans, the California Occupational Safety and Health Administration, the Orange County Environmental Health Division (the Certified Unified Program Agency [CUPA] for Orange County), and the Orange County Fire Authority (OCFA). Additionally, as mandated by the U.S. Occupational Safety and Health Administration, all hazardous materials stored on site would be accompanied by a Material Safety Data Sheet, which would inform on-site personnel as to the necessary remediation procedures in the case of accidental release.

Since the Project would include commercial and residential uses, potentially hazardous materials associated with typical housekeeping and maintenance activities would be handled and stored on the Project site. Types of these materials would vary greatly, but would generally include household cleaning products, paints, fertilizers, and herbicides and pesticides. Many of these materials are considered Household Hazardous Wastes, Common Wastes, and/or Universal Wastes by the EPA, which considers these types of wastes to be common to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of. Federal, state, and local regulations allow these types of wastes to be handled and disposed of with less stringent standards than other hazardous wastes, and many of these wastes do not have to be managed as hazardous waste. In addition, any hazardous materials would be limited in quantity and concentrations, consistent with other similar commercial and residential communities in the City, and any handling, transport, use, and disposal would comply with applicable federal, state, and local agencies and regulations.

Therefore, impacts associated with routine transport, use, or disposal of hazardous materials would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with accidental release of hazardous materials into the environment would be less than significant.

As discussed in Section 3.8(a), any handling, transport, use, and disposal of hazardous materials would comply with all applicable federal, state, and local requirements. Both short-term construction and long-term operation of the Project would adhere to the policies and programs established by all applicable federal, state, and local agencies, including the EPA, Department of Toxic Substances Control, California Occupational Safety and Health Administration, County of Orange, and OCFA. Adherence with the regulations administered by these agencies would ensure that any interaction with hazardous materials would occur in the safest possible manner, reducing the opportunity for the accidental release of hazardous materials into the environment. Any handling of hazardous materials would be limited in quantity and concentration, consistent with other similar residential communities. Additionally, as mandated by the U.S. Occupational Safety and Health Administration, all hazardous materials stored on site would be accompanied by a Material Safety Data Sheet, which would inform on-site personnel as to the necessary remediation procedures in the case of accidental release.

According to the Phase I Environmental Site Assessment (ESA) prepared for the Project, three auto service facilities have historically operated on the Project site. These three facilities include the Sears Auto Center, Firestone Complete Auto Care Center, and Just Tires. These facilities are identified as historical oil or used-oil underground storage tank (UST) operators. Current and historical operations at the three on-site auto repair facilities represents a Recognized Environmental Condition (REC)[13] due to the potential for subsurface impact from hydraulic lifts, wastewater treatment devices (oil/water separator or clarifiers), and use and storage of oil and other auto maintenance chemicals (TŌR Environmental 2013). A Phase II ESA was prepared for the Sears Auto Center, which has been decommissioned and the UST removed. Soil tests and groundwater tests were conducted and drilling occurred at the former UST site. Very low concentrations of VOCs were found in soil samples and no VOCs were found in groundwater. VOC levels in soil samples were determined to be at levels that classify as Level "D" per the California Hazard Screening level, which is the lowest designation. Accordingly, no impact to the public would result from development of the former Sears Auto Center portion of the Project site.

However, due to the identification of RECs, earthwork and other similar subsurface construction activities must comply with 8 CCR 5192(A), which requires employers

[13] A REC, as defined in ASTM Standard Practice E1527-05, is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property (ASTM 2005).

(e.g., construction contractors) to develop and implement a written safety and health program for their employees involved in hazardous waste operations, including the movement of potentially contaminated soils during construction. The written safety and health program shall be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations. Mandatory contents of the written safety and health program are established by 8 CCR 5192(B), which establishes that the program shall incorporate the following: (1) an organization structure; (2) a comprehensive workplan; (3) a site-specific safety and health plan; (4) a safety and health training program; (5) a medical surveillance program; (6) the employer's standard operating procedures for safety and health; and (7) any necessary interface between general program and site-specific activities.

Additionally, 8 CCR 5192(D) states that an employer who retains contractor or sub-contractor services for work in hazardous waste operations shall inform those contractors, sub-contractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety, or other hazards of the hazardous waste operation that have been identified by the employer, including those identified in the employer's information program. Each contractor/sub-contractor is responsible for compliance with all safety and health protection requirements for its employees. An employer's safety and health plan can be used by contractors/sub-contractors at the site if it appropriately addresses their activity and potential safety and health hazards.

Further, the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard applies to five distinct groups of employers and their employees. This includes any employees who are exposed or potentially exposed to hazardous substances, including hazardous waste, and who are engaged in one of five operations, including both required and voluntary clean-up operations at a site affected by hazardous materials. HAZWOPER training standards are governed by the provisions established in 29 CFR 1910.120.

Should any contaminated soils be identified during construction activities, the contaminated soil is required to be disposed of properly in accordance with all applicable regulations. All hazardous waste storage must comply with the requirements in Title 22, CCR, Sections 6626.250 to 66265.260.

There are no plans to demolish the Firestone Complete Auto Care Center, located on the northwest region of the Project site, as part of the Project. Therefore, soil disturbance would not occur and construction workers and the public would not be exposed to possible contaminants that could be associated with the Firestone Complete Auto Care Center.

Just Tires would be removed as part of the Project. Upon decommissioning of Just Tires, a written safety and health program would be developed to protect construction workers and the public, as outlined above for the Sears Auto Center area. The Project incorporates these measures as required by federal and state regulations.

In addition, the Phase I ESA indicates the historical presence of a 1,000-gallon diesel fuel UST associated with the existing JC Penney store. Due to the potential for residual impact from stored petroleum products, the presence of historical UST at the JC Penney facility represents a REC (TŌR Environmental 2013). However, the JC Penney department store will be retained as part of the Project. Therefore, soil disturbance would not occur and construction workers and the public would not be exposed to possible contaminants that could be associated with the JC Penney UST.

Six leaking underground storage tank (LUST) sites were identified adjacent and upgradient to the Project site. Review of reports indicate that total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, xylenes, and fuel oxygenates have impacted the groundwater, including groundwater monitoring wells on the Project site. Since recent groundwater sampling indicates groundwater beneath the Project site has been impacted, the adjacent upgradient LUST sites represent a REC (TŌR Environmental 2013).Therefore, the written safety and health program prepared for the Project, under the oversight of the applicable regulatory agencies and in accordance with applicable laws and regulations, will outline precautions that would be taken in the event that impacted soil or groundwater is encountered during construction.

Because of the age of the existing Mall building, there is a possibility that potentially hazardous building materials, such as asbestos-containing material or lead-based paint, may be encountered during demolition of this structure. Given that the majority of the Laguna Hills Mall was developed in 1973, building materials must be assumed to contain asbestos unless sampling or documentation indicates that no asbestos is present. Upon demolition of the existing Mall structure, suspect materials would be characterized, tested, and planned for, monitored, and documented (TŌR Environmental 2013). At the federal and state levels, the U.S. EPA (Code of Federal Regulations, Part 763) and the Department of Industrial Relations are responsible for the regulation of asbestos removal (CCR Title 8, Part 1529), respectively. As required by federal, state, and local regulations, if hazardous materials are present, demolition and removal of these materials from the Project site would be conducted by contractors licensed and permitted to handle these materials.

Therefore, impacts associated with accidental release of hazardous materials into the environment would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with emitting or handling hazardous emissions or materials within 0.25 mile of a school would be less than significant.

The closest school to the Project site is Ralph A. Gates Elementary School (23882 Landisview Avenue, Lake Forest, California 92630), located approximately 0.5 mile to the northeast. In addition to this school occurring outside of a 0.25-radius around the Project site, the Project would not generate air toxics that would require a permit by SCAQMD. Therefore, no impacts associated with emitting or handling hazardous emissions or materials within 0.25 mile of a school would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with hazardous materials sites would be less than significant.

A hazardous materials records search of various regulatory databases was conducted for the General Plan Program EIR. The Project site was not included on any list identified in Government Code section 65962.5. Since this records search was conducted, no new uses or activities have been introduced onto the Project site that would warrant the site to be included on any of these lists, as was confirmed upon review of all Cortese List data resources (CalEPA 2016; DTSC 2016a, 2016b; SWRCB 2016a, 2016b). Therefore, no impacts associated with hazardous materials sites would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with public airport hazards would occur.

The closest public airport to the Project site is John Wayne Airport, located approximately 10 miles to the northwest. The Project would not be located in the airport influence area for the John Wayne Airport (ALUC 2005). People residing or working in the project area would not be exposed to safety hazards associated with a private airport. Therefore, no impacts associated with public airport hazards would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with private airstrip hazards would occur.

The Project is not located within the vicinity of a private airstrip. No private airstrips exist within at least 2 miles of the Project site. People residing or working in the project area would not be exposed to safety hazards associated with a private airstrip. Therefore, no impacts associated with private airstrip hazards would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with an adopted emergency response or evacuation plan would be less than significant.

The General Plan Program EIR found that the relatively small scale of any new development that would result from implementation of the General Plan Update was not expected to impair implementation of, or physically interfere with the Laguna Hills Emergency Operations Plan. Potential impacts regarding interference with the Emergency Operations Plan were adequately analyzed in the General Plan Program EIR, and Project development would not change the conclusions of the General Plan Program EIR.

Temporary lane closures and occasional street closures may be required, particularly during the delivery of heavy equipment. A Traffic Control Plan to provide safe and efficient traffic flow in the area and on the Project site would be prepared prior to construction. The Traffic Control Plan would be prepared in consultation with the City and would contain project-specific measures for noticing, signage, policy guidelines, and the limitation of lane closures to off-peak hours.

As is standard practice in the City, should lane or street closures be required, the City would notify the Orange County Sherriff's Department (OCSD) and/or OCFA of the location, timing, and duration of any such closure prior to the start of construction activities. These notifications would allow OCSD and OCFA to plan accordingly so that any lane of street closures do not effect emergency response in the project area. Therefore, impacts associated with an adopted emergency response or evacuation plan would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with wildland fires would occur.

Much like the broader project area, the Project site is predominantly developed and urbanized. No wildland areas or urban-wildland interfaces that would potentially expose people or structures to a significant risk of loss, injury, or death involving wildland fires occur in the project area. Therefore, no impacts associated with wildland fires would occur, and level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No hazards and hazardous materials mitigation measures were required in the General Plan Program EIR.

3.9 Hydrology and Water Quality

The following analysis is based, in part, on the December 2015 Preliminary WQMP and September 2015 Hydrology and Hydraulic Report, both of which were prepared by Psomas Engineers and included in this document as Appendix E.

a) Would the project violate any water quality standards or waste discharge requirements?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with water quality standards or waste discharge requirements would be less than significant.

As with future development anticipated under the General Plan Update and considered in the General Plan Program EIR and in compliance with General Plan Program EIR Mitigation Measure HWQ-1, the Project would be required to comply with the requirements of the NPDES Stormwater Discharge Permit. Under the NPDES, a SWPPP would be required, along with BMPs designed to control the discharge of pollutants from the Project site; appropriate BMPs and other requirements of the NPDES Stormwater Discharge Permit would be incorporated into the Project where applicable. Typical BMPs consist of both structural and nonstructural measures, including retention basins and first flush diversion devices, porous pavements, public education, street sweeping, and toxic waste collection plans.

To evaluate and address potential impacts on water quality, a Preliminary WQMP (Appendix E) was prepared. The primary purpose of the Preliminary WQMP is to demonstrate, primarily through modeling results, exhibits, and narrative, how the Project would comply with the requirements of the local NPDES Stormwater Discharge Permit in an effort to minimize water quality effects. For the purposes of the Preliminary WQMP only, the Project site was subdivided into two areas (residential and commercial), with treatment volumes being calculated accordingly for each area.

Consistent with the Orange County Drainage Area Management Plan (DAMP) and South Orange County Hydromodification Management Plan (HMP), since the Project would result in the addition or replacement of less than 50% of the impervious surfaces of a previously existing development site, and the existing development was not subject to previous WQMP requirements, the numeric sizing criteria discuss in the Preliminary WQMP applies to the addition or replacement, and not the entire development.

As outlined in the Preliminary WQMP, the Project would upgrade the existing on-site storm drain facilities, constructing three detention basins (e.g., hydromodification control BMPs) that have been designed to collect the vast majority of on-site stormwater flows. Detention Basin "A" will be located in the basement of a residential parking structure and will have a volume of 2.3 acre-feet. Detention Basin "B," the second of the three basins, will also be located in the basement of a residential parking structure and will have a volume of 2.3 acre-feet. The last basin, Detention Basin "C," will be located in the basement of the commercial parking structure and will have a volume of 3.9 acre-feet.

In addition to these basins, other bioretention BMPs would be incorporated into the Project design to treat stormwater on the required impervious areas. Specific BMPs would include bioretention with underdrains, stormwater planter boxes with underdrains, vegetated bioretention systems, and dry extended detention basins improvements designed to slow and treat runoff (Figure 6) (see the Preliminary WQMP [Appendix E] for a list of specific BMPs to be used on the Project site).

Therefore, impacts associated with water quality standards or waste discharge requirements would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with groundwater supplies and recharge would be less than significant.

The Project is within the service area of ETWD. Due to the underlying geography of the area, ETWD does not have any groundwater resources (ETWD 2011). Thus, the Project would not rely on groundwater supplies as a source for water. Additionally, the Program EIR found that development associated with the General Plan Update does not have the potential to convert existing groundwater recharge areas to urbanized uses or otherwise affect groundwater recharge (City of Laguna Hills 2009b). Further, the City is not underlain by a named groundwater basin.

The Geotechnical Study (Appendix D) prepared for the Project found that during subsurface exploration, groundwater was encountered generally between 9 and 20 feet below ground surface, while historic high groundwater levels are mapped approximately 10 feet below the natural ground surface.

The Project would reduce impervious surface on the Project site and would construct three detention basins and other bioretention BMPs, including bioretention with underdrains, stormwater planter boxes with underdrains, vegetated bioretention systems, and dry extended detention basin improvements, many of which would promote groundwater recharge on the Project site. Therefore, impacts associated with groundwater

supplies and recharge would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with altering the existing drainage pattern and erosion would be less than significant.

Under the current conditions, stormwater flows on the Mall site are collected via the existing engineered storm drain system, and conveyed into multiple stormwater lines that eventually connect to an existing 69-inch stormdrain mainline that exits the site at Calle de la Louisa and Health Center Drive. No natural drainages, such as a stream or river, occur on or adjacent to the Project site.

As outlined in the Preliminary WQMP (Appendix E), the Project would upgrade the existing on-site storm drain facilities, constructing three detention basins that have been designed to collect the vast majority of on-site stormwater flows. In addition to these basins, other bioretention BMPs would be incorporated into the Project design to treat stormwater on the required impervious areas. Specific BMPs would include bioretention with underdrains, stormwater planter boxes with underdrains, vegetated bioretention systems, and dry extended detention basins improvements designed to slow and treat runoff. Implementation of the proposed engineered storm drain system and the aforementioned BMPs would ensure that any changes to the existing drainage pattern would not have an adverse effect on either erosion or siltation on or off site.

Therefore, impacts associated with altering the existing drainage pattern and erosion would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with altering the existing drainage pattern and flooding would be less than significant.

Under the current conditions, stormwater flows on the Mall site are collected via the existing engineered storm drain system, and conveyed into multiple stormwater lines that eventually connect to an existing 69-inch stormdrain mainline that exits the site at Calle de la Louisa and Health Center Drive. No natural drainages, such as a stream or river, occur on or adjacent to the Project site.

The Project would upgrade the existing on-site storm drain facilities, constructing three detention basins and other bioretention BMPs to treat stormwater on the required impervious areas. Specific BMPs would include bioretention with underdrains, stormwater planter boxes with underdrains, vegetated bioretention systems, and dry extended detention basins improvements designed to slow and treat runoff. Implementation of the proposed engineered storm drain system and the aforementioned BMPs would ensure that any changes to the existing drainage pattern would not have an adverse effect on flooding on or off site.

Therefore, impacts associated with altering the existing drainage pattern and flooding would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with stormwater drainage capacity would be less than significant.

The Project would upgrade the existing on-site storm drain facilities, constructing three detention basins and other bioretention BMPs to treat stormwater on the required impervious areas. Specific BMPs would include bioretention with underdrains, stormwater planter boxes with underdrains, proprietary vegetated bioretention systems, and dry extended detention basins improvements designed to slow and treat runoff.

The Project would meet applicable local and regional stormflow criteria by moderating flow and duration through on-site hydrologic control measures and addressing sediment loss through on-site management controls. The Hydrology and Hydraulic Report (Appendix E) includes the results of modeling conducted to ensure the proposed on-site stormwater drainage system's effectiveness during design storm events. According to the report, the Project would maintain existing drainage patterns, and any on-site runoff

would be treated and detained in conformance with Orange County WQMP and hydromodification requirements. These requirements will result in a significant decrease of flows in the proposed conditions.

Therefore, impacts associated with stormwater drainage capacity would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

f) Would the project otherwise substantially degrade water quality?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with degradation of water quality would be less than significant.

As with future development anticipated under the General Plan Update and considered in the General Plan Program EIR and in compliance with General Plan Program EIR Mitigation Measure HWQ-1, the Project would be required to comply with the requirements of the NPDES Stormwater Discharge Permit. Under the NPDES, a SWPPP would be required, along with BMPs designed to control the discharge of pollutants from the Project site; appropriate BMPs and other requirements of the NPDES Stormwater Discharge Permit would be incorporated into the Project where applicable. Typical BMPs consist of both structural and nonstructural measures, including retention basins and first flush diversion devices, porous pavements, public education, street sweeping, and toxic waste collection plans. The Project would also implement BMPs during grading and construction activities to minimize water quality impacts. Therefore, impacts associated with degradation of water quality would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with placing housing within a 100-year flood hazard area would be less than significant with incorporation of mitigation from the General Plan Program EIR.

According to the Federal Emergency Management Agency Flood Insurance Rate Map, the Project site is not located within the 100-year flood hazard area (FEMA 2009). Therefore, no impacts associated with placing housing within a 100-year flood

hazard area would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with placing structures within a 100-year flood hazard area would be less than significant with incorporation of mitigation from the General Plan Program EIR.

As described in Section 3.9(g), the Project site is not located within the 100-year flood hazard area (FEMA 2009). Therefore, no impacts associated with placing structures within a 100-year flood hazard area would occur, and the level of impact would not increase from those levels identified in the Program EIR.

i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with flooding would be less than significant with incorporation of mitigation from the General Plan Program EIR.

The Oso Creek Dam (i.e., the dam structure associated with Lake Mission Viejo) is located more than 5 miles northeast of the Project site in the City of Mission Viejo. The Program EIR found that failure of this dam could potentially affect the southeastern-most edge of the City adjacent to I-5, well outside of the Project area. Because of the physical barrier provided by I-5 and the considerable distance between the dam and the Project site, flooding due to levee or dam failure is unlikely to impact the Project site. Additionally, the Project site is not located within the 100-year flood hazard area (FEMA 2009).

Further, to help prevent flooding impacts from lesser, more common storm events, the Project would upgrade the existing on-site storm drain facilities, constructing three detention basins that would be designed to collect the vast majority of on-site stormwater flows. Additionally, The Hydrology and Hydraulic Report (Appendix E) includes the results of modeling conducted to ensure the proposed on-site stormwater drainage system's effectiveness during design storm events. According to the report, the Project would maintain existing drainage patterns, and any on-site runoff would be treated and detained in conformance with Orange County WQMP and hydromodification requirements. These requirements will result in a significant decrease of flows in the proposed conditions.

Therefore, no impacts associated with flooding would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

j) Inundation by seiche, tsunami, or mudflow?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with seiche, tsunami, and mudflow would be less than significant.

The Project site is not at risk for inundation by seiche, tsunami, or mudflow. Water bodies in the broader project area include the Veeh Reservoir, two man-made lakes in the City of Lake Forest, the El Toro Reservoir, and Lake Mission Viejo, which are approximately 1 mile northwest, 1 mile northeast, 2 miles east, and 3 miles east of the Project site, respectively. Because the Project site is not located in the vicinity of these bodies of water, it is unlikely that the Project site would experience inundation by a seiche. The Project site and surrounding areas are flat, and it is unlikely that inundation by mudflow would occur. The Project site is approximately 7 miles northeast of the Pacific Ocean and would not be at risk for inundation by a tsunami. Therefore, no impacts associated with seiche, tsunami, and mudflow would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following hydrology and water quality mitigation measure from the General Plan Program EIR is applicable to the Project.

MM HWQ-1 The City shall adopt, amend, and/or continue to enforce City policies, regulations, and programs to decrease stormwater and urban runoff pollution while considering the following:

1. Promote the use of low impact development standards in new development and redevelopment projects.
2. Continue to implement the National Pollutant Discharge Elimination System (NPDES) stormwater permits issued by the State and Regional Water Quality Control Board. Require new development and revitalization projects to incorporate Best Management Practices (BMPs) pursuant to the NPDES permit to ensure that the City complies with applicable state and federal regulations.

3. Educate residents regarding surface water quality pollutants, especially those that may result from community activities, such as car washes.

Further, as a condition of Project approval, require new development and redevelopment to provide adequate on-site and off-site stormwater and flood management facilities to control direct and indirect erosion and discharges of pollutants and/or sediments. To determine the facility and Best Management Practices (BMP) needs, the City will require, when necessary, a hydrological/drainage analysis be performed by a state licensed and City-approved engineer, with the cost of said analysis the responsibility of the Project applicant.

3.10 Land Use and Planning

a) Would the project physically divide an established community?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with physical division of an established community would be less than significant.

The physical division of an established community typically refers to the construction of a linear feature, such as a major highway or railroad tracks, or removal of a means of access such as a local road or bridge that would impair mobility within an existing community or between a community and outlying area. Currently, the Project site is not used as a connection between established communities. Instead, connectivity in the surrounding project area is facilitated via local roadways. Thus, implementation of the Project would not impede movement within the Project area, within an established community, or from one established community to another. Therefore, no impacts associated with physical division of an established community would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with applicable land use plans, policies, or regulations would be less than significant with mitigation from the General Plan Program EIR.

The General Plan Update and the UVSP impose both lower and upper limits on dwelling unit density. Specifically, dwelling units must be from 30 and 50 units per 1 acre. (General Plan Update, Table H-29, p. H-46, H-48, H-51, H-83-84, H-88, UVSP Table 2, p. 37). The Project would comply with these limits, and would not require an amendment of the General Plan Update or zoning ordinance/zoning maps. Thus, the Project would provide a new community core with commercial and high-density residential uses and therefore carry out the City's goals, policies, and the intent of the General Plan Update and UVSP for the site.

Additionally, as described in Section 2, Project Description, and in Section 3.1, Aesthetics, the Project would be required to adhere to the design guidelines and development standards in the UVSP, which regulate design, lighting, building placement, landscaping, etc. For these reasons, no new land use impacts that have not already been identified and analyzed in the General Plan Program EIR would occur as a result of the Project. Therefore, impacts associated with applicable land use plans, policies, or regulations would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with an applicable conservation plan would be less than significant.

The Project site occurs within the boundaries of the Orange County Central and Coastal NCCP/HCP. The NCCP/HCP identifies and protects individual species whose numbers have declined significantly by conserving natural communities at the ecosystem level while accommodating compatible land uses. The measures contained in the NCCP/HCP mitigate direct and indirect impacts to 39 covered species and 4 covered habitats identified within designated development sites in the NCCP/HCP area. The Project site does not support natural communities or covered habitats protected by the NCCP/HCP. Further, no land designated as Habitat Reserve, Non-Reserve Open Space, or Conservation Easement Area occurs within the Project site. The closest Habitat Reserve lands occur approximately 2.5 miles to the west of the Project site (County of Orange 1996).

Due to the completely developed nature of the Project site, implementation of the Project is not expected to conflict with the provisions of the Orange County Central and Coastal NCCP/HCP or other approved habitat conservation plan. Therefore, impacts associated with

an applicable conservation plan would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No land use and planning mitigation measures from the Program EIR are applicable to the Project.

3.11 Mineral Resources

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with loss of availability of a known valuable mineral resource would be less than significant.

The City is essentially built out, and there are no areas within the broader project area used for extraction of any mineral resources. The City is not located within an area specifically identified by the California Department of Mines and Geology as having substantial mineral resources. Additionally, no known mineral resource recovery sites of local importance are included in the General Plan Update (City of Laguna Hills 2009a) or the UVSP (City of Laguna Hills 2002). Therefore, no impacts associated with loss of availability of a known valuable mineral resource would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with loss of availability of a locally important mineral resource recovery site would be less than significant.

As described in Section 3.11a), no known mineral resource recovery sites of local importance are located in the City. Therefore, no impacts associated with loss of availability of a locally important mineral resource recovery site would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No mineral resources mitigation measures were required in the General Plan Program EIR.

3.12 Noise

The following analysis is based, in part, on the Noise Technical Report prepared by Dudek and included in this document as Appendix F.

a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with exposure of persons to or generation of noise levels in excess of established standards would be less than significant with incorporation of General Plan Program EIR Mitigation Measures N-1 through N-4.

The following noise standards apply to the Project.

- Noise at new multi-family residential land uses is not to exceed community noise equivalent level (CNEL) 45 dB for interiors.[14]
- Non-transportation noise sources such as commercial operations, construction outside specified construction hours, machinery, and pumps and air conditioners are not to cause noise exceeding the following levels at residences: 55 dBA Leq interior and exterior from 7:00 a.m. to 10:00 p.m., and 45 dBA Leq interior and 50 dBA Leq exterior from 10:00 p.m. to 7:00 a.m., all measured for a cumulative period of more than 30 minutes in any hour, with higher limits for noise levels of shorter duration.[15]
- Construction noise is exempt from City of Laguna Hills Municipal Code noise limits, provided that construction takes place between the hours of 7:00 a.m. and 8:00 p.m. on weekdays and between 8:00 a.m. and 8:00 p.m. on Saturdays, and does not occur on Sundays or federal holidays.[16]

[14] Reference: California Code of Regulations (CCR) Title 24 Noise Insulation Standards/California Building Code
[15] Reference: Laguna Hills Municipal Code Chapter 5-24 Section 5-24.050
[16] Reference: op.cit., Section 5-24.070

Ambient Noise Monitoring

Noise measurements were made using a Rion NL-32 integrating sound-level meter equipped with a 0.5-inch pre-polarized condenser microphone with pre-amplifier. The sound-level meter meets the current American National Standards Institute standard for a Type 1 (Precision) sound-level meter. The sound-level meter was calibrated before and after the measurements, and the measurements were conducted with the microphone positioned 5 feet above the ground and covered with a windscreen.

Short-term noise measurements are a reliable method of characterizing the typical noise environment in a given area, provided that the measurements are conducted during 'normal" conditions (i.e., not during holidays or other special events, during off-peak hours, and not during meteorological "events" such as rainy, windy or otherwise atypical conditions). The noise measurements were conducted at five locations in the project vicinity between 1:00 p.m. and 6:15 p.m. on September 16, 2015, and between 1:20 and 4:30 on September 22, 2015, as shown in Exhibit 7. These locations are described as follows:

- Site M1- located on-site in the northwest quadrant of the Project site, east of Calle de La Louisa;
- Site M2 - located on-site in the southeast quadrant of the Project site, where on-site residential uses are proposed to be located west of Avenida de La Carlota and I-5;
- Site M3 - located adjacent to residences at the Villa Valencia Health Care Center, located immediately south of the Project site;
- Site M4 - located at the Saddleback Memorial Medical Center, west of the Project site;
- Site M5 - located south of the Project site, at the multi-family residential neighborhood west of Avenida de La Carlota and north of Los Alisos Boulevard;
- Site M6 - located at the multifamily residential neighborhood northwest of the intersection of Paseo de Valencia and Los Aliso Boulevard;
- Site M7 - located at the multifamily residential neighborhood northwest of the intersection of Paseo de Valencia and Avenida de La Carlota;
- Site M8 - located at the multifamily residential neighborhood northeast of the intersection of El Toro Road and Avenida Sevilla.

The measured average noise levels ranged from approximately 54 A-weighted decibels (dBA) equivalent level over a given time period (L_{eq}) at Site M3 to 66 dBA L_{eq} at Site M2; see Table 11.

Table 11
Measured Noise Levels and CNEL

Site	Description	L_{eq}[a]	CNEL[b]
M1	On-Site northwest side of Project site	55 dBA	57 dBA
M2	On-Site southeast side of Project site	66 dBA	67 dBA
M3	South of Project site – Villa Valencia	54 dBA	55 dBA
M4	West of Project site – Saddleback Memorial Med Center	61 dBA	63 dBA
M5	South of Project site – multifamily residential	56 dBA	58 dBA
M6	West of Project site – multifamily residential	58 dBA	61 dBA
M7	North of Project site – multifamily residential	61 dBA	64 dBA
M8	Northwest of Project site – multifamily residential	63 dBA	67 dBA

[a] Equivalent continuous sound level (time-average sound level)
[b] Community noise equivalent level (CNEL) based on diurnal noise patterns for roadways with greater than 10,000 average daily traffic

Long-Term Operational Impacts

On-Site Operational Noise

Potential operational noise sources associated with the Project include heating-ventilation-air-conditioning (HVAC) equipment, commercial truck deliveries, and any sizable surface parking lots (exterior parking areas not enclosed in a garage or parking structure). Long-term operational noise also includes Project-generated traffic along the nearby arterial roadways.

HVAC Noise

Mechanical HVAC equipment located on the ground or on rooftops of new buildings have the potential to generate high noise levels. The specific details (locations, sizes, manufacturers, and models) of the equipment have not yet been determined. The noise levels generated by HVAC equipment vary, but typically range from approximately 50 dBA to 65 dBA at a distance of 50 feet (City of Santa Ana 2010[17]). For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source under "hard-surface" conditions typical of a developed commercial site. The HVAC noise levels have the potential to exceed the City's noise standard for stationary source noise at residential uses (55 dBA L_{eq} from 7:00 a.m. to 10:00 p.m., 50 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.) if located within approximately 275 feet of the exteriors of the nearest existing noise-sensitive receptors to

[17] Reference provides a representation of typical HVAC equipment noise from residential and commercial uses in Orange County.

the Project site. Additionally, the HVAC has the potential to exceed the City's noise standard at the proposed future on-site multi-family residential uses. Implementation of the General Plan Program EIR Mitigation Measures N-1 through N-2, as described below, would reduce this impact to less than significant.

Truck Deliveries, Proposed Parking Structure and Surface Parking Noise

In addition to HVAC systems, commercial and mixed-use projects also have the potential to generate noise from truck deliveries and other mechanical equipment. Noise levels associated with commercial uses generally range from 65 dBA to 69 dBA at a distance of 50 feet from the noise source (PBS&J 2009).[18] Although most of the commercial land uses would be operating from 9:00 a.m. to 9:00 p.m., certain businesses such as restaurants, bars and movie theaters would likely have later operating hours (i.e., past 10 p.m.). Commercial development would have the potential to result in noise levels above the City's daytime noise standard of 55 dBA Leq within approximately 250 feet of the source, and would have the potential to result in noise levels above the City's nighttime noise standard of 50 dBA Leq within approximately 450 feet of the source. Commercial land uses would be located immediately adjacent to proposed on-site multifamily residential uses. Thus, any proposed noise-sensitive uses located with an unobstructed view and within 250 feet of commercial development operating between 7 a.m. and 10 p.m. could be exposed to noise levels that exceed the acceptable exterior noise level threshold of 55 dBA Leq; any proposed noise-sensitive uses located with an unobstructed view and within 450 feet of commercial development operating between 10 p.m. and 7 a.m. could be exposed to noise levels that exceed the acceptable exterior noise level threshold of 50 dBA Leq. General Plan Program EIR Mitigation Measure N-3 would reduce this impact to less than significant.

Noise sources from parking lots include car alarms, door slams, radios, and tire squeals. These sources typically produce noise levels ranging from 55 to 70 dBA at 50 feet (Mestre Greve Associates 2011[19]), and are generally very brief (several seconds or less) and intermittent. Parking lots have the potential to generate noise levels that exceed 65 dBA depending on the location of the source. However, noise sources from the parking lot would be different from each other in kind, duration, and location, so that the overall effects would be separate and, in most cases, would not affect noise-sensitive receptors at the same time.

[18] Reference provides a source for typical noise levels from commercial land uses.
[19] Reference provides a source for typical noise levels from parking lot activities.

Similarly, traffic associated with the proposed parking structure would not be of sufficient volume to exceed community noise standards based on a time-averaged scale such as CNEL or L_{eq} (Mestre Greve Associates 2011[20]). However, the instantaneous maximum sound levels generated by a car door slamming, an engine starting up, or cars passing by could be annoying to proposed on-site residences located to the south, or to patients of the Saddleback Memorial Medical Center to the west. Tire squeal associated with the parking structure likely would not be a factor, as the parking structure would be designed and conditioned to include surfaces that reduce noise generated by tire squeal.

In accordance with General Plan Program EIR Mitigation Measure N-1, a subsequent acoustical analysis would be required prior to approval of final occupancy permits, ensuring that noise from both on-site and off-site noise-generating activities is in compliance with the City's Municipal Code and General Plan noise standards at on-site noise-sensitive receptors (i.e., the proposed multifamily residential uses) and complies with the Municipal Code at existing off-site noise-sensitive receptors. Based on final site and floor plans, the acoustical analysis would make recommendations related to specific design features such as upgraded, triple-glazed windows, thicker drywall, or denser insulation, all of which are proven to attenuate noise. This subsequent acoustical analysis would ultimately determine which particular design features are needed to comply with applicable 45 dBA CNEL interior noise standard.

Off-Site Traffic Noise

Project-Related Traffic Noise on Off-Site Receptors

The Project would generate traffic along adjacent roadways including Avenida de La Carlota, Paseo de Valencia, El Toro Road, Los Alisos Boulevard, Calle de La Louisa, and the I-5 freeway. Potential noise effects from vehicular traffic were assessed using the FHWA's Traffic Noise Model version 2.5. Consistent with the TIA (Appendix G), information used in the model included the Existing (2015) Without Project (i.e., baseline conditions), Existing (2015) Plus Project, Cumulative Year (2018) Without Project, and Cumulative Year (2018) Plus Project traffic volumes and speeds. The peak hour volumes for the local arterials were also obtained from the TIA (Appendix G). Traffic volumes for I-5 were obtained from Caltrans (Caltrans 2013). Noise levels were modeled at representative noise-sensitive receivers. The receivers (M1–M8 and R1–

[20] Reference provides a source for typical noise levels from parking lot activities.

R11) were modeled to be 5 feet above the local ground elevation, with the exception of future on-site residential receivers R6, R7, R9 and R10, which were modeled at second- and third-floor elevations.

As shown in Figure 7, ten receptors (M3–M8 and R1–R4) represent existing off-site residential uses (except for M4, which represents Saddleback Memorial Medical Center), and nine receptors (M1, M2, and R5–R11) represent proposed on-site uses. Traffic noise impacts were calculated by comparing the Existing (2015) Without Project, Existing (2015) Plus Project, Cumulative Year (2018) Without Project, and Cumulative Year (2018) Plus Project traffic scenarios.

The information provided from this modeling, along with the results from ambient noise survey measurements, was compared to the noise impact significance criteria to assess whether Project-related traffic noise would cause a significant impact and, if so, where. The results of the comparisons are presented in Table 12.

Table 12
Project-Related Traffic Noise (dBA CNEL)

Modeled Receptor	Roadway Segment	Existing (Year 2015)	Existing (Year 2015) with Project	Year 2018	Year 2018 with Project	Maximum Noise Level Increase (dB)
M1 – On-Site Northwest side of Project	Calle de La Louisa	55	56	55	56	1
M2 – On-Site Southeast side of Project	Avenida de La Carlota, I-5	70	71	71	71	1
M3 – Villa Valencia	Calle de La Louisa, Calle de los Caballeros	56	56	56	56	0
M4 - Saddleback Memorial Medical Center	Calle de La Louisa	61	61	61	61	0
M5 – Multifamily Residential	Avenida de La Carlota	63	63	63	63	0
M6 – Multifamily Residential	Paseo de Valencia	61	61	61	62	1
M7 – Multifamily Residential	Avenida de La Carlota	64	64	64	64	0
M8 – Multifamily Residential	El Toro Road	64	64	64	64	0
R1 – Multifamily Residential	Los Alisos Boulevard, Paseo de Valencia	65	65	65	65	0
R2 – Multifamily Residential	Los Alisos Boulevard, Avenida de La Carlota	62	62	62	62	0
R3 – Multifamily Residential	Paseo de Valencia	64	64	64	64	0
R4 – Multifamily Residential	Paseo de Valencia, Avenida de La Carlota	64	64	64	64	0

Table 12
Project-Related Traffic Noise (dBA CNEL)

Modeled Receptor	Roadway Segment	Existing (Year 2015)	Existing (Year 2015) with Project	Year 2018	Year 2018 with Project	Maximum Noise Level Increase (dB)
R5 – Proposed Multifamily Future Residential 1st Floor	Avenida de La Carlota, I-5	72	72	72	72	0
R6 – Proposed Multifamily Future Residential 2nd Floor	Avenida de La Carlota, I-5	73	73	73	74	1
R7 – Proposed Multifamily Future Residential 3rd Floor	Avenida de La Carlota, I-5	77	77	77	77	0
R8 – Proposed Multifamily Future Residential 1st Floor	Calle de La Louisa	57	57	57	57	0
R9 – Proposed Multifamily Future Residential 2nd Floor	Calle de La Louisa	59	59	59	59	0
R10 – Proposed Multifamily Future Residential 3rd Floor	Calle de La Louisa	59	60	60	60	1
R11 – Proposed Multifamily Future Residential –Courtyard Area	Calle de La Louisa	55	55	55	55	0

Source: FHWA 2004; Appendix F.
Note: Traffic noise levels are rounded to the nearest whole numbers.

As shown in Table 12, the Project would increase the noise level along these roads by 1 dB or less (rounded to whole numbers) along the study area roadways. In the context of community noise, a 1 dB increase is not noticeable to the human ear. Thus, due to the anticipated amount of increase in noise level (1 dB) with implementation of the Project, noise impacts due to Project-related traffic are not anticipated to be significant. The Project is not anticipated to result in significant noise increases or cause an exceedance of applicable noise standards at any of the off-site noise-sensitive receptors.

Off-Site Traffic Noise at Project Site (Proposed Future Residences)

At receptors R5–R11, on-site Cumulative (2018) Plus Project traffic conditions noise levels are predicted to range from 55 dBA CNEL at R11 (proposed multifamily residential uses at the first floor level, inside the courtyard area) to 77 dBA CNEL at R7 (proposed multifamily residential land uses at the third floor level, adjacent to Avenida de La Carlota and the I-5).

The City's Municipal Code does not set forth exterior noise standards related to noise exposure (only for noise generation) for commercial or multifamily uses, and thus, are

not applicable to noise from non-stationary, traffic-related sources. Moreover, for the purposes of CEQA, this effect of the existing environment (existing off-site traffic noise) as experienced by Project residents, is not within the scope of the analysis, as lead agencies are not required to analyze the impact of existing environmental conditions on a project's future residents.

b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels would be less than significant with incorporation of mitigation from the General Plan Program EIR.

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground that diminishes (attenuates) fairly rapidly over distance. Due to the nature of commercial, retail, restaurant, office, and residential uses, the Project would not create substantial levels of groundborne vibration during operation.

Because of the proximity of existing healthcare facilities and residences, pile driving will not be conducted. As an alternative to pile-driving, the proposed multi-level structures may be supported on a shallow foundation system utilizing a properly designed ground improvement program. For this project, deep soil mixing (DSM) is a likely ground improvement option. DSM is the mechanical blending of the in-situ soil with cementious materials using a hollow auger and paddle arrangement. Soil-mixing rigs may have a single auger (about 2 to 12 feet in diameter) or several smaller-diameter augers (usually 2 to 8 augers). As the augers are advanced into the soil, grout is pumped through the stems and injected into the soil at the tips. After the design depth has been reached, the augers are withdrawn while the mixing process continues. The soil-mixing process results in a fairly uniform soil-cement column. DSM solidifies "columns" of soil in the treated area and the resulting soil-cement matrix helps to redistribute the stresses in the soil, thus, reducing the settlement of the ground surface. This planned method would achieve the same result as pile driving, without the relatively high noise and vibration levels typically associated with traditional pile driving methods.

Anticipated groundborne vibration from heavy equipment operations during construction of the Project was evaluated and compared to relevant vibration impact criteria using the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment, which provides vibration impact criteria and recommended methodologies and guidance

for assessment of vibration effects (FTA 2006). At a distance of approximately 50 feet, the vibration level from heavy construction machinery (such as a loaded truck or a drilling rig) would be between approximately 0.027 peak particle velocity in inches per second (PPV IPS) and 0.031 PPV IPS. Vibration levels of this magnitude would likely be perceptible at nearby residences, but they would be well below the FTA's threshold of potential damage for normal structures (0.20 PPV IPS) and would not be considered excessive.

Therefore, impacts associated with exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with a substantial permanent increase in ambient noise levels would be less than significant with incorporation of mitigation from the General Plan Program EIR.

Refer to Section 3.12(a) for a discussion and evaluation of long-term operational noise impacts. As addressed therein, with incorporation of mitigation from the General Plan Program EIR, long-term operational impacts associated with a substantial permanent increase in ambient noise levels would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with a substantial temporary increase in ambient noise levels (i.e., short-term construction impacts) would be less than significant with incorporation of General Plan Program EIR Mitigation Measure N-4.

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels would vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Total construction is expected to take approximately 31 months. Equipment that would be in operation during construction includes excavators, backhoes, jackhammers,

forklifts, compressors, cement mixers, concrete pumpers, and haul trucks. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 13. Note that the equipment noise levels presented in Table 12 are maximum noise levels. The equipment operates in alternating cycles of full power and low power, thus, producing average noise levels less than the maximum level. The average sound level of the construction activity also depends upon the amount of time that the equipment operates and the intensity of the construction during the time period.

Table 13
Construction Equipment Maximum Noise Levels

Equipment Type	"Typical" Equipment dBA at 50 feet	"Quiet" Equipment* dBA at 50 feet
Air compressor	81	71
Backhoe	85	80
Concrete pump	82	80
Concrete vibrator	76	70
Crane	83	75
Truck	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic tools	85	75
Water pump	76	71
Power hand saw	78	70
Shovel	82	80
Trucks	88	83

Source: DOT 2006
Note:
* Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.

The maximum noise levels at 50 feet for typical equipment would range up to 88 decibels (dB) for the type of equipment normally used for this type of development project, although the hourly noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. Project construction would take place both near and far from adjacent existing noise-sensitive uses. For example, construction of the proposed residential uses along the southern project boundary would take place within approximately 50 feet of existing residences located to the south, but during construction of other project components, construction would be more than 2,000 feet away, and likely shielded from direct view by intervening

structures. Typically (because of the size of the Project site), construction noise would occur at distances of between 200 and 500 feet from existing noise-sensitive uses.

The Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. Although the model was funded and promulgated by the FHWA, the RCNM is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are also used for other project types. Input variables for RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were used for this analysis.

Using the FHWA's RCNM construction noise model and construction information (types and number of construction equipment by phase) the estimated noise levels from construction were calculated for a representative range of distances, and presented in Table 14, Construction Noise Model Results Summary. The RCNM inputs and outputs are provided in the Noise Technical Report (Appendix F).

Table 14
Construction Noise Model Results Summary

Construction Phase	Construction Noise at Representative Receiver Distances (L_{eq} (dBA))			
	50 feet	*100 feet*	*200 feet*	*500 feet*
Building Construction 1 - Retail 1	89	85	79	71
Grading - Export 1	89	84	78	70
Demolition 1	87	82	76	68
Site Preparation	83	77	71	63
Trenching	86	80	74	66
Paving	84	78	72	64
Architectural Coating 1 - Retail 1	77	71	65	57
Grading - All Activities	89	84	78	70
Building Construction 2 - Retail 2	89	85	80	73
Building Construction 3 - Residential	88	84	80	73
Architectural Coating 2 - Retail 2	80	77	71	63
Architectural Coating 3 - Residential	79	74	68	60
Building Construction 4 - Parking	87	82	76	68

Table 14
Construction Noise Model Results Summary

Construction Phase	Construction Noise at Representative Receiver Distances (L_{eq} (dBA))			
	50 feet	*100 feet*	*200 feet*	*500 feet*
Demolition 2	88	83	77	69
Architectural Coating 4 - Parking	78	72	66	58
Building Construction 1 - Retail 1	89	85	79	71
Grading - Export 1	89	84	78	70

As presented in Table 14, the highest noise levels are predicted to occur during grading and phases 1 and 2 of building construction, when noise levels from typical (i.e., not quiet) equipment would be approximately 89 dBA L_{eq} at 50 feet. Short-term noise levels occurring near existing residences (specifically the Villa Valencia Health Care Center, an assisted living facility and a skilled nursing facility) or at Saddleback Memorial Medical Center would be above existing ambient noise levels. Additionally, the 489 multi-story residential dwelling units which are part of the Oakbrook Village multi-use project to the south, would experience short-term noise increases as a result of construction of the proposed Project. In accordance with General Plan Program EIR Mitigation Measures N-1 and N-4, construction activities would occur only during hours permitted by Section 5.24.070 of the City's Noise Ordinance (7:00 a.m. to 8:00 p.m. on weekdays, 8:00 a.m. to 8:00 p.m. on Saturday, and not at any time on Sunday or federal holidays). General Plan Program EIR Mitigation Measure N-4 will be implemented through incorporation of the following noise minimization measures during construction:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
- Installation of temporary sound barriers/shielding. This may comprise shielding of equipment in the vicinity of non-mobile equipment where this is the source, or alternatively shielding at the southern site boundary adjacent to the Villa Valencia Assisted Living and Skilled Nursing Facility and Oakbrook Village residences.
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.

- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive noise receivers.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors.

Effectiveness of these mitigation measures would vary from several decibels (which in general is a relatively small change) to ten or more decibels (which subjectively would be perceived as a substantial change), depending upon the specific equipment and the original condition of that equipment, the specific locations of the noise sources and the receivers, etc. Installation of a noise barrier, for example, would vary in effectiveness depending upon the degree to which the line-of-sight between the source and receiver is broken, and typically ranges from 5 to 10 dB. Installation of more effective silencers could range from several decibels to well over 10 decibels. Reduction of idling equipment could reduce overall noise levels from barely any reduction to several decibels. Cumulatively, however, these measures would result in marked decreases in the noise from construction. With incorporation of General Plan Program EIR mitigation, short-term construction impacts associated with exposure of persons to or generation of noise levels in excess of established standards would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR. Therefore, with incorporation of General Plan Program EIR Mitigation Measure N-4, short-term construction impacts associated with a substantial permanent increase in ambient noise levels would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with public airport noise would occur.

The closest public airport to the Project site is the John Wayne Airport, located approximately 10 miles to the northwest. The Project would not be located in the airport influence area for the John Wayne Airport (ALUC 2005), and thus, would not expose people to excessive noise levels. Therefore, no impacts associated with public airport noise would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

f) Would the project be within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with private airstrip noise would occur.

There are no private airstrips located in the project area, and thus, would not expose people to excessive noise levels. Therefore, no impacts associated with private airstrip noise would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following noise mitigation measures from the General Plan Program EIR are applicable to the Project:

MM N-1 The City shall review development proposals to ensure that the noise standards and compatibility criteria set forth in the Noise Element are met. The City shall consult Noise Element guidelines and standards for noise compatible land uses to determine the suitability of proposed developments relative to existing and forecasted noise levels. The City shall enforce California Title 24 Noise Standards to ensure an acceptable interior noise level of 45 dBA CNEL in habitable rooms. The City shall require acoustical analysis for all discretionary projects where any of the following apply:

1. The project will create or impact noise sensitive land uses and is located within the existing or future 60 dBA CNEL or higher contour.
2. The addition of more than 10% to the volume of average daily traffic of any arterial street.
3. The addition of 1,000 or more vehicles in the peak hour on adjacent roadways.
4. The project will introduce noise or vibration sources associated with mechanical equipment operations, entertainment, maintenance, and facility operations.
5. The project is a proposed residential use in the vicinity of existing and proposed commercial areas.

6. The project is a mixed use development that includes a residential component. The focus of this type of acoustical study is to determine likely interior and exterior noise levels and recommend appropriate design features to reduce noise.

The City shall require mitigation measures, where necessary, to reduce noise levels to meet the adopted standards and criteria. Such measures may include landscaped berms, barriers, walls, enhanced parkways, increased parkways, and other sound attenuating architectural design and construction methods. The City will only permit new development if adopted noise standards and regulations can be met.

MM N-2 The City shall implement provisions of the California Noise Insulation Standards (Title 24) that specify that indoor noise levels for multifamily residential living spaces shall not exceed 45 dB CNEL. The standard is defined as the combined effect of all noise sources and is implemented when existing or future exterior noise levels exceed 60 dB CNEL. Title 24 further requires that the standard be applied to all new hotels, motels, apartment houses, and dwellings other than single-family dwellings. The City shall also apply this standard to single-family dwellings and condominium conversion projects.

MM N-3 The City shall review the locations of proposed projects with the potential to generate noise in relation to sensitive receptors through the discretionary project review process. The City shall limit delivery or service hours for stores and businesses with loading areas, docks, or trash bins that front, side, or gain access on driveways next to residential and other noise sensitive areas. The City shall only approve exceptions if full compliance with the nighttime limits of the noise regulations is achieved.

MM N-4 The City shall require all construction activity to comply with the limits (maximum noise levels, hours, and days of allowed activity) established in City noise regulations to reduce impacts associated with temporary construction noise to the extent feasible. Trucks associated with construction activities shall follow designated truck routes, where appropriate.

3.13 Population and Housing

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with population growth would be less than significant.

The City's 2015 Quimby Fee Study (Willdan Financial Services 2015) estimates that for residential areas with a density of over 18 dwelling units per acre, the persons per household ratio is 1.42 person per unit. Using this persons-to-household ratio, the Project's 988 dwelling units would support approximately 1,403 residents. It should be noted that this population estimate represents a conservative assumptions, based on two different factors: (1) 63 of the dwelling units would consist of approximately 600-square foot studio apartments, which, in most cases, would generally be poorly equipped to support more than one person; and (2) it is likely that at least a small percentage of the Project's residents would consist of people who currently live within the City, and thus, would not be considered to be new residents to the City. Nonetheless, conservatively assuming that everyone leasing/purchasing one of the Project's dwelling units is a new resident to the City, this increase of 1,403 persons represents an appreciable percentage of the City's 2015 population estimate of 30,994 residents (California Department of Finance 2015); 2030 future population projection of 34,650 residents adopted in the General Plan Update, as well as the projected 2030 population of 32,000 residents as estimated by the Southern California Association of Governments (SCAG) (SCAG 2012) for the City.

The Project would carry out the City's goals, policies, and the intent of the General Plan Update and UVSP for the site, since it would provide a new community core with commercial and high-density residential uses. Although the Project would exceed the 200 additional dwelling units described in the land use mix in the Program EIR, the UVSP includes provisions for flexibility in development options, so there could be, for example, more residential uses and less retail uses established, or vice-versa, as long as the overall AM and PM peak hour vehicle trip budget is not exceeded. As described in Section 3.16, the UVSP's AM and PM peak hour vehicle trip budget would not be exceeded as a result of the Project. Thus, the Project is consistent with the development intensity anticipated by the General Plan Update, the UVSP, and the General Plan Program EIR. Moreover, the General Plan Program EIR and the Housing Element, as described above, anticipate an influx of residential development both within the UVSP and at the Project site, as reflected by the incorporation of the minimum residential density of 30-units per acre

within the UVSP, among other factors. Therefore, the Project site is capable of supporting the intensity and density proposed by the Project.

The General Plan Program EIR evaluated the potential for impacts associated with increased population growth caused by implementation of the General Plan Update both in terms of direct impacts and indirect impacts, and ultimately concluded that any such impacts would be less than significant without mitigation from the General Plan Program EIR. As further described below, impacts associated with the Project are within the scope of the impacts evaluated and considered in the Program EIR and would not result in new or substantially more severe impacts beyond what was previously evaluated.

In terms of direct impact, the General Plan Program EIR considered whether increased population would "significantly impact traffic circulation patterns" due to an increase in commuter traffic based on a surplus of jobs within the City compared to housing. While the Program EIR notes that employment opportunities are anticipated to exceed housing opportunities, related commuter traffic was determined not to result in a significant impact, as thresholds of significance would not be exceeded (General Plan Update, pp. 5.11-14.).

The Project would not impact traffic circulation patterns by contributing to an increase in commuter traffic. The Project is anticipated to create 855 new permanent jobs beyond baseline employment opportunities at the Mall based on the proposed mix of commercial and residential uses[21]. In the context of the 988 proposed residential units, this amounts to a jobs-to-housing ratio of approximately 0.86 jobs per unit. The Program EIR assumed that implementation of the General Plan Update would yield 2.38 jobs per housing unit in 2030 (General Plan, p. 5.11-14.). Accordingly, the Project forecasts a lower jobs-to-housing ratio than the General Plan Update, and on that basis, would not exacerbate commute-related traffic compared to that which was analyzed in the Program EIR. As described in Section 3.16, the Project would not result in significant traffic impacts. In addition, the Project is a mixed-use commercial and residential development that emphasizes pedestrian connectivity and bicycle use. Thus, certain employment opportunities created by the Project may be filled by project residents that walk or bicycle to work, which further alleviates commute traffic. The Project's close proximity to OCTA's Laguna Hills Transportation Center (located adjacent to the Project site, approximately 85 feet away) would also allow Project employees to commute to work using public transit, reducing reliance on automobiles and impacts on traffic circulation patterns.

[21] Robert Charles Lesser & Co., *Fiscal Impact Analysis and Employment Generation Analyses for Proposed Five Lagunas Mixed-Use Development, Laguna Hills, California* (2015).

In terms of indirect impacts associated with population growth, the General Plan Program EIR considered whether new infrastructure would induce population expansion. The Program EIR found that while some improvement of roads or infrastructure are expected to occur, it would be sized to serve only new development anticipated under the General Plan Update. As discussed herein, the development realized under the Project is consistent with, and would not exceed the development anticipated under the General Plan Update. As discussed in Section 3.17, adequate infrastructure and utilities are available in the project area, and no substantial new infrastructure or extension of existing infrastructure would be required that may directly induce population growth within the project area. The Project would not extend roads or other infrastructure off site so as to indirectly result in population growth off site. In addition, because the Project is not anticipated to create employment opportunities beyond what was projected in the General Plan Program EIR, the Project would not indirectly contribute to population growth due to an expansion of employment opportunities. Therefore, impacts associated with population growth would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with displacement of substantial numbers of existing housing would occur.

No residential uses are currently located on the Project site. Thus, no housing would be displaced as a result of the Project. Therefore, no impacts associated with displacement of substantial numbers of existing housing would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with displacement of substantial numbers of people would occur.

As described in Section 3.13b), the Project site does not presently contain residential uses, and thus, does not support a residential population. Therefore, no impacts associated with displacement of substantial numbers of people would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No population and housing mitigation measures were required in the General Plan Program EIR.

3.14 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with fire protection and emergency services facilities would be less than significant.

Fire protection facilities and service to the Project site and surrounding area is currently, and would continue to be, provided by OCFA under contract to the City (OCFA 2015). The closest fire station is Station No. 22 (24001 Paseo de Valencia, Laguna Hills, California), which is located near the Project site. Station No. 22 currently houses 3 battalion chiefs, 9 captains, 9 engineers, and 18 firefighters, totaling 39 OCFA personnel assigned to the service area (OCFA 2016). Note that these staffing numbers represent total overall staffing numbers for the fire station, with one-third of these staff on shift at any one time. According to the Program EIR, OCFA strives to maintain a service ratio of 0.75 firefighters per 1,000 residents in their service area, which consist of the cities of Laguna Hills and Laguna Woods (City of Laguna Hills 2009b). Collectively, this Station No. 22's service area has a current population of approximately 47,387 residents (U.S. Census Bureau 2014), equating to 0.82 OCFA personnel (battalion chiefs, captains, engineers, firefighters) per 1,000 residents. When factoring in the roughly 1,403 residents generated by the Project to the existing population in the service area, the service ratio would be 0.80 OCFA personnel per 1,000 residents, which is still above OCFA's service ratio goal. As required for any subdivision or comprehensive plan approval, the Project applicant would be required to enter into a Secured Fire Protection Agreement with the OCFA. This agreement includes requirements to ensure that OCFA has sufficient staff, equipment, and facilities to serve the residents within the Project area. Therefore, no impacts associated with fire protection facilities would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Police protection?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with police protection facilities would be less than significant.

Police protection services to the Project site and surrounding area is presently, and would continue to be, provided by the Orange County Sheriff's Department under contract to the City of Laguna Hills. The nearest police substation is located within the Public Safety Department (24035 El Toro Road, Laguna Hills, California), adjacent to the Project site.

According to the Program EIR, while the OCSD currently maintains a ratio of 1.2 sworn officers per 1,000 residents, the agency does not utilize a standard personnel-to-population ratio to measure the adequacy of policing levels within its service area. Instead, the OCSD analyzes demographics, calls for service, population, and crime trends to determine the level of police services needed in its service area. Police service response times continue to remain within these expected parameters for all four priority levels as defined by the OCSD (City of Laguna Hills 2009b).

Additionally, in an effort to maintain the low crime rate, the General Plan Update contains policies and programs that promote neighborhood safety through neighborhood watch and community-oriented policing programs, as well as through the design principles, such as Crime Prevention through Environmental Design. Further, the City would continue to require all future development and redevelopment projects to be reviewed by the OCSD on an individual basis to ensure that an adequate level of police protection services would be provided to the community. Consistent with the City's standard entitlement process for development projects, OCSD will review and provide comments, if necessary, on site plans to ensure that proposed development would not interfere with their ability to serve both the proposed Project and the surrounding community. Lieutenant Roland Chacon, Chief of Police Services for the City of Laguna Hills reviewed the project, and determined that there would be no impact to existing police facilities (Email communication, February 25, 2016).

As described in the General Plan Program EIR, pursuant to Section 15145 of CEQA, analysis of the physical changes in the project area that may occur from future construction of OCSD facilities would be speculative and no further analysis of the impact is required at this time. However, construction of any future facilities would be subject to CEQA. When new or expanded facilities are deemed necessary, environmental documentation prepared pursuant to CEQA would identify potentially significant impacts and appropriate mitigation measures. In addition, the City would continue to require all future development and redevelopment projects to be reviewed by the OCSD on an individual basis to ensure that an adequate level of fire protection and emergency services would be provided to the community. Therefore, impacts

associated with police protection facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Schools?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with schools would be less than significant.

The Saddleback Valley Unified School District (SVUSD) operates schools serving students in the City. Based on SVUSD student generation rates provided in the Program EIR for multifamily uses (City of Laguna Hills 2009b), the Project's 988 dwelling units could potentially produce approximately 99 elementary school students, 46 middle school students, and 99 high school students, totaling 244 students.

SVUSD as a whole is experiencing declining enrollment, primarily at the elementary level. For the current 2014–2015 academic year, SVUSD had an enrollment of total 29,028 students. This represents an appreciable decline compared with 5 years ago (2010–2011 academic year) when enrollment was 31,724 total students, and 10 years ago (2004–2005 academic year) when enrollment was 34,901 total students (California Department of Education 2015). The Program EIR found that changing demographics, including families with fewer children, have caused these enrollment dips (City of Laguna Hills 2009b). The enrollment numbers provided by the state support the Program EIR's conclusion that student enrollment within the SVUSD enrollment boundary is still declining today, even during the intervening years between when the Program EIR first made this statement and today. As such, it can be reasonably expected that the 5-year decline of approximately 2,696 students (8.5% decline) and the 10-year decline of roughly 5,973 students (16.9% decline) have opened up enough seats at SVUSD schools to accommodate the approximately 244 new students generated by the Project without the need to construct a new or expand an existing facility.

SVUSD collects school fees to fund new construction needed as a result of new housing. With adoption of Senate Bill 50 and Proposition 1A in 1998, school districts that meet certain requirements have the option of adopting school fees on new construction for the purpose of providing classrooms (California Public Resources Code Sections 65995.5, 65995.6, and 65995.7). School fees, which are calculated for each school district, allow districts to collect fees for new construction. Developer fees assessed for multifamily attached residential development are $3.36 per square foot, and $0.54 per square for commercial retail development (SVUSD 2014). Payment of alternative school fees would be used to offset the cost to SVUSD of providing education facilities to future students, if

and when such facilities are needed. The environmental effects of expansion, construction, and operation of additional school facilities would be evaluated by SVUSD in its efforts to plan for construction of new schools or expansion of existing facilities. Senate Bill 50 states that for CEQA purposes, payment of fees to the affected school district reduces school facility impacts to less than significant. Therefore, impacts associated with schools would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Parks?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with parks and recreational facilities would be less than significant.

The Project's 988 dwelling units would support approximately 1,403 residents. In turn, these 1,403 residents would likely increase the use of existing City and regional parks, trails, and other recreation facilities. According to the General Plan Update, the City of Laguna Hills has adopted a park standard of 5 acres of parkland per 1,000 residents (City of Laguna Hills 2009a).

The General Plan Program EIR found that for both current (2007) and projected (2030) park acreage needs, there is, or would be, a surplus of 20.23 acres (2007) and 27.24 acres (2030), respectively. While the Project includes 988 dwelling units, which would directly affect population, and thus, cause increased patronage of parks and recreational resources, the Project's effects on these facilities would be offset by on-site pedestrian and recreational amenities, as well as through the payment of park fees consistent with the Quimby Act.

The redeveloped Mall would include a centralized park space and a number of pedestrian facilities, including a network of paseos that would not only connect the various commercial retail uses proposed as part of the Project, but would also connect to a number of smaller public spaces integrated into the Mall. The residential buildings would also include recreational amenities such as a pools, barbeque/picnic area, fitness/recreation center, clubhouse/community room, landscaped courtyards, and walkways, all of which would encourage residents to engage in recreational activities on site.

Projected parkland demands associated with residents of both the Project and the Oakbrook Village development (Phase I and II) are met by the existing surplus of

parkland identified in the Program EIR. The estimated 1,403 residents forecasted for the Project, combined with the 1,311 residents projected for Oakbrook Village, would collectively require approximately 13.57 acres of parkland under the City's standard. The General Plan Program EIR identified a current surplus of 20.23 acres of parkland. This surplus does not include the nearly 60 acres of parkland and recreational areas described in the General Plan Program EIR consisting of private parkland and irrevocable offers of dedication that have been offered to the City for ownership and maintenance.

Additionally, to offset the costs of acquiring and maintaining park, recreation, and other community facilities associated with the demands of the additional dwelling units of the Project, the City requires the payment of park fees (Quimby Act fees) in accordance with Section 8-06 of the City's Municipal Code. As stated in Section 8-06, every developer who subdivides land for residential purposes shall dedicate a portion of such land, pay a fee in lieu of dedication, or a combination of both. The Applicant would have to pay a fair share fee of this fee as part of compliance with Quimby Act requirements. Therefore, impacts associated with parks and recreational facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Other public facilities?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with other public facilities such as libraries would be less than significant.

Library services in the City are provided by the Orange County Public Library system, which has determined that a service standard of 0.2 square foot of library facility per capita is feasible for the purpose of projecting the number and location of new libraries needed.

According to the General Plan Program EIR, with the increase in population and new development and redevelopment pursuant to the General Plan Update (including the Project), additional library services and potentially new or expanded facilities would be required to adequately serve the planning area. Specifically, development pursuant to the General Plan Update would require the provision of approximately 5,556 additional square feet of library space within the City (City of Laguna Hills 2009b). As stated in the General Plan Program EIR, the City recognized this need and is continuing to work with the Orange County Public Library to ensure that library development keeps pace with overall City development and population growth. No new impacts to libraries would

occur as a result of the Project that have not already been identified and analyzed in the General Plan Program EIR.

Therefore, impacts associated with other public facilities such as libraries would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No public services mitigation measures were required in the General Plan Program EIR.

3.15 Recreation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with the use existing parks and recreational facilities would be less than significant.

As described in Section 3.13(d), while the Project includes 988 dwelling units, which would directly affect population, and thus, cause increased patronage of parks and recreational resources, the Project's effects on these facilities would be offset by both on-site pedestrian and recreational amenities, as well as through the payment of park fees consistent with the Quimby Act. Moreover, the City currently has a surplus of parkland based on application of the City's 5 acres of parkland per 1,000 residents standard. Even after accounting for both the project and the recently-approved Oakbrook Village development, the City would have sufficient parkland under its adopted standard.

The redeveloped Mall would include a centralized park space ("Sycamore Park"), public plaza, and a number of pedestrian facilities, including a network of paseos that would interconnect the various commercial retail uses and other smaller public spaces proposed as part of the Project with the adjacent residential buildings and the surrounding community. The Project would include over 300,000 square feet of landscaped and open space (see Section 2.2.3). The residential buildings would also include private recreational amenities such as pools, barbeque/picnic areas, fitness/recreation centers, clubhouse/community rooms, landscaped courtyards, and walkways, all of which would encourage residents to engage in recreational activities on site. These on-site features are

likely to reduce reliance on similar public features, both with respect to visitors of the Mall and project residents.

Additionally, to offset the costs of acquiring and maintaining park, recreation, and other community facilities associated with the demands of the additional dwelling units of the Project, the City requires the payment of park fees in accordance with Section 8-06 of the City's Municipal Code. As stated in Section 8-06, every subdivider who subdivides land for residential purposes shall dedicate a portion of such land, pay a fee in lieu of, or a combination of both. Therefore, impacts associated with the use of existing parks and recreational facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with new or expanded recreational facilities would be less than significant.

The redeveloped Mall would include a centralized park space, public plaza, and a number of pedestrian facilities, including a network of paseos. The residential buildings would also include private recreational amenities such as pools, barbeque/picnic areas, fitness/recreation centers, clubhouse/community rooms, landscaped courtyards, and walkways. These recreational facilities would be developed in connection with the Project as a whole, and thus, the potential environmental effects associated with construction and operation of these amenities has already been analyzed as part of this Addendum and the Program EIR. No new impacts would occur as a result of the these on-site recreational facilities that have not already been identified and analyzed in the Program EIR. Therefore, impacts associated with new or expanded recreational facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No recreation mitigation measures were required in the General Plan Program EIR.

3.16 Transportation and Traffic

The following analysis is based, in part, on the November 2015 TIA prepared by Linscott, Law & Greenspan Engineers and included in this document as Appendix G.

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

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system would be less than significant.

The General Plan Program EIR and the traffic study prepared for the General Plan Update concluded that none of the study intersections were forecast to be deficient with implementation of future development anticipated under the General Plan Update, including the Project. Subsequent to the traffic study prepared for the General Plan Update, a site-specific traffic study was prepared for the Project (Appendix G). Traffic conditions for the Project were evaluated for each of the following scenarios:

- Existing (2015)
- Existing (2015) Plus Project
- Year 2018 Cumulative Base
- Year 2018 Cumulative Plus Project

As shown in Figures 8 and 9, a total of 61 key intersections were selected for detailed peak hour traffic impact/LOS analysis during the weekday AM and PM, and Saturday midday, peak hours under each of the four aforementioned traffic scenarios. This is a conservative approach because only 12 out of the 61 intersections analyzed met the City's 50-peak hour-trips threshold for detailed traffic evaluation as described in the City's traffic study guidelines. The 61 study intersections are located in Laguna Hills, Laguna Woods, Lake Forest, Mission Viejo, Aliso Viejo, and Laguna Beach. Five of the 61 intersections analyzed are CMP monitoring stations.

Traffic impact analyses are typically focused on evaluating traffic operations during the morning and evening commute peak hours (7:00 to 9:00 a.m., and 4:00 to 6:00 p.m.) on a typical weekday because these are generally when the busiest traffic conditions occur. As a conservative measure in assessing potential traffic impacts of the Project, Saturday

midday conditions were also analyzed (with the peak expected to occur between 12:00 p.m. and 2:00 p.m.).

LOS qualitatively measures the operating conditions within a traffic system and how drivers and passengers perceive these conditions. Levels of service range from LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum satisfactory service level in urban areas. According to the Orange County Congestion Management Program (CMP) traffic impact analysis guidelines, LOS E is the minimum acceptable service level at CMP intersections.

Based upon the City's traffic study guidelines, the Intersection Capacity Utilization (ICU) methodology was used to determine the volume-to-capacity relationship for signalized intersections (based upon the individual volume-to-capacity ratios for key conflicting traffic movements), and corresponding LOS. By assuming 1,700 vehicles per hour per lane as the practical capacity for through lanes, left-turn, and right-turn lanes, the ICU method directly relates traffic demand to the available capacity. The resulting ICU numerical value represents the greatest green time requirements plus a 5% allowance (additional ICU value of 0.05) for clearance intervals for the entire intersection. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Based upon the City's traffic impact study guidelines, the methodology in Chapter 17 of the Transportation Research Board's 2000 Highway Capacity Manual (HCM) was applied in the analysis of the unsignalized key intersections. The HCM stop-control methodology determines the delay and LOS of each approach separately. Whereas the ICU methodology for signalized intersections uses capacity to describe total intersection operation, the 2000 HCM method for unsignalized intersections yields a delay value for each intersection approach. The vehicle total delay on any approach is primarily a function of the volume on the subject approach, and secondarily a function of the volume on the opposing and conflicting approaches.

In addition, the 2010 HCM operations methodology was applied in the analysis of all freeway ramp intersections (to address Caltrans traffic impact study requirements). The 2010 HCM methodology was also applied in the site access section of the traffic report, for the purposes of evaluating vehicular access and queuing conditions at Project driveway intersections. In Chapter 18 of the 2010 HCM, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle.

Existing (2015) Traffic Conditions

Based upon the LOS methodologies described herein, the Existing (2015) peak hour traffic volumes shown in Tables 15 and 16 were used in conjunction with existing lane configurations to determine the current traffic operating conditions at the 61 key intersections. The TIA (Appendix G) contains the detailed LOS worksheets.

Tables 15 and 16 summarize the existing LOS for the 61 key intersections during the weekday AM and PM peak hours, and Saturday midday peak hour, respectively.

Table 15
Existing (2015) Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
1) Muirlands Boulevard at	AM	0.617	--	B	No
El Toro Road (LF)	PM	0.699	--	B	No
2) Raymond Way at	AM	0.420	--	A	No
El Toro Road (LF)	PM	0.517	--	A	No
3) Arbor Way at	AM	0.389	--	A	No
El Toro Road (LF)	PM	0.523	--	A	No
4) Rockfield Boulevard at El Toro Road (LF)	AM	0.559	--	A	No
	PM	0.615	--	B	No
5) Bridger Road/I-5 Northbound Ramps at El Toro Road (CMP/LF)	AM	0.501	--	A	No
	PM	0.758	--	C	No
HCM 2010:	AM	--	32.6	C	No
HCM 2010:	PM	--	55.7	E	No
6) Avenida de La Carlota/I-5 Southbound On-Ramp at El Toro Road (CMP)	AM	0.486	--	A	No
	PM	0.804	--	D	No
HCM 2010:	AM	--	25.7	C	No
HCM 2010:	PM	--	43.5	D	No
7) Regional Center Drive at El Toro Road	AM	0.278	--	A	No
	PM	0.634	--	B	No
8) Paseo de Valencia at El Toro Road	AM	0.504	--	A	No
	PM	0.605	--	B	No
9) Avenida Sevilla at El Toro Road (LW)	AM	0.416	--	A	No
	PM	0.437	--	A	No
10) Catholic Church/Lutheran Church at El Toro Road (LW)	AM	0.307	--	A	No
	PM	0.345	--	A	No
11) Moulton Parkway at El Toro Road (CMP/LW)	AM	0.606	--	B	No
	PM	0.661	--	B	No
12) Home Depot at El Toro Road (LW)	AM	0.330	--	A	No
	PM	0.499	--	A	No

Table 15
Existing (2015) Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
13) Calle Sanora at El Toro Road (LW)	AM	0.327	--	A	No
	PM	0.346	--	A	No
14) Canyon Wren Lane at El Toro Road (AV)	AM	0.253	--	A	No
	PM	0.332	--	A	No
15) Calle Corta at El Toro Road (LW)	AM	0.271	--	A	No
	PM	0.303	--	A	No
16) Aliso Creek Road at El Toro Road (LW)	AM	0.626	--	B	No
	PM	0.838	--	D	No
17) The Club Drive/Bells Vireo Lane at El Toro Road (LB)	AM	0.560	--	A	No
	PM	0.482	--	A	No
18) SR-73 Northbound Ramps at El Toro Road (CMP/LB)	AM	0.578	--	A	No
	PM	0.669	--	B	No
HCM 2010:	AM	--	14.2	B	No
HCM 2010:	PM	--	9.6	A	No
19) SR-73 Southbound Ramps at El Toro Road (CMP/LB)	AM	0.476	--	A	No
	PM	0.639	--	B	No
HCM 2010:	AM	--	24.1	C	No
HCM 2010:	PM	--	24.1	C	No
20) Avenida de la Carlota at Paseo de Valencia/I-5 Southbound Ramps	AM	0.486	--	A	No
	PM	0.535	--	A	No
HCM 2010:	AM	--	44.8	D	No
HCM 2010:	PM	--	42.7	D	No
21) Paseo de Valencia at Ronda del Rossmoor (LW)	*AM*	--	*10.6*	*B*	*No*
	PM	--	*11.2*	*B*	*No*
22) Paseo de Valencia at Calle de La Plata (LW)	AM	0.357	--	A	No
	PM	0.533	--	A	No
23) Paseo de Valencia at Calle de la Magdalena (LW)	AM	0.332	--	A	No
	PM	0.384	--	A	No
24) Paseo de Valencia at Health Center Drive (LW)	AM	0.338	--	A	No
	PM	0.511	--	A	No
25) Paseo de Valencia at Calle de Los Caballeros (LW)	*AM*	--	*10.6*	*B*	*No*
	PM	--	*10.5*	*B*	*No*
26) Paseo de Valencia at Los Alisos Boulevard	AM	0.449	--	A	No
	PM	0.455	--	A	No
27) Paseo de Valencia at Kennington Drive (LW)	AM	0.368	--	A	No
	PM	0.550	--	A	No

Table 15
Existing (2015) Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
28) Paseo de Valencia at Avenida Sevilla/ Beckenham Street (LW)	AM	0.393	--	A	No
	PM	0.581	--	A	No
29) Paseo de Valencia at Laguna Hills Drive/Stockport Street	AM	0.649	--	B	No
	PM	0.680	--	B	No
30) Paseo de Valencia at Hawk Highway	AM	0.301	--	A	No
	PM	0.425	--	A	No
31) Paseo de Valencia at Alicia Parkway	AM	0.643	--	B	No
	PM	0.645	--	B	No
32) Avenida de La Carlota at Plaza Lane/Mall Entrance :	AM	0.245	--	A	No
	PM	0.436	--	A	No
33) Avenida de La Carlota at Mall Driveway 1	*AM*	--	*13.3*	*B*	*No*
	PM	--	*27.7*	*D*	*No*
34) Avenida de La Carlota at Mall Driveway 2	*AM*	--	*11.9*	*B*	*No*
	PM	--	*26.4*	*D*	*No*
35) Avenida de La Carlota at Mall Driveway 3	*AM*	--	*12.8*	*B*	*N*
	PM	--	*32.4*	*D*	*No*
36) Avenida de La Carlota at Oakbrook Village Driveway 1	*AM*	--	*10.5*	*B*	*No*
	PM	--	*22.8*	*C*	*No*
37) Avenida de La Carlota at Oakbrook Village Driveway 2	*AM*	--	*10.1*	*B*	*No*
	PM	--	*12.3*	*B*	*No*
38) Avenida de La Carlota at Los Alisos Boulevard	AM	0.423	--	A	No
	PM	0.470	--	A	No
39) Ronda del Rossmoor/Calle de La Louisa at Calle de La Plata	*AM*	--	*8.6*	*A*	*No*
	PM	--	*10.4*	*B*	*No*
40) Calle de La Louisa at Health Center Drive	*AM*	--	*8.2*	*A*	*No*
	PM	--	*8.9*	*A*	*No*
41) Calle de La Louisa at Calle de Los Caballeros	*AM*	--	*7.9*	*A*	*No*
	PM	--	*8.7*	*A*	*No*
42) Irvine Center Drive/Moulton Parkway at Lake Forest Drive	AM	0.447	--	A	No
	PM	0.674	--	B	No
43) Moulton Parkway at Ridge Route Drive	AM	0.354	--	A	No
	PM	0.570	--	A	No
44) Moulton Parkway at Santa Maria Avenue	AM	0.472	--	A	No
	PM	0.644	--	B	No
45) Moulton Parkway at Via Campo Verde (LW)	AM	0.530	--	A	No
	PM	0.578	--	A	No
46) Moulton Parkway at Calle Cortez (AV)	AM	0.514	--	A	No
	PM	0.603	--	B	No

Table 15
Existing (2015) Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
47) Moulton Parkway at Calle Aragon (AV)	AM	0.529	--	A	No
	PM	0.517	--	A	No
48) Moulton Parkway at Glenwood Drive/Indian Creek Lane	AM	0.506	--	A	No
	PM	0.621	--	B	No
49) Avenida de La Carlota/I-5 Southbound Ramps at Lake Forest Drive	AM	0.650	--	B	No
	PM	0.752	--	C	No
HCM 2010::	AM	--	26.4	C	No
HCM 2010:	PM	--	26.5	C	No
50) I-5 Northbound Ramps at Lake Forest Drive (LF)	AM	0.393	--	A	No
	PM	0.554	--	A	No
HCM 2010:	AM	--	19.1	B	No
HCM 2010:	PM	--	15.6	B	No
51) Rockfield Boulevard at Lake Forest Drive (LF)	AM	0.556	--	A	No
	PM	0.685	--	B	No
52) Avenida de La Carlota at Ridge Route Drive	AM	0.426	--	A	No
	PM	0.763	--	C	No
53) Avenida de La Carlota at Via Puerta (LW)	AM	0.202	--	A	No
	PM	0.517	--	A	No
54) Rockfield Boulevard at Landisview Avenue (LF)	AM	0.344	--	A	No
	PM	0.375	--	A	No
55) Muirlands Boulevard at Los Alisos Boulevard (MV)	AM	0.718	--	C	No
	PM	0.704	--	C	No
56) Rockfield Boulevard/Fordview at Los Alisos Boulevard (LF)	AM	0.722	--	C	No
	PM	0.622	--	B	No
57) Muirlands Boulevard at Marathon Street (MV)	AM	0.376	--	A	No
	PM	0.407	--	A	No
58) Muirlands Boulevard at Alicia Parkway (MV)	AM	0.747	--	C	No
	PM	0.831	--	D	No
59) Charlinda Drive at Alicia Parkway (MV)	AM	0.594	--	A	No
	PM	0.755	--	C	No
60) I-5 Northbound Ramps at Alicia Parkway (MV)	AM	0.522	--	A	No
	PM	0.694	--	B	No
HCM 2010:	AM	--	14.3	B	No
HCM 2010:	PM	--	17.9	B	No
61) I-5 Southbound Ramps at Alicia Parkway	AM	0.777	--	C	No
	PM	0.836	--	D	No
HCM 2010:	AM	--	26.9	C	No
HCM 2010:	PM	--	31.5	C	No

Notes: *Italicized* text corresponds to an unsignalized/stop-controlled intersection.
CMP = Congestion Management Program; LF = Lake Forest; LW = Laguna Woods; AV = Aliso Viejo; LB = Laguna Beach; MV = Mission Viejo

Table 16
Existing (2015) Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
1) Muirlands Boulevard at El Toro Road (LF)	Sat Midday	0.639	--	B	No
2) Raymond Way at El Toro Road (LF)	Sat Midday	0.567	--	A	No
3) Arbor Way at El Toro Road (LF)	Sat Midday	0.549	--	A	No
4) Rockfield Boulevard at El Toro Road (LF)	Sat Midday	0.647	--	B	No
5) Bridger Road/I-5 Northbound Ramps at El Toro Road (CMP/LF)	Sat Midday	0.789	--	C	No
HCM 2010:	Sat	--	48.1	D	No
HCM 2010:	Midday				
6) Avenida de La Carlota/I-5 Southbound On-Ramp at El Toro Road (CMP)	Sat Midday	0.778	--	C	No
HCM 2010:	Sat	--	39.8	D	No
HCM 2010:	Midday				
7) Regional Center Drive at El Toro Road	Sat Midday	0.524	--	A	No
8) Paseo de Valencia at El Toro Road	Sat Midday	0.493	--	A	No
9) Avenida Sevilla at El Toro Road (LW)	Sat Midday	0.466	--	A	No
10) Catholic Church/Lutheran Church at El Toro Road (LW)	Sat Midday	0.297	--	A	No
11) Moulton Parkway at El Toro Road (CMP/LW)	Sat Midday	0.461	--	A	No
12) Home Depot at El Toro Road (LW)	Sat Midday	0.417	--	A	No
13) Calle Sanora at El Toro Road (LW)	Sat Midday	0.330	--	A	No
14) Canyon Wren Lane at El Toro Road (AV)	Sat Midday	0.293	--	A	No
15) Calle Corta at El Toro Road (LW)	Sat Midday	0.285	--	A	No
16) Aliso Creek Road at El Toro Road (LW)	Sat Midday	0.431	--	A	No
17) The Club Drive/Bells Vireo Lane at El Toro Road (LB)	Sat Midday	0.308	--	A	No

Table 16
Existing (2015) Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
18) SR-73 Northbound Ramps at El Toro Road (CMP/LB)	Sat Midday	0.343	--	A	No
HCM 2010:	Sat	--	18.6	B	No
HCM 2010:	Midday				
19) SR-73 Southbound Ramps at El Toro Road (CMP/LB)	Sat Midday	0.335	--	A	No
HCM 2010:	Sat	--	25.1	C	No
HCM 2010:	Midday				
20) Avenida de La Carlota at Paseo de Valencia/I-5 Southbound Ramps	Sat Midday	0.568	--	A	No
HCM 2010:	Sat	--	28.8	C	No
HCM 2010:	Midday				
21) Paseo de Valencia at Ronda del Rossmoor (LW)	*Sat Midday*	--	*10.6*	*B*	*No*
22) Paseo de Valencia at Calle de La Plata (LW)	Sat Midday	0.358	--	A	No
23) Paseo de Valencia at Calle de La Magdalena (LW)	Sat Midday	0.233	--	A	No
24) Paseo de Valencia at Health Center Drive (LW)	Sat Midday	0.327	--	A	No
25) Paseo de Valencia at Calle de Los Caballeros (LW)	*Sat Midday*	--	*9.9*	*A*	*No*
26) Paseo de Valencia at Los Alisos Boulevard	Sat Midday	0.323	--	A	No
27) Paseo de Valencia at Kennington Drive (LW)	Sat Midday	0.371	--	A	No
28) Paseo de Valencia at Avenida Sevilla/Beckenham Street (LW)	Sat Midday	0.401	--	A	No
29) Paseo de Valencia at Laguna Hills Drive/Stockport Street	Sat Midday	0.419	--	A	No
30) Paseo de Valencia at Hawk Highway	Sat Midday	0.350	--	A	No
31) Paseo de Valencia at Alicia Parkway	Sat Midday	0.565	--	A	No
32) Avenida de La Carlota at Plaza Lane/Mall Entrance	Sat Midday	0.452	--	A	No
33) Avenida de La Carlota at Mall Driveway 1	*Sat Midday*	--	*25.8*	*D*	*No*

Table 16
Existing (2015) Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
34) Avenida de La Carlota at Mall Driveway 2	*Sat Midday*	--	*23.7*	*C*	*No*
35) Avenida de La Carlota at Mall Driveway 3	*Sat Midday*	--	*22.4*	*C*	*No*
36) Avenida de La Carlota at Oakbrook Village Driveway 1	*Sat Midday*	--	*18.7*	*C*	*No*
37) Avenida de La Carlota at Oakbrook Village Driveway 2	*Sat Midday*	--	*11.3*	*B*	*No*
38) Avenida de La Carlota at Los Alisos Boulevard	Sat Midday	0.374	--	A	No
39) Ronda del Rossmoor/Calle de La Louisa at Calle de la Plata	*Sat Midday*	--	*8.5*	*A*	*No*
40) Calle de La Louisa at Health Center Drive	*Sat Midday*	--	*8.0*	*A*	*No*
41) Calle de La Louisa at Calle de Los Caballeros	*Sat Midday*	--	*8.0*	*A*	*No*
42) Irvine Center Drive/Moulton Parkway at Lake Forest Drive	Sat Midday	0.334	--	A	No
43) Moulton Parkway at Ridge Route Drive	Sat Midday	0.273	--	A	No
44) Moulton Parkway at Santa Maria Avenue	Sat Midday	0.370	--	A	No
45) Moulton Parkway at Via Campo Verde (LW)	Sat Midday	0.272	--	A	No
46) Moulton Parkway at Calle Cortez (AV)	Sat Midday	0.278	--	A	No
47) Moulton Parkway at Calle Aragon (AV)	Sat Midday	0.322	--	A	No
48) Moulton Parkway at Glenwood Drive/Indian Creek Lane	Sat Midday	0.330	--	A	No
49) Avenida de La Carlota/I-5 Southbound Ramps at Lake Forest Drive	Sat Midday	0.470	--	A	No
HCM 2010:	Sat	--	23.7	C	No
HCM 2010:	Midday				

Table 16
Existing (2015) Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)			
		ICU	*Delay*	*LOS*	*Poor LOS?*
50) I-5 Northbound Ramps at Lake Forest Drive (LF)	Sat	0.379	--	A	No
	Midday				
HCM 2010:	Sat	--	19.1	B	No
HCM 2010:	Midday				
51) Rockfield Boulevard at Lake Forest Drive (LF)	Sat	0.488	--	A	No
	Midday				
52) Avenida de La Carlota at Ridge Route Drive	Sat	0.461	--	A	No
	Midday				
53) Avenida de La Carlota at Via Puerta (LW)	Sat	0.295	--	A	No
	Midday				
54) Rockfield Boulevard at Landisview Avenue (LF)	Sat	0.310	--	A	No
	Midday				
55) Muirlands Boulevard at Los Alisos Boulevard (MV)	Sat	0.463	--	C	No
	Midday				
56) Rockfield Boulevard/Fordview at Los Alisos Boulevard (LF)	Sat	0.539	--	A	No
	Midday				
57) Muirlands Boulevard at Marathon Street (MV)	Sat	0.294	--	A	No
	Midday				
58) Muirlands Boulevard at Alicia Parkway (MV)	Sat	0.666	--	B	No
	Midday				
59) Charlinda Drive at Alicia Parkway (MV)	Sat	0.639	--	B	No
	Midday				
60) I-5 Northbound Ramps at Alicia Parkway (MV)	Sat	0.520	--	A	No
	Midday				
HCM 2010:	Sat	--	17.4	B	No
HCM 2010:	Midday				
61) I-5 Southbound Ramps at Alicia Parkway	Sat	0.697	--	B	No
	Midday				
HCM 2010:	Sat	--	25.0	C	No
HCM 2010:	Midday				

Notes: *Italicized* text corresponds to an unsignalized/stop-controlled intersection.
ICU = Intersection Capacity Utilization; LOS = level of service; CMP = Congestion Management Program; LF = Lake Forest; LW = Laguna Woods; AV = Aliso Viejo; LB = Laguna Beach; MV = Mission Viejo

As provided in Table 15, all 61 key intersections currently operate at acceptable LOS D or better (LOS E or better at CMP intersections) during the AM and PM peak hours of a typical weekday.

Table 16 indicates that all 61 key intersections currently operate at acceptable LOS D or better (LOS E or better at CMP intersections) during the Saturday midday peak hour.

Plus Project and Future Traffic Conditions

In order to provide a quantitative basis for determining the significant traffic impact at a specific location, it was necessary to establish the criteria to be used in the analysis of intersections. Based on the City's and CMP traffic study guidelines, a project is considered to have a significant impact at an intersection if the following criteria are met:

Non-CMP Signalized and Unsignalized Intersections

- the Project causes an intersection at LOS D or better to degrade to LOS E or F, and the ICU increase attributable to the project is 0.01 or greater (or any delay increase per HCM 2000 and 2010)

  - or -

- the Project causes an ICU increase of 0.01 or greater (or any delay increase per HCM 2000 and 2010) at an intersection operating at LOS E or F "without Project"

CMP Signalized Intersections and Freeway Ramp Intersections

- the Project causes an intersection at LOS E or better to degrade to LOS F

  - or -

- the Project causes any increase in ICU or delay at an intersection operating at LOS F "without Project"

Non-CMP Freeway Ramp Intersections

- the Project causes an intersection at LOS D or better to degrade to LOS E or F, and the ICU increase attributable to the project is 0.01 or greater (or any delay increase per HCM 2000 and 2010)

  - or -

- the Project causes an ICU increase of 0.01 or greater (or any delay increase per HCM 2000 and 2010) at an intersection operating at LOS F "without Project"

Freeway Mainline Operations

- the Project causes an LOS E or better to degrade to LOS F

  - or -

- the Project causes a cumulative increase of 0.10 in v/c ratio if the established LOS standard is worse than LOS E

Traffic Forecasts

In order to determine potential traffic impacts of the Project, a multi-step process was used. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is estimated by applying the appropriate vehicle trip generation equations or rates to the Project development tabulation with applicable trip adjustments/credits to account for the existing land uses on site, internal capture, and/or alternative modes of transportation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the Project is isolated by comparing LOS at selected key intersections using expected future traffic volumes with and without Project-generated traffic. The significance of the Project's impacts, and the need for site-specific and/or cumulative local area traffic improvements, can then be determined.

Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations

and/or rates used in the traffic forecasting procedure are found in the 9th edition of the Trip Generation Handbook, published by the Institute of Transportation Engineers (ITE). The trip rates for ITE Land Use 820: Shopping Center, 720: Medical-Dental Office, and 220: Apartments, were applied to the Project.

Since the Project is comprised of a mix of uses (including retail, restaurant, cinema, health club, medical office, and residential), it was appropriate to account for "internal" tripmaking/interactions that would occur between the various land uses on site, and would not occur by traveling on the external street system. ITE trip generation rates and equations are derived from single-use, stand-alone sites, and do not reflect the potential for interaction among uses in a mixed-use setting. The methodology used in estimating internal trips for the Project is well documented in the third edition of ITE's Trip Generation Handbook.

Additionally, because of the retail nature of the Project, "pass-by" reductions were applied to retail-generated trips (after accounting for internal trip reductions). This is typically done to account for conditions when the total number of trips generated by a retail-oriented development is not entirely new to the external street system. Retail-oriented developments such as shopping centers and restaurants, which are located along major/busy roadways, attract a portion of their trips from traffic already on the street system for a different purpose (i.e., the retail site is not the primary or ultimate destination). These retail trips do not add new traffic to the surrounding street system. The methodology used in estimating pass-by trips is also contained in ITE's Trip Generation Handbook.

Modest internal capture and pass-by trip reductions were applied (despite the vast majority of uses surrounding the site that could realistically result in greater interactions with the Project than assumed), which are appropriate for application based on the project setting and ITE-recommended methodology, and are allowed per the City's current traffic study guidelines. As a conservative measure, no further trip reductions to account for alternative modes of travel (despite the Project's proximity to the Laguna Hills Transportation Center) have been applied.

As shown in Table 17, the net Project trips are estimated to be approximately 6,434 daily trips on a typical weekday, of which 558 trips are expected to occur during the AM peak hour, and 569 trips could be generated during the PM peak hour, and 4,919 daily trips on a Saturday, of which 456 trips could occur during the Saturday midday peak hour.

Additionally, Table 17 provides a trip budget assessment for the Project, given its location within the UVSP area. As described in the UVSP and the Program EIR, development

intensity within the UVSP is regulated by trip budget capacity that correlates with LOS (LOS D, except with regard to CMP intersections). Linscott, Law, and Greenspan Engineers consulted with City staff to identify development projects approved within the UVSP subsequent to the certification of the Program EIR in order to assess current trip budget capacity. After debiting all development projects that have been approved since the June 2009 General Plan Update, the remaining UVSP trip budgets (as of May 2015) correspond to 1,008 AM peak hour trips and 2,202 PM peak hour trips. Subtracting the net Project trips (558 AM peak hour trips and 569 PM peak hour trips) from that yields a residual UVSP trip budget of 450 AM peak hour trips and 1,633 PM peak hour trips.

Table 17 also compares gross Project trips against the Mall trips (Zone 30 in the City's traffic model) accounted for, and previously evaluated, in the General Plan Program EIR studies for Year 2008 conditions and Year 2030 conditions. The negative deficits reported in Table 17 indicate that the gross Project trips estimated are generally less than those that were studied as part of the Program EIR under Year 2008 and Year 2030 conditions.

Table 17
Project Trip Generation

Land Use	Unit / Size	Typical Weekday							Saturday			
			AM Peak Hour			PM Peak Hour				Midday Peak Hour		
		Daily	In	Out	Total	In	Out	Total	Daily	In	Out	Total
ITE TRIP RATES												
Shopping Ctr	trips/KSF GLA	[a]	62%	38%	[a]	48%	52%	[a]	[a]	52%	48%	[a]
Medical Office	trips/KSF GFA	36.13	79%	21%	2.39	28%	72%	3.57	8.96	57%	43%	3.63
Apartment	trips/DU	6.65	20%	80%	0.51	65%	35%	0.62	6.39	50%	50%	0.52
PROPOSED PROJECT												
Mall [b]	**834,706 SF GLA**	26,973	353	216	569	1,192	1,291	2,483	35,174	1,667	1,805	3,472
Retail (570,180 SF GLA)												
Restaurants (115,354 SF GLA)												
Health Club (40,102 SF GLA)												
Cinema (109,070 SF GLA)												
Med Office [c]	**45,890 SF GFA**	1,658	87	23	110	46	118	164	411	95	72	167
Apartments	**988 DU**	6,570	101	403	504	398	215	613	6,313	257	257	514
FUTURE		**35,201**	**541**	**642**	**1,183**	**1,636**	**1,624**	**3,260**	**41,898**	**2,019**	**2,134**	**4,153**
Internal Trip Reduction [d]		(1,144)	(18)	(24)	(42)	(80)	(67)	(147)	(984)	(72)	(68)	(140)
Sub-Total		34,057	523	618	1,141	1,556	1,557	3,113	40,914	1,947	2,066	4,013
Pass-By Trip Reduction [e]		(2,697)	(18)	(11)	(29)	(119)	(129)	(248)	(3,517)	(167)	(181)	(348)
Net Future Trips		**31,360**	**505**	**607**	**1,112**	**1,437**	**1,428**	**2,865**	**37,397**	**1,780**	**1,885**	**3,665**
EXISTING	869,352 SF GLA	27,696	361	222	583	1,224	1,327	2,551	36,087	1,711	1,854	3,565
Pass-By Trip Reduction [e]		(2,770)	(18)	(11)	(29)	(122)	(133)	(255)	(3,609)	(171)	(185)	(356)
Net Existing Trips		**24,926**	**343**	**211**	**554**	**1,102**	**1,194**	**2,296**	**32,478**	**1,540**	**1,669**	**3,209**
NET PROJECT TRIPS (Future minus Existing)		**6,434**	**162**	**396**	**558**	**335**	**234**	**569**	**4,919**	**240**	**216**	**456**

Table 17
Project Trip Generation

Land Use / Unit / Size	Typical Weekday							Saturday			
		AM Peak Hour			PM Peak Hour				Midday Peak Hour		
	Daily	In	Out	Total	In	Out	Total	Daily	In	Out	Total
UVSP TRIP BUDGETS											
Per June 2009 EIR	--	--	--	1,243	--	--	2,272	--	--	--	--
Less Chevron (approved 5/11)	--	--	--	0	--	--	27	--	--	--	--
Less Taj Mahal (approved 6/11)	--	--	--	(9)	--	--	(44)	--	--	--	--
Less Ash./ChickFilA (app. 7/11)	--	--	--	0	--	--	(12)	--	--	--	--
Less Oakbrook Vill. (app. 11/12)	--	--	--	(194)	--	--	(44)	--	--	--	--
Less Raising Cane's (app. 4/15)	--	--	--	(32)	--	--	3	--	--	--	--
Remaining UVSP Trip Budgets (May 2015)	--	--	--	**1,008**	--	--	**2,202**	--	--	--	--
Minus Net Project Trips	--	--	--	(558)	--	--	(569)	--	--	--	--
Residual UVSP Trip Budgets After Project	--	--	--	**450**	--	--	**1,633**	--	--	--	--
PROJECT VS. 2008 GP											
Gross Project Trips	35,201	541	642	1,183	1,636	1,624	3,260	--	--	--	--
Less 2008 GP Trips for Mall [f]	(48,715)	(713)	(457)	(1,170)	(2,034)	(2,204)	(4,238)				
Difference (vs. 2008 GP)	**(13,514)**	**(172)**	**185**	**13**	**(398)**	**(580)**	**(978)**	--	--	--	--
PROJECT VS. 2030 GP											
Gross Project Trips	35,201	541	642	1,183	1,636	1,624	3,260	--	--	--	--
Less 2030 GP Trips for Mall [f]	(42,469)	(1,222)	(1,068)	(2,290)	(2,038)	(1,936)	(3,974)				
Difference (vs. 2030 GP)	**(7,268)**	**(681)**	**(426)**	**(1,107)**	**(402)**	**(312)**	**(714)**	--	--	--	--

Notes:
[a] Trip generation for shopping centers/retail uses were calculated using the following equations: Weekday Daily Ln(T) = 0.65Ln(X) + 5.83 Ln = Natural logarithm
AM Commuter Ln(T) = 0.61Ln(X) + 2.24 T = Two-way volume of traffic (total trip ends)
PM Commuter Ln(T) = 0.67Ln(X) + 3.31 X = Area in 1,000 gross square feet of leasable area
Saturday Daily Ln(T) = 0.63Ln(X) + 6.23
Peak Hour of thLn(T) = 0.65Ln(X) + 3.78
[b] Per City staff direction and ITE's definition of Land Use: 820 (Shopping Center), the health club SF is included in the Shopping Center
[c] As a conservative measure, medical office is assumed instead of retail, and is treated as a standalone use even though the ITE Shopping trip rates account for "office buildings" that are part of the Center.
[d] The internal trip reductions correspond to approximately 3% to 4% of total future trips.
[e] The pass-by trip reductions applied to retail trips are 10% for daily, 5% for AM peak hour, and 10% for PM and Saturday midday peak [f] Trips for Laguna Hills Mall (Zone 30 in the City's traffic model) are derived from Appendix B of the Program EIR traffic study prepared by Austin-Foust Associates, Inc. in December 2008.

Project Traffic Distribution and Assignment

The geographic distribution of traffic generated by development projects (such as the Project) is dependent upon the following factors:

- the project's market/service area;
- location of site access points in relation to the surrounding street system;
- location of parking areas, and ingress/egress availability at the parking areas;
- the site's proximity to major traffic carriers and regional access routes;
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns;
- presence of traffic congestion in the surrounding vicinity.

Based upon these considerations, and a select zone assignment from the City's traffic model, and previous traffic studies completed in the study area, a project trip distribution pattern was developed, as shown in the Figures 7A through 7C in the TIA (Appendix G).

The traffic expected to be generated by the Project was assigned to the local street network using the net trip generation estimates presented in Table 17, and the project distribution pattern illustrated in Figures 7A through 7C in the TIA (Appendix G). Figures 8A through 10C in the TIA show the Project-generated traffic volumes for the weekday AM, weekday PM, and Saturday midday, peak hours, respectively.

3.16.1 Existing (2015) Plus Project Traffic Conditions

Existing (2015) Plus Project Traffic Forecasts

The Existing Plus Project analysis adds Project-generated forecasts to existing conditions. Figures 11A through 13C in the TIA (Appendix G) show the Existing (2015) Plus Project traffic volumes at the 61 key intersections for the weekday AM, weekday PM, and Saturday midday, peak hours, respectively.

Existing (2015) Plus Project Traffic Conditions

Tables 18 and 19 summarize the Existing (2015) Plus Project LOS at the 61 key intersections during the weekday AM and PM, and Saturday midday, peak hours, respectively. Based on the application of the significance criteria described previously,

the Project is not expected to cause significant traffic impacts at any of the 61 key intersections under Existing (2015) Plus Project conditions.

Compared to existing conditions, the ICU and delay values are less (and corresponding LOS better) under Existing (2015) Plus Project conditions at the following Project driveway intersections due to site access improvements that would be completed as part of the Project (includes lane geometry, driveway reconfiguration, and signalization):

- 7) Regional Center Drive at El Toro Road (lane geometry improvements)
- 32) Avenida de la Carlota at Plaza Lane/Mall Entrance (lane geometry improvements)
- 33) Avenida de la Carlota at Mall Driveway 1 (driveway converted to right-turn in/out only)
- 34) Avenida de la Carlota at Mall Driveway 2 (driveway converted to right-turn in/out only)
- 35) Avenida de la Carlota at Mall Driveway 3 (new traffic signal)

Table 18
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
1) Muirlands Boulevard at	AM	0.617	--	B	No	0.619	--	B	No	0.002	No
El Toro Road (LF)	PM	0.699	--	B	No	0.701	--	C	No	0.002	No
2) Raymond Way at	AM	0.420	--	A	No	0.421	--	A	No	0.001	No
El Toro Road (LF)	PM	0.517	--	A	No	0.519	--	A	No	0.002	No
3) Arbor Way at	AM	0.389	--	A	No	0.390	--	A	No	0.001	No
El Toro Road (LF)	PM	0.523	--	A	No	0.525	--	A	No	0.002	No
4) Rockfield Boulevard at El Toro	AM	0.559	--	A	No	0.560	--	A	No	0.001	No
Road (LF)	PM	0.615	--	B	No	0.617	--	B	No	0.002	No
5) Bridger Road/I-5 Northbound Ramps at El Toro	AM	0.501	--	A	No	0.570	--	A	No	0.055	No
Road (CMP/LF)	PM	0.758	--	C	No	0.840	--	C	No	0.035	No
HCM 2010:	AM	--	32.6	C	No	--	34.3	C	No	1.7	No
HCM 2010:	PM	--	55.7	E	No	--	64.9	E	No	9.2	No
6) Avenida de la Carlota/I-5 Southbound On-Ramp	AM	0.486	--	A	No	0.552	--	A	No	0.066	No
at El Toro Road (CMP)	PM	0.804	--	D	No	0.882	--	D	No	0.078	No
HCM 2010:	AM	--	25.7	C	No	--	30.2	C	No	4.5	No
HCM 2010:	PM	--	43.5	D	No	--	52.4	D	No	8.9	No
7) Regional Center Drive at El Toro	AM	0.278	--	A	No	0.363	--	A	No	0.085	No
Road	PM	0.634	--	B	No	0.611	--	B	No	-0.023	No
8) Paseo de Valencia at El	AM	0.504	--	A	No	0.514	--	A	No	0.010	No
Toro Road	PM	0.605	--	B	No	0.609	--	B	No	0.004	No
9) Avenida Sevilla at	AM	0.416	--	A	No	0.424	--	A	No	0.008	No
El Toro Road (LW)	PM	0.437	--	A	No	0.455	--	A	No	0.018	No
10) Catholic Church/Lutheran Church at	AM	0.307	--	A	No	0.315	--	A	No	0.008	No
El Toro Road (LW)	PM	0.345	--	A	No	0.352	--	A	No	0.007	No

Table 18
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
11) Moulton Parkway at	AM	0.606	--	B	No	0.610	--	B	No	0.004	No
El Toro Road (CMP/LW)	PM	0.661	--	B	No	0.668	--	B	No	0.007	No
12) Home Depot at	AM	0.330	--	A	No	0.331	--	A	No	0.001	No
El Toro Road (LW)	PM	0.499	--	A	No	0.503	--	A	No	0.004	No
13) Calle Sanora at	AM	0.327	--	A	No	0.328	--	A	No	0.001	No
El Toro Road (LW)	PM	0.346	--	A	No	0.348	--	A	No	0.002	No
14) Canyon Wren Lane at	AM	0.253	--	A	No	0.255	--	A	No	0.002	No
El Toro Road (AV)	PM	0.322	--	A	No	0.325	--	A	No	0.003	No
15) Calle Corta at	AM	0.271	--	A	No	0.275	--	A	No	0.004	No
El Toro Road (LW)	PM	0.303	--	A	No	0.306	--	A	No	0.003	No
16) Aliso Creek Road at El	AM	0.626	--	B	No	0.626	--	B	No	0.000	No
Toro Road (LW)	PM	0.838	--	D	No	0.838	--	D	No	0.000	No
17) The Club Drive/Bells Vireo Lane at	AM	0.560	--	A	No	0.564	--	A	No	0.004	No
El Toro Road (LB)	PM	0.482	--	A	No	0.485	--	A	No	0.003	No
18) SR-73 Northbound Ramps at	AM	0.578	--	B	No	0.580	--	A	No	0.002	No
El Toro Road (CMP/LB)	PM	0.669	--	B	No	0.672	--	B	No	0.003	No
HCM 2010:	AM	--	14.2	B	No	--	14.2	B	No	0.0	No
HCM 2010:	PM	--	9.6	A	No	--	9.5	A	No	-0.1	No
19) SR-73 Southbound Ramps at El	AM	0.476	--	A	No	0.478	--	A	No	0.002	No
Toro Road (CMP/LB)	PM	0.639	--	B	No	0.645	--	B	No	0.006	No
HCM 2010:	AM	--	24.1	C	No	--	24.1	C	No	0.0	No
HCM 2010:	PM	--	24.1	C	No	--	24.2	C	No	0.1	No

Table 18
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
20) Avenida de La Carlota at	AM	0.486	--	A	No	0.526	--	A A	No	0.040	No
Paseo de Valencia/I-5 Southbound	PM	0.535	--	A	No	0.559	-- 48.4	D D	No	0.024	No
HCM 2010:	AM	--	44.8	D	No	--	46.6		No	3.6	No
HCM 2010:	PM	--	42.7	D	No	--			No	3.9	No
21) Paseo de Valencia at	*AM*	--	*10.6*	*B*	*No*	--	*10.7*	*B*	*No*	*0.1*	*No*
Ronda del Rossmoor (LW)	*PM*	--	*11.2*	*B*	*No*	--	*11.3*	*B*	*No*	*0.1*	*No*
22) Paseo de Valencia at	AM	0.357	--	A	No	0.368	--	A	No	0.011	No
Calle de La Plata (LW)	PM	0.533	--	A	No	0.544	--	A	No	0.011	No
23) Paseo de Valencia at	AM	0.332	--	A	No	0.335	--	A	No	0.003	No
Calle de La Magdalena (LW)	PM	0.384	--	A	No	0.390	--	A	No	0.006	No
24) Paseo de Valencia at	AM	0.338	--	A	No	0.348	--	A	No	0.010	No
Health Center Drive (LW)	PM	0.511	--	A	No	0.516	--	A	No	0.005	No
25) Paseo de Valencia at	*AM*	--	*10.6*	*B*	*No*	--	*10.7*	*B*	*No*	*0.1*	*No*
Calle de Los Caballeros (LW)	*PM*	--	*10.5*	*B*	*No*	--	*10.6*	*B*	*No*	*0.1*	*No*
26) Paseo de Valencia at	AM	0.449	--	A	No	0.451	--	A	No	0.002	No
Los Alisos Boulevard	PM	0.455	--	A	No	0.459	--	A	No	0.004	No
27) Paseo de Valencia at	AM	0.368	--	A	No	0.374	--	A	No	0.006	No
Kennington Drive (LW)	PM	0.550	--	A	No	0.554	--	A	No	0.004	No
28) Paseo de Valencia at	AM	0.393	--	A	No	0.405	--	A	No	0.012	No
Avenida Sevilla/Beckenham Street	PM	0.581	--	A	No	0.585	--	A	No	0.004	No
29) Paseo de Valencia at	AM	0.649	--	B	No	0.649	--	B	No	0.000	No
Laguna Hills Drive/Stockport Street	PM	0.680	--	B	No	0.680	--	B	No	0.000	No
30) Paseo de Valencia at	AM	0.301	--	A	No	0.306	--	A	No	0.005	No
Hawk Highway	PM	0.425	--	A	No	0.428	--	A	No	0.003	No

Table 18
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	Delay	LOS	Poor LOS ?	ICU	Delay	LOS	Poor LOS ?	ICU or Delay Diff	Proj Sig Imp?
31) Paseo de Valencia at	AM	0.643	--	B	No	0.643	--	B	No	0.000	No
Alicia Parkway	PM	0.645	--	B	No	0.646	--	B	No	0.001	No
32) Avenida de La Carlota at Plaza	AM	0.245	--	A	No	0.311	--	A	No	0.066	No
Lane/Mall Entrance	PM	0.436	--	A	No	0.447	--	A	No	0.011	No
33) Avenida de La Carlota at Mall	*AM*	--	*13.3*	*B*	No	--	*9.5*	*A*	*No*	*-3.8*	*No*
Driveway 1	*PM*	--	*27.7*	*D*	No	--	*12.2*	*B*	No	*-15.5*	*No*
34) Avenida de la Carlota at Mall	*AM*	--	*11.9*	*B*	No	--	*9.4*	*A*	*No*	*-2.5*	*No*
Driveway 2	*PM*	--	*26.4*	*D*	No	--	*11.8*	*B*	*No*	*-14.6*	*No*
35) Avenida de La Carlota at Mall	*AM*	--	*12.8*	*B*	No	*0.295*	--	*A*	No	--	No
Driveway 3	*PM*	--	*32.4*	*D*	No	*0.516*	--	*A*	No	--	No
36) Avenida de La Carlota at Oakbrook	*AM*	--	*10.5*	*B*	No	--	*10.7*	*B*	*No*	*0.2*	*No*
Village Driveway 1	*PM*	--	*22.8*	*C*	No	--	*23.6*	*C*	*No*	*0.8*	*No*
37) Avenida de La Carlota at	*AM*	--	*10.1*	*B*	No	--	*10.3*	*B*	*No*	*0.2*	*No*
Oakbrook Village Driveway 2	*PM*	--	*12.3*	*B*	No	--	*12.4*	*B*	*No*	*0.1*	*No*
38) Avenida de La Carlota at	AM	0.423	--	A	No	0.429	--	A	No	0.006	No
Los Alisos Boulevard	PM	0.491	--	A	No	0.474	--	A	No	0.004	No
39) Ronda del Rossmoor/Calle de La	*AM*	--	*8.6*	*A*	No	--	*8.8*	*A*	*No*	*0.2*	*No*
	PM	--	*10.4*	*B*	No	--	*10.6*	*B*	*No*	*0.2*	*No*
40) Calle de La Louisa at	*AM*	--	*8.2*	*A*	No	--	*8.3*	*A*	*No*	*0.1*	*No*
Health Center Drive	*PM*	--	*8.9*	*A*	No	--	*9.0*	*A*	*No*	*0.1*	*No*
41) Calle de la Louisa at	*AM*	--	*7.9*	*A*	No	--	*7.9*	*A*	*No*	*0.0*	*No*
Calle de Los Caballeros	*PM*	--	*8.7*	*A*	No	--	*8.7*	*A*	*No*	*0.0*	*No*
42) Irvine Center Drive/Moulton Parkway Lake	AM	0.447	--	A	No	0.447	--	A	No	0.000	No
Forest Drive	PM	0.674	--	B	No	0.674	--	B	No	0.000	No

Table 18
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
43) Moulton Parkway at	AM	0.354	--	A	No	0.354	--	A	No	0.000	No
Ridge Route Drive	PM	0.570	--	A	No	0.570	--	A	No	0.000	No
44) Moulton Parkway at Santa	AM	0.472	--	A	No	0.472	--	A	No	0.000	No
Maria Avenue	PM	0.644	--	B	No	0.644	--	B	No	0.000	No
45) Moulton Parkway at	AM	0.530	--	A	No	0.532	--	A	No	0.002	No
Via Campo Verde (LW)	PM	0.578	--	A	No	0.581	--	A	No	0.003	No
46) Moulton Parkway at Calle	AM	0.514	--	A	No	0.516	--	A	No	0.002	No
Cortez (AV)	PM	0.603	--	B	No	0.605	--	B	No	0.002	No
47) Moulton Parkway at	AM	0.529	--	A	No	0.531	--	A	No	0.002	No
Calle Aragon (AV)	PM	0.517	--	A	No	0.519	--	A	No	0.002	No
48) Moulton Parkway at	AM	0.506	--	A	No	0.507	--	A	No	0.001	No
Glenwood Drive/Indian Creek Lane	PM	0.621	--	B	No	0.624	--	B	No	0.003	No
49) Avenida de la Carlota/I-5 Southbound Ramps at	AM	0.650	--	B	No	0.650	--	B	No	0.000	No
Lake Forest Drive	PM	0.752	--	C	No	0.752	--	C	No	0.000	No
HCM 2010:	AM	--	26.4	C	No	--	26.4	C	No	0.0	No
HCM 2010:	PM	--	26.5	C	No	--	28.5	C	No	2.0	No
50) I-5 Northbound Ramps at Lake	AM	0.393	--	A	No	0.395	--	A	No	0.002	No
Forest Drive (LF)	PM	0.554	--	A	No	0.557	--	A	No	0.003	No
HCM 2010:	AM	--	19.1	B	No	--	19.1	B	No	0.0	No
HCM 2010:	PM	--	15.6	B	No	--	15.7	B	No	0.1	No
51) Rockfield Boulevard at Lake	AM	0.556	--	A	No	0.558	--	A	No	0.002	No
Forest Drive (LF)	PM	0.685	--	B	No	0.687	--	B	No	0.002	No
52) Avenida de La Carlota at Ridge	AM	0.426	--	A	No	0.426	--	A	No	0.000	No
Route Drive	PM	0.763	--	C	No	0.763	--	C	No	0.000	No

Table 18
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
53) Avenida de La Carlota at	AM	0.202	--	A	No	0.202	--	A	No	0.000	No
Via Puerta (LW)	PM	0.517	--	A	No	0.517	--	A	No	0.000	No
54) Rockfield Boulevard at	AM	0.344	--	A	No	0.344	--	A	No	0.000	No
Landisview Avenue (LF)	PM	0.375	--	A	No	0.375	--	A	No	0.000	No
55) Muirlands Boulevard at	AM	0.718	--	C	No	0.721	--	C	No	0.003	No
Los Alisos Boulevard (MV)	PM	0.704	--	C	No	0.710	--	C	No	0.006	No
56) Rockfield Boulevard/Fordview at Los	AM	0.722	--	C	No	0.725	--	C	No	0.003	No
Alisos Boulevard (LF)	PM	0.622	--	B	No	0.627	--	B	No	0.005	No
57) Muirlands Boulevard at	AM	0.376	--	A	No	0.378	--	A	No	0.002	No
Marathon Street (MV)	PM	0.407	--	A	No	0.409	--	A	No	0.002	No
58) Muirlands Boulevard at	AM	0.747	--	C	No	0.747	--	C	No	0.000	No
Alicia Parkway (MV)	PM	0.831	--	D	No	0.834	--	D	No	0.003	No
59) Charlinda Drive at Alicia	AM	0.594	--	A	No	0.594	--	A	No	0.000	No
Parkway (MV)	PM	0.755	--	C	No	0.755	--	C	No	0.000	No
60) I-5 Northbound Ramps at Alicia	AM	0.522	--	A	No	0.522	--	A	No	0.000	No
Parkway (MV)	PM	0.694	--	C	No	0.694	--	B	No	0.000	No
HCM 2010:	AM	--	14.3	B	No	--	14.3	B	No	0.0	No
HCM 2010:	PM	--	17.9	B	No	--	17.9	B	No	0.0	No
61) I-5 Southbound Ramps at Alicia	AM	0.777	--	D	No	0.777	--	C	No	0.000	No
Parkway	PM	0.836	--	D	No	0.836	--	D	No	0.000	No
HCM 2010:	AM	--	26.9	C	No	--	26.9	C	No	0.0	No
HCM 2010:	PM	--	31.5	C	No	--	31.5	C	No	0.0	No

Notes:
Italicized text corresponds to an unsignalized/stop-controlled intersection.
acceptable level of service. ICU = Intersection Capacity Utilization; LOS = level of service; CMP = Congestion Management Program; LF = Lake Forest; LW = Laguna Woods; AV = Aliso Viejo; LB = Laguna Beach; MV = Mission Viejo

Table 19
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
1) Muirlands Boulevard at El Toro Road (LF)	Sat Midday	0.639	--	B	No	0.642	--	B	No	0.003	No
2) Raymond Way at El Toro Road (LF)	Sat Midday	0.567	--	A	No	0.569	--	A	No	0.002	No
3) Arbor Way at El Toro Road (LF)	Sat Midday	0.549	--	A	No	0.551	--	A	No	0.002	No
4) Rockfield Boulevard at El Toro Road (LF)	Sat Midday	0.647	--	B	No	0.648	--	B	No	0.001	No
5) Bridger Road/I-5 Northbound Ramps El Toro Road (CMP/LF)	Sat Midday	0.789	--	C	No	0.816	--	D	No	0.027	No
HCM 2010:	Sat Midday	--	48.1	D	No	--	52.9	D	No	4.8	No
6) Avenida de La Carlota/I-5 Southbound On-Ramp at El Toro Road (CMP)	Sat Midday	0.778	--	C	No	0.823	--	D	No	0.045	No
HCM 2010:	Sat Midday	--	39.8	D	No	--	45.9	D	No	6.1	No
7) Regional Center Drive at El Toro Road	Sat Midday	0.524	--	A	No	0.571	--	A	No	0.047	No
8) Paseo de Valencia at El Toro Road	Sat Midday	0.493	--	A	No	0.501	--	A	No	0.008	No
9) Avenida Sevilla at El Toro Road (LW)	Sat Midday	0.466	--	A	No	0.471	--	A	No	0.005	No
10) Catholic Church/Lutheran Church at El Toro Road (LW)	Sat Midday	0.297	--	A	No	0.302	--	A	No	0.005	No

Table 19
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
11) Moulton Parkway at El Toro Road (CMP/LW)	Sat Midday	0.461	--	A	No	0.472	--	A	No	0.011	No
12) Home Depot at El Toro Road (LW)	Sat Midday	0.417	--	A	No	0.419	--	A	No	0.002	No
13) Calle Sanora at El Toro Road (LW)	Sat Midday	0.330	--	A	No	0.333	--	A	No	0.003	No
14) Canyon Wren Lane at El Toro Road (AV)	Sat Midday	0.293	--	A	No	0.296	--	A	No	0.003	No
15) Calle Corta at El Toro Road (LW)	Sat Midday	0.285	--	A	No	0.287	--	A	No	0.002	No
16) Aliso Creek Road at El Toro Road (LW)	Sat Midday	0.431	--	A	No	0.431	--	A	No	0.000	No
17) The Club Drive/Bells Vireo Lane at El Toro Road (LB)	Sat Midday	0.308	--	A	No	0.310	--	A	No	0.002	No
18) SR-73 Northbound Ramps at El Toro Road (CMP/LB)	Sat Midday	0.343	--	A	No	0.345	--	A	No	0.002	No
HCM 2010:	Sat Midday	--	18.6	B	No	--	18.5	B	No	-0.1	No
19) SR-73 Southbound Ramps at El Toro Road (CMP/LB)	Sat Midday	0.335	--	A	No	0.340	--	A	No	0.005	No
HCM 2010:	Sat Midday	--	25.1	C	No	--	25.0	C	No	-0.1	No

Table 19
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
20) Avenida de La Carlota at Paseo de Valencia/I-5 Southbound	Sat Midday	0.568	--	A	No	0.590	--	A	No	0.022	No
HCM 2010:	Sat Midday	--	28.8	C	No	--	29.4	C	No	0.6	No
21) Paseo de Valencia at Ronda del Rossmoor (LW)	*Sat Midday*	--	*10.6*	*B*	*No*	--	*10.7*	*B*	*No*	*0.1*	*No*
22) Paseo de Valencia at Calle de La Plata (LW)	Sat Midday	0.358	--	A	No	0.364	--	A	No	0.006	No
23) Paseo de Valencia at Calle de La Magdalena (LW)	Sat Midday	0.233	--	A	No	0.238	--	A	No	0.005	No
24) Paseo de Valencia at Health Center Drive (LW)	Sat Midday	0.327	--	A	No	0.332	--	A	No	0.005	No
25) Paseo de Valencia at Calle de Los Caballeros (LW)	*Sat Midday*	--	*9.9*	*A*	*No*	--	*10.0*	*A*	*No*	*0.1*	*No*
26) Paseo de Valencia at Los Alisos Boulevard	Sat Midday	0.323	--	A	No	0.327	--	A	No	0.004	No
27) Paseo de Valencia at Kennington Drive (LW)	Sat Midday	0.371	--	A	No	0.375	--	A	No	0.004	No
28) Paseo de Valencia at Avenida Sevilla/Beckenham Street	Sat Midday	0.401	--	A	No	0.404	--	A	No	0.003	No
29) Paseo de Valencia at Laguna Hills Drive/Stockport Street	Sat Midday	0.419	--	A	No	0.419	--	A	No	0.000	No
30) Paseo de Valencia at Hawk Highway	Sat Midday	0.350	--	A	No	0.352	--	A	No	0.002	No

Table 19
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
31) Paseo de Valencia at Alicia Parkway	Sat Midday	0.565	--	A	No	0.566	--	A	No	0.001	No
32) Avenida de La Carlota at Plaza Lane/Mall Entrance	Sat Midday	0.452	--	A	No	0.441	--	A	No	-0.011	No
33) Avenida de La Carlota at Mall Driveway 1	*Sat Midday*	--	*25.8*	*D*	*No*	--	*11.4*	*B*	No	*-14.4*	*No*
34) Avenida de La Carlota at Mall Driveway 2	*Sat Midday*	--	*23.7*	*C*	*No*	--	*10.9*	*B*	*No*	*-12.8*	*No*
35) Avenida de La Carlota at Mall Driveway 3	*Sat Midday*	--	*22.4*	*C*	*No*	0.458	--	A	No	--	No
36) Avenida de La Carlota at Oakbrook Village Driveway 1	*Sat Midday*	--	*18.7*	*C*	*No*	--	*19.2*	*C*	*No*	*0.5*	*No*
37) Avenida de La Carlota at Oakbrook Village Driveway 2	*Sat Midday*	--	*11.3*	*B*	*No*	--	*11.4*	*B*	*No*	*0.1*	*No*
38) Avenida de La Carlota at Los Alisos Boulevard	Sat Midday	0.374	--	A	No	0.377	--	A	No	0.003	No
39) Ronda del Rossmoor/Calle de La Calle de la Plata	*Sat Midday*	--	*8.5*	*A*	*No*	--	*8.6*	*A*	*No*	*0.1*	*No*
40) Calle de La Louisa at Health Center Drive	*Sat Midday*	--	*8.3*	*A*	*No*	--	*8.4*	*A*	*No*	*0.1*	*No*
41) Calle de la Louisa at Calle de los Caballeros	*Sat Midday*	--	*8.0*	*A*	*No*	--	*8.0*	*A*	*No*	*0.0*	*No*
42) Irvine Center Drive/Moulton Parkway Lake Forest Drive	Sat Midday	0.334	--	A	No	0.334	--	A	No	0.000	No

Table 19
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
43) Moulton Parkway at Ridge Route Drive	Sat Midday	0.273	--	A	No	0.273	--	A	No	0.000	No
44) Moulton Parkway at Santa Maria Avenue	Sat Midday	0.370	--	A	No	0.370	--	A	No	0.000	No
45) Moulton Parkway at Via Campo Verde (LW)	Sat Midday	0.272	--	A	No	0.275	--	A	No	0.003	No
46) Moulton Parkway at Calle Cortez (AV)	Sat Midday	0.278	--	A	No	0.281	--	A	No	0.003	No
47) Moulton Parkway at Calle Aragon (AV)	Sat Midday	0.322	--	A	No	0.324	--	A	No	0.002	No
48) Moulton Parkway at Glenwood Drive/Indian Creek Lane	Sat Midday	0.330	--	A	No	0.332	--	A	No	0.002	No
49) Avenida de La Carlota/I-5 Southbound Ramps at Lake Forest Drive	Sat Midday	0.470	--	A	No	0.470	--	A	No	0.000	No
HCM 2010:	Sat Midday	--	23.7	C	No	--	23.7	C	No	0.0	No
50) I-5 Northbound Ramps at Lake Forest Drive (LF)	Sat Midday	0.379	--	A	No	0.381	--	A	No	0.002	No
HCM 2010:	Sat Midday	--	19.1	B	No	--	19.1	B	No	0.0	No
51) Rockfield Boulevard at Lake Forest Drive (LF)	Sat Midday	0.488	--	A	No	0.490	--	A	No	0.002	No
52) Avenida de La Carlota at Ridge Route Drive	Sat Midday	0.461	--	A	No	0.461	--	A	No	0.000	No
53) Avenida de La Carlota at Via Puerta (LW)	Sat Midday	0.295	--	A	No	0.295	--	A	No	0.000	No

Table 19
Existing (2015) Plus Project Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Existing (2015)				Existing (2015) Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
54) Rockfield Boulevard at Landisview Avenue (LF)	Sat Midday	0.310	--	A	No	0.310	--	A	No	0.000	No
55) Muirlands Boulevard at Los Alisos Boulevard (MV)	Sat Midday	0.463	--	C	No	0.464	--	A	No	0.001	No
56) Rockfield Boulevard/Fordview at Los Alisos Boulevard (LF)	Sat Midday	0.539	--	A	No	0.543	--	A	No	0.004	No
57) Muirlands Boulevard at Marathon Street (MV)	Sat Midday	0.294	--	A	No	0.296	--	A	No	0.002	No
58) Muirlands Boulevard at Alicia Parkway (MV)	Sat Midday	0.666	--	B	No	0.666	--	B	No	0.000	No
59) Charlinda Drive at Alicia Parkway (MV)	Sat Midday	0.639	--	B	No	0.639	--	B	No	0.000	No
60) I-5 Northbound Ramps at Alicia Parkway (MV)	Sat Midday	0.520	--	A	No	0.520	--	A	No	0.000	No
HCM 2010:	Sat Midday	--	17.4	B	No	--	17.4	B	No	0.0	No
61) I-5 Southbound Ramps at Alicia Parkway	Sat Midday	0.697	--	B	No	0.697	--	B	No	0.000	No
HCM 2010:	Sat Midday	--	25.0	C	No	--	25.0	C	No	0.0	No

Notes:
Italicized text corresponds to an unsignalized/stop-controlled intersection.
acceptable level of service. ICU = Intersection Capacity Utilization; LOS = level of service; CMP = Congestion Management Program; LF = Lake Forest; LW = Laguna Woods; AV = Aliso Viejo; LB = Laguna Beach; MV = Mission Viejo

3.16.2 Year 2018 Cumulative Base Traffic Conditions

Year 2018 Cumulative Base Traffic Forecasts

The Cumulative Base or "background" traffic projections account for existing traffic volumes, and include two growth elements over existing traffic volumes: (1) increase in the existing traffic volumes due to overall regional growth and (2) traffic generated by specific developments expected to be constructed by Year 2018 in the vicinity of the study area.

No physical, capacity-enhancing improvements to intersection geometry or roadway segments have been assumed under Year 2018 Cumulative Base conditions because no transportation system projects within the study area are expected to be fully developed/completed by Year 2018.

Year 2018 Cumulative Base Traffic Volumes

Figures 15A through 17C in the TIA (Appendix G) illustrate the Year 2018 Cumulative Base traffic volumes at the 61 key intersections during the weekday AM, weekday PM, and Saturday midday, peak hours, respectively.

Year 2018 Cumulative Plus Project Traffic Volumes

Figures 18A through 20C in the TIA (Appendix G) show the Year 2018 Cumulative Plus Project traffic volumes at the 61 key intersections during the weekday AM, weekday PM, and Saturday midday, peak hours, respectively.

Year 2018 Cumulative Base Traffic Conditions

Tables 20 and 21 show the Year 2018 Cumulative Base LOS at the 61 key intersections during the weekday AM and PM, and Saturday midday, peak hours, respectively.

As Table 20 indicates, 60 of the 61 key intersections are expected to operate at acceptable LOS D or better (LOS E or better at CMP intersections) during the AM and PM peak hours of a typical weekday. Under these future background conditions without the Project, the following intersection would operate at a deficient LOS E during the PM peak hour (it should be noted that this deficiency is not attributable to the Project, and will be addressed by the future installation of a signal at the intersection as part of the Project's site access improvements):

- 35) Avenida de la Carlota at Mall Driveway 3

Table 21 indicates that all 61 key intersections would operate at acceptable LOS D or better (LOS E or better at CMP intersections) during the Saturday midday peak hour under Year 2018 Cumulative Base conditions.

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
1) Muirlands Boulevard at	AM	0.635	--	B	No	0.636	--	B	No	0.001	No
El Toro Road (LF)	PM	0.718	--	C	No	0.720	--	C	No	0.002	No
2) Raymond Way at	AM	0.432	--	A	No	0.433	--	A	No	0.001	No
El Toro Road (LF)	PM	0.531	--	A	No	0.533	--	A	No	0.002	No
3) Arbor Way at	AM	0.400	--	A	No	0.401	--	A	No	0.001	No
El Toro Road (LF)	PM	0.537	--	A	No	0.539	--	A	No	0.002	No
4) Rockfield Boulevard at El Toro	AM	0.576	--	A B	No	0.577	--	A B	No	0.001	No
Road (LF)	PM	0.633	--		No	0.636	--		No	0.003	No
5) Bridger Road/I-5 Northbound Ramps El Toro Road	AM	0.528	--	A C	No	0.563	--	A D	No	0.035	No
(CMP/LF)	PM	0.782	--	C E	No	0.817	-- 38.0	D E	No	0.035	No
HCM 2010:	AM	--	33.9		No	--	71.2		No	4.1	No
HCM 2010:	PM	--	61.3		No	--			No	9.9	No
6) Avenida de La Carlota/I-5 Southbound On-Ramp at	AM	0.528	--	A D	No	0.594	--	A E	No	0.066	No
El Toro Road (CMP)	PM	0.836	-- 29.2	C D	No	0.914	-- 33.4	C E	No	0.078	No
HCM 2010:	AM	--	45.9		No	--	56.6		No	4.2	No
HCM 2010:	PM	--			No	--			No	10.7	No
7) Regional Center Drive at El Toro	AM	0.287	--	A B	No	0.371	--	A B	No	0.084	No
Road	PM	0.654	--		No	0.628	--		No	-0.026	No
8) Paseo de Valencia at El Toro	AM	0.518	--	A B	No	0.528	--	A B	No	0.010	No
Road	PM	0.627	--		No	0.638	--		No	0.011	No
9) Avenida Sevilla at	AM	0.430	--	A	No	0.438	--	A	No	0.008	No
El Toro Road (LW)	PM	0.464	--	A	No	0.471	--	A	No	0.007	No

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
10) Catholic Church/Lutheran Church at	AM	0.318	--	A	No	0.326	--	A	No	0.008	No
El Toro Road (LW)	PM	0.357	--	A	No	0.364	--	A	No	0.007	No
11) Moulton Parkway at	AM	0.627	--	B	No	0.631	--	B	No	0.004	No
El Toro Road (CMP/LW)	PM	0.682	--	B	No	0.688	--	B	No	0.006	No
12) Home Depot at	AM	0.339	--	A	No	0.341	--	A	No	0.002	No
El Toro Road (LW)	PM	0.515	--	A	No	0.518	--	A	No	0.003	No
13) Calle Sanora at	AM	0.338	--	A	No	0.340	--	A	No	0.002	No
El Toro Road (LW)	PM	0.355	--	A	No	0.358	--	A	No	0.003	No
14) Canyon Wren Lane at	AM	0.263	--	A	No	0.264	--	A	No	0.001	No
El Toro Road (AV)	PM	0.331	--	A	No	0.334	--	A	No	0.003	No
15) Calle Corta at	AM	0.280	--	A	No	0.284	--	A	No	0.004	No
El Toro Road (LW)	PM	0.313	--	A	No	0.316	--	A	No	0.003	No
16) Aliso Creek Road at El Toro	AM	0.647	--	B	No	0.647	--	B	No	0.000	No
Road (LW)	PM	0.863	--	D	No	0.863	--	D	No	0.000	No
17) The Club Drive/Bells Vireo Lane at	AM	0.576	--	A	No	0.580	--	A	No	0.004	No
El Toro Road (LB)	PM	0.495	--	A	No	0.498	--	A	No	0.003	No
18) SR-73 Northbound Ramps at	AM	0.594	--	A	No	0.589	--	A	No	-0.005	No
El Toro Road (CMP/LB)	PM	0.688	--	B	No	0.691	--	B	No	0.003	No
HCM 2010:	AM	--	14.4	B	No	--	14.4	B	No	0.0	No
HCM 2010:	PM	--	9.6	A	No	--	9.6	A	No	0.0	No

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
19) SR-73 Southbound Ramps at El Toro Road (CMP/LB)	AM	0.489	--	A	No	0.491	--	A	No	0.002	No
	PM	0.656	--	B	No	0.662	--	B	No	0.006	No
HCM 2010:	AM	--	24.2	C	No	--	24.2	C	No	0.0	No
HCM 2010:	PM	--	24.6	C	No	--	24.8	C	No	0.2	No
20) Avenida de La Carlota at Paseo de Valencia/I-5 Southbound	AM	0.520	--	A	No	0.561	--	A	No	0.041	No
	PM	0.551	--	A	No	0.575	--	A	No	0.024	No
HCM 2010:	AM	--	47.1	D	No	--	52.3	D	No	5.2	No
HCM 2010:	PM	--	48.1	D	No	--	54.6	D	No	6.5	No
21) Paseo de Valencia at Ronda del Rossmoor (LW)	*AM*	--	*10.7*	*B*	*No*	--	*10.8*	*B*	*No*	*0.1*	*No*
	PM	--	*11.4*	*B*	*No*	--	*11.5*	*B*	*No*	*0.1*	*No*
22) Paseo de Valencia at Calle de La Plata (LW)	AM	0.366	--	A	No	0.377	--	A	No	0.011	No
	PM	0.548	--	A	No	0.559	--	A	No	0.011	No
23) Paseo de Valencia at Calle de La Magdalena (LW)	AM	0.341	--	A	No	0.344	--	A	No	0.003	No
	PM	0.394	--	A	No	0.401	--	A	No	0.007	No
24) Paseo de Valencia at Health Center Drive (LW)	AM	0.348	--	A	No	0.358	--	A	No	0.010	No
	PM	0.526	--	A	No	0.531	--	A	No	0.005	No
25) Paseo de Valencia at Calle de Los Caballeros (LW)	*AM*	--	*10.7*	*B*	*No*	--	*10.8*	*B*	*No*	*0.1*	*No*
	PM	--	*10.6*	*B*	*No*	--	*10.7*	*B*	*No*	*0.1*	*No*
26) Paseo de Valencia at Los Alisos Boulevard	AM	0.463	--	A	No	0.466	--	A	No	0.003	No
	PM	0.468	--	A	No	0.472	--	A	No	0.004	No
27) Paseo de Valencia at Kennington Drive (LW)	AM	0.381	--	A	No	0.386	--	A	No	0.005	No
	PM	0.566	--	A	No	0.569	--	A	No	0.003	No

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
28) Paseo de Valencia at	AM	0.413	--	A	No No	0.419	--	A B	No	0.006	No
Avenida Sevilla/Beckenham Street	PM	0.599	--	A		0.602	--		No	0.003	No
29) Paseo de Valencia at	AM	0.671	--	B	No	0.671	--	B	No	0.000	No
Laguna Hills Drive/Stockport Street	PM	0.699	--	B	No	0.699	--	B	No	0.000	No
30) Paseo de Valencia at	AM	0.286	--	A	No	0.288	--	A	No	0.002	No
Hawk Highway	PM	0.437	--	A	No	0.440	--	A	No	0.003	No
31) Paseo de Valencia at	AM	0.668	--	B	No	0.669	--	B	No	0.001	No
Alicia Parkway	PM	0.677	--	B	No	0.679	--	B	No	0.002	No
32) Avenida de La Carlota at Plaza	AM	0.300	--	A	No	0.361	--	A	No	0.061	No
Lane/Mall Entrance	PM	0.452	--	A	No	0.469	--	B	No	0.017	No
33) Avenida de La Carlota at Mall	*AM*	--	*14.5*	*B*	*No*	--	*9.6*	*A*	*No*	*-4.9*	*No*
Driveway 1	*PM*	--	*32.1*	*D*	*No*	--	*12.6*	*B*	*No*	*-19.5*	*No*
34) Avenida de La Carlota at Mall	*AM*	--	*12.8*	*B*	*No*	--	*9.5*	*A*	*No*	*-3.3*	*No*
Driveway 2	*PM*	--	*30.0*	*D*	*No*	--	*12.2*	*B*	*No*	*-17.8*	*No*
35) Avenida de La Carlota at Mall	*AM*	--	*14.0*	*B*	*No*	*0.314*	--	*A*	No	--	No
Driveway 3	*PM*	--	*40.9*	*E*	**Yes**	*0.541*	--	*A*	No	--	No
36) Avenida de La Carlota at Oakbrook	*AM*	--	*12.1*	*B*	*No*	--	*12.4*	*B*	*No*	*0.3*	*No*
Village Driveway 1	*PM*	--	*25.4*	*D*	*No*	--	*26.3*	*C*	*No*	*0.9*	*No*
37) Avenida de La Carlota at	*AM*	--	*14.1*	*B*	*No*	--	*14.5*	*B*	*No*	*0.4*	*No*
Oakbrook Village Driveway 2	*PM*	--	*11.6*	*B*	*No*	--	*11.6*	*B*	*No*	*0.0*	*No*
38) Avenida de La Carlota at	AM	0.442	--	A	No	0.448	--	A	No	0.006	No
Los Alisos Boulevard	PM	0.483	--	A	No	0.486	--	A	No	0.003	No

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	Delay	LOS	Poor LOS ?	ICU	Delay	LOS	Poor LOS ?	ICU or Delay Diff	Proj Sig Imp?
39) Ronda del Rossmoor/Calle de la Calle de la Plata	AM	--	8.7	A	No	--	8.9	A	No	0.2	No
	PM	--	10.6	B	No	--	10.9	B	No	0.3	No
40) Calle de La Louisa at Health Center Drive	AM	--	8.3	A	No	--	8.4	A	No	0.1	No
	PM	--	9.0	A	No	--	9.1	A	No	0.1	No
41) Calle de La Louisa at Calle de Los Caballeros	AM	--	7.9	A	No	--	8.0	A	No	0.1	No
	PM	--	8.7	A	No	--	8.8	A	No	0.1	No
42) Irvine Center Drive/Moulton Parkway Lake Forest Drive	AM	0.459	--	A	No	0.459	--	A	No	0.000	No
	PM	0.693	--	B	No	0.693	--	B	No	0.000	No
43) Moulton Parkway at Ridge Route Drive	AM	0.363	--	A	No	0.363	--	A	No	0.000	No
	PM	0.585	--	A	No	0.585	--	A	No	0.000	No
44) Moulton Parkway at Santa Maria Avenue	AM	0.485	--	A	No	0.485	--	A	No	0.000	No
	PM	0.662	--	B	No	0.662	--	B	No	0.000	No
45) Moulton Parkway at Via Campo Verde (LW)	AM	0.545	--	A	No	0.547	--	A	No	0.002	No
	PM	0.595	--	A	No	0.598	--	A	No	0.003	No
46) Moulton Parkway at Calle Cortez (AV)	AM	0.529	--	A	No	0.531	--	A	No	0.002	No
	PM	0.621	--	B	No	0.623	--	B	No	0.002	No
47) Moulton Parkway at Calle Aragon (AV)	AM	0.544	--	A	No	0.546	--	A	No	0.002	No
	PM	0.532	--	A	No	0.534	--	A	No	0.002	No
48) Moulton Parkway at Glenwood Drive/Indian Creek Lane	AM	0.520	--	A	No	0.521	--	A	No	0.001	No
	PM	0.643	--	B	No	0.645	--	B	No	0.002	No

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
49) Avenida de La Carlota/I-5 Southbound Ramps at	AM	0.673	--	B	No	0.673	--	B	No	0.000	No
Lake Forest Drive	PM	0.777	--	C	No	0.777	--	C	No	0.000	No
HCM 2010:	AM	--	26.9	C	No	--	26.9	C	No	0.0	No
HCM 2010:	PM	--	29.5	C	No	--	29.5	C	No	2.0	No
50) I-5 Northbound Ramps at Lake	AM	0.405	--	A	No	0.407	--	A	No	0.002	No
Forest Drive (LF)	PM	0.570	--	A	No	0.573	--	A	No	0.003	No
HCM 2010:	AM	--	18.9	B	No	--	18.8	B	No	0.1	No
HCM 2010:	PM	--	16.0	B	No	--	16.0	B	No	0.0	No
51) Rockfield Boulevard at Lake	AM	0.572	--	A	No	0.574	--	A	No	0.002	No
Forest Drive (LF)	PM	0.705	--	C	No	0.707	--	C	No	0.002	No
52) Avenida de La Carlota at Ridge	AM	0.446	--	A	No	0.446	--	A	No	0.000	No
Route Drive	PM	0.790	--	C	No	0.790	--	C	No	0.000	No
53) Avenida de La Carlota at	AM	0.207	--	A	No	0.207	--	A	No	0.000	No
Via Puerta (LW)	PM	0.536	--	A	No	0.536	--	A	No	0.000	No
54) Rockfield Boulevard at	AM	0.352	--	A	No	0.352	--	A	No	0.000	No
Landisview Avenue (LF)	PM	0.385	--	A	No	0.385	--	A	No	0.000	No
55) Muirlands Boulevard at	AM	0.739	--	C	No	0.741	--	C	No	0.002	No
Los Alisos Boulevard (MV)	PM	0.725	--	C	No	0.730	--	C	No	0.005	No
56) Rockfield Boulevard/Fordview at Los Alisos	AM	0.743	--	C	No	0.745	--	C	No	0.002	No
Boulevard (LF)	PM	0.642	--	B	No	0.647	--	B	No	0.005	No
57) Muirlands Boulevard at	AM	0.388	--	A	No	0.390	--	A	No	0.002	No
Marathon Street (MV)	PM	0.418	--	A	No	0.419	--	A	No	0.001	No

Table 20
Year 2018 Intersection Peak Hour Levels of Service Weekday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
58) Muirlands Boulevard at	AM	0.774	--	C	No	0.774	--	C	No	0.000	No
Alicia Parkway (MV)	PM	0.861	--	D	No	0.861	--	D	No	0.000	No
59) Charlinda Drive at Alicia	AM	0.613	--	A	No	0.613	--	B	No	0.000	No
Parkway (MV)	PM	0.779	--	C	No	0.779	--	C	No	0.000	No
60) I-5 Northbound Ramps at Alicia	AM	0.541	--	A	No	0.541	--	A	No	0.000	No
Parkway (MV)	PM	0.725	--	C	No	0.725	--	C	No	0.000	No
HCM 2010:	AM	--	14.6	B	No	--	14.3	B	No	0.0	No
HCM 2010:	PM	--	20.4	C	No	--	17.9	C	No	0.0	No
61) I-5 Southbound Ramps at Alicia	AM	0.817	--	D	No	0.817	--	D	No	0.000	No
Parkway	PM	0.881	--	D	No	0.881	--	D	No	0.000	No
HCM 2010:	AM	--	32.0	C	No	--	32.0	C	No	0.0	No
HCM 2010:	PM	--	39.5	D	No	--	39.5	D	No	0.0	No

Notes:
Italicized text corresponds to an unsignalized/stop-controlled intersection.
acceptable level of service. ICU = Intersection Capacity Utilization; LOS = level of service; CMP = Congestion Management Program; LF = Lake Forest; LW = Laguna Woods; AV = Aliso Viejo; LB = Laguna Beach; MV = Mission Viejo

Table 21
Year 2018 Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
1) Muirlands Boulevard at El Toro Road (LF)	Sat Midday	0.661	--	B	No	0.664	--	B	No	0.003	No
2) Raymond Way at El Toro Road (LF)	Sat Midday	0.585	--	A	No	0.587	--	B	No	0.002	No
3) Arbor Way at El Toro Road (LF)	Sat Midday	0.556	--	A	No	0.558	--	A	No	0.002	No
4) Rockfield Boulevard at El Toro Road (LF)	Sat Midday	0.669	--	B	No	0.671	--	B	No	0.002	No
5) Bridger Road/I-5 Northbound Ramps El Toro Road (CMP/LF)	Sat Midday	0.820	--	D	No	0.848	--	D	No	0.028	No
HCM 2010:	Sat Midday	--	49.9	D	No	--	54.4	D	No	4.5	No
6) Avenida de La Carlota/I-5 Southbound On-Ramp at El Toro Road (CMP)	Sat Midday	0.795	--	C	No	0.841	--	D	No	0.046	No
HCM 2010:	Sat Midday	--	41.1	D	No	--	46.9	D	No	5.8	No
7) Regional Center Drive at El Toro Road	Sat Midday	0.538	--	A	No	0.556	--	A	No	0.018	No
8) Paseo de Valencia at El Toro Road	Sat Midday	0.499	--	A	No	0.507	--	A	No	0.008	No
9) Avenida Sevilla at El Toro Road (LW)	Sat Midday	0.481	--	A	No	0.486	--	A	No	0.005	No
10) Catholic Church/Lutheran Church at El Toro Road (LW)	Sat Midday	0.307	--	A	No	0.312	--	A	No	0.005	No

Table 21
Year 2018 Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
11) Moulton Parkway at El Toro Road (CMP/LW)	Sat Midday	0.481	--	A	No	0.492	--	A	No	0.011	No
12) Home Depot at El Toro Road (LW)	Sat Midday	0.430	--	A	No	0.432	--	A	No	0.002	No
13) Calle Sanora at El Toro Road (LW)	Sat Midday	0.341	--	A	No	0.344	--	A	No	0.003	No
14) Canyon Wren Lane at El Toro Road (AV)	Sat Midday	0.304	--	A	No	0.306	--	A	No	0.002	No
15) Calle Corta at El Toro Road (LW)	Sat Midday	0.295	--	A	No	0.297	--	A	No	0.002	No
16) Aliso Creek Road at El Toro Road (LW)	Sat Midday	0.444	--	A	No	0.444	--	A	No	0.000	No
17) The Club Drive/Bells Vireo Lane at El Toro Road (LB)	Sat Midday	0.316	--	A	No	0.318	--	A	No	0.002	No
18) SR-73 Northbound Ramps at El Toro Road (CMP/LB) HCM 2010:	Sat Midday Sat Midday	0.352 --	-- 18.2	A B	No No	0.354 --	-- 18.0	A B	No No	0.002 -0.2	No No
19) SR-73 Southbound Ramps at El Toro Road (CMP/LB) HCM 2010:	Sat Midday Sat Midday	0.339 --	-- 24.9	A C	No No	0.341 --	-- 24.9	A C	No No	0.002 0.0	No No

Table 21
Year 2018 Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
20) Avenida de La Carlota at Paseo de Valencia/I-5 Southbound	Sat Midday	0.604	--	B	No	0.627	--	B	No	0.023	No
HCM 2010:	Sat Midday	--	32.5	C	No	--	32.5	C	No	0.0	No
21) Paseo de Valencia at Ronda del Rossmoor (LW)	*Sat Midday*	--	*10.7*	*B*	*No*	--	*10.8*	*B*	*No*	*0.1*	*No*
22) Paseo de Valencia at Calle de La Plata (LW)	Sat Midday	0.367	--	A	No	0.372	--	A	No	0.005	No
23) Paseo de Valencia at Calle de La Magdalena (LW)	Sat Midday	0.236	--	A	No	0.238	--	A	No	0.002	No
24) Paseo de Valencia at Health Center Drive (LW)	Sat Midday	0.336	--	A	No	0.341	--	A	No	0.005	No
25) Paseo de Valencia at Calle de Los Caballeros (LW)	*Sat Midday*	--	*10.0*	*A*	*No*	--	*10.1*	*B*	*No*	*0.1*	*No*
26) Paseo de Valencia at Los Alisos Boulevard	Sat Midday	0.331	--	A	No	0.335	--	A	No	0.004	No
27) Paseo de Valencia at Kennington Drive (LW)	Sat Midday	0.380	--	A	No	0.384	--	A	No	0.004	No
28) Paseo de Valencia at Avenida Sevilla/Beckenham Street	Sat Midday	0.411	--	A	No	0.414	--	A	No	0.003	No
29) Paseo de Valencia at Laguna Hills Drive/Stockport Street	Sat Midday	0.429	--	A	No	0.429	--	A	No	0.000	No
30) Paseo de Valencia at Hawk Highway	Sat Midday	0.360	--	A	No	0.363	--	A	No	0.003	No

Table 21
Year 2018 Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
31) Paseo de Valencia at Alicia Parkway	Sat Midday	0.586	--	A	No	0.587	--	A	No	0.001	No
32) Avenida de La Carlota at Plaza Lane/Mall Entrance	Sat Midday	0.457	--	A	No	0.445	--	A	No	-0.012	No
33) Avenida de La Carlota at Mall Driveway 1	*Sat Midday*	--	*26.5*	*D*	*No*	--	*11.4*	*B*	No	*-15.1*	*No*
34) Avenida de La Carlota at Mall Driveway 2	*Sat Midday*	--	*24.1*	*C*	*No*	--	*10.9*	*B*	*No*	*-13.2*	*No*
35) Avenida de La Carlota at Mall Driveway 3	*Sat Midday*	--	*22.7*	*C*	*No*	*0.461*	--	*A*	No	--	No
36) Avenida de La Carlota at Oakbrook Village Driveway 1	*Sat Midday*	--	*18.6*	*C*	*No*	--	*19.1*	*C*	*No*	*0.5*	*No*
37) Avenida de La Carlota at Oakbrook Village Driveway 2	*Sat Midday*	--	*10.6*	*B*	*No*	--	*10.7*	*B*	*No*	*0.1*	*No*
38) Avenida de La Carlota at Los Alisos Boulevard	Sat Midday	0.379	--	A	No	0.382	--	A	No	0.003	No
39) Ronda del Rossmoor/Calle de La Plata	Sat Midday	--	*8.6*	*A*	*No*	--	*8.7*	*A*	*No*	*0.1*	*No*
40) Calle de La Louisa at Health Center Drive	Sat Midday	--	*8.4*	*A*	*No*	--	*8.5*	*A*	*No*	*0.1*	*No*
41) Calle de La Louisa at Calle de Los Caballeros	Sat Midday	--	*8.0*	*A*	*No*	--	*8.0*	*A*	*No*	*0.0*	*No*
42) Irvine Center Drive/Moulton Parkway Lake Forest Drive	Sat Midday	0.342	--	A	No	0.342	--	A	No	0.000	No

Table 21
Year 2018 Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
43) Moulton Parkway at Ridge Route Drive	Sat Midday	0.280	--	A	No	0.280	--	A	No	0.000	No
44) Moulton Parkway at Santa Maria Avenue	Sat Midday	0.382	--	A	No	0.382	--	A	No	0.000	No
45) Moulton Parkway at Via Campo Verde (LW)	Sat Midday	0.280	--	A	No	0.282	--	A	No	0.002	No
46) Moulton Parkway at Calle Cortez (AV)	Sat Midday	0.287	--	A	No	0.290	--	A	No	0.003	No
47) Moulton Parkway at Calle Aragon (AV)	Sat Midday	0.332	--	A	No	0.334	--	A	No	0.002	No
48) Moulton Parkway at Glenwood Drive/Indian Creek Lane	Sat Midday	0.346	--	A	No	0.348	--	A	No	0.000	No
49) Avenida de La Carlota/I-5 Southbound Ramps at Lake Forest Drive	Sat Midday	0.482	--	A	No	0.482	--	A	No	0.000	No
HCM 2010:	Sat Midday	--	23.9	C	No	--	24.6	C	No	0.7	No
50) I-5 Northbound Ramps at Lake Forest Drive (LF)	Sat Midday	0.390	--	A	No	0.392	--	A	No	0.002	No
HCM 2010:	Sat Midday	--	19.0	B	No	--	19.0	B	No	0.0	No
51) Rockfield Boulevard at Lake Forest Drive (LF)	Sat Midday	0.502	--	A	No	0.504	--	A	No	0.002	No
52) Avenida de La Carlota at Ridge Route Drive	Sat Midday	0.471	--	A	No	0.471	--	A	No	0.000	No
53) Avenida de La Carlota at Via Puerta (LW)	Sat Midday	0.300	--	A	No	0.300	--	A	No	0.000	No

Table 21
Year 2018 Intersection Peak Hour Levels of Service Saturday Conditions

Key Intersections (Jurisdiction)	Peak Hour	Year 2018 Cumulative Base				Year 2018 Cumulative Plus Project					
		ICU	*Delay*	*LOS*	*Poor LOS ?*	*ICU*	*Delay*	*LOS*	*Poor LOS ?*	*ICU or Delay Diff*	*Proj Sig Imp?*
54) Rockfield Boulevard at Landisview Avenue (LF)	Sat Midday	0.319	--	A	No	0.319	--	A	No	0.000	No
55) Muirlands Boulevard at Los Alisos Boulevard (MV)	Sat Midday	0.474	--	C	No	0.478	--	A	No	0.004	No
56) Rockfield Boulevard/Fordview at Los Alisos Boulevard (LF)	Sat Midday	0.553	--	A	No	0.557	--	A	No	0.004	No
57) Muirlands Boulevard at Marathon Street (MV)	Sat Midday	0.300	--	A	No	0.301	--	A	No	0.001	No
58) Muirlands Boulevard at Alicia Parkway (MV)	Sat Midday	0.691	--	B	No	0.691	--	B	No	0.000	No
59) Charlinda Drive at Alicia Parkway (MV)	Sat Midday	0.661	--	B	No	0.661	--	B	No	0.000	No
60) I-5 Northbound Ramps at Alicia Parkway (MV)	Sat Midday	0.545	--	A	No	0.545	--	A	No	0.000	No
HCM 2010:	Sat Midday	--	15.9	B	No	--	15.9	B	No	0.0	No
61) I-5 Southbound Ramps at Alicia Parkway	Sat Midday	0.732	--	C	No	0.732	--	C	No	0.000	No
HCM 2010:	Sat Midday	--	26.0	C	No	--	26.0	C	No	0.0	No

Notes:
Italicized text corresponds to an unsignalized/stop-controlled intersection.
acceptable level of service. ICU = Intersection Capacity Utilization; LOS = level of service; CMP = Congestion Management Program; LF = Lake Forest; LW = Laguna Woods; AV = Aliso Viejo; LB = Laguna Beach; MV = Mission Viejo

3.16.3 Year 2018 Cumulative Plus Project Traffic Conditions

Tables 18 and 19 summarize the Year 2018 Cumulative Plus Project LOS at the 61 key intersections during the weekday AM and PM, and Saturday midday, peak hours, respectively. Based on the application of the significance criteria described previously, the Project is not expected to cause significant traffic impacts at any of the 61 key intersections under Year 2018 Cumulative Plus Project conditions.

Compared to Year 2018 Cumulative Base conditions, the ICU and delay values are less (and corresponding LOS better) under Year 2018 Cumulative Plus Project conditions at the following Project driveway intersections due to site access improvements that would be completed as part of the Project (includes lane geometry, driveway reconfiguration, signalization):

- 7) Regional Center Drive at El Toro Road (lane geometry improvements)
- 32) Avenida de la Carlota at Plaza Lane/Mall Entrance (lane geometry improvements)
- 33) Avenida de la Carlota at Mall Driveway 1 (driveway converted to right-turn in/out only)
- 34) Avenida de la Carlota at Mall Driveway 2 (driveway converted to right-turn in/out only)
- 35) Avenida de la Carlota at Mall Driveway 3 (new traffic signal)

Freeway Mainline Level of Service Analysis

Existing Plus Project Traffic Conditions

Table 22 shows the freeway mainline segment levels of service for Existing Plus Project conditions during the weekday AM and PM peak hours.

Appendix B-1 of the 2013 CMP states that: "the level of service on the CMP network at buildout of the proposed development will be: (1) LOS E or better, or (2) will not result in a cumulative increase of more than 0.10 in v/c [volume to capacity] ratio if the established LOS standard is worse than LOS E." These criteria were applied in the analysis of potential traffic impacts of the Project on freeway mainline operations.

Based on the application of the 2013 CMP criteria, Table 22 shows that the Project is not expected to cause significant impacts along mainline freeway segments within the study area under Existing Plus Project conditions.

Table 22
Existing (2015) Freeway Mainline Segment Peak Hour Levels of Service

Freeway Mainline Segment	Peak Hour	Existing (Year 2015) [a]						Existing (Year 2015) Plus Project									
		NB			SB			NB					SB				
		Vol	V/C (1)	LOS [b]	Vol	V/C (2)	LOS [b]	Vol	V/C (3)	LOS [a]	V/C Diff (3)-(1)	Proj Sig Imp?	Vol	V/C (4)	LOS [b]	V/C Diff (4)-(2)	Proj Sig Imp?
A. I-5 Freeway between	AM	10,721	1.02	F	8,867	0.84	C	10,770	1.03	F	0.01	No	8,986	0.85	C	0.01	No
La Paz Rd & Alicia Pkwy	PM	9,537	0.92	E	10,949	1.05	E	9,638	0.93	E	0.01	No	11,019	1.06	E	0.01	No
B. I-5 Freeway between Alicia Pkwy &	AM	12,616	1.02	F	9,755	1.01	C	12,665	1.03	F	0.01	No	9,874	1.02	C	0.01	No
El Toro Rd	PM	10,110	1.05	E	11,527	1.04	F	10,211	1.06	E	0.01	No	11,597	1.05	F	0.01	No
C. I-5 Freeway between	AM	13,842	1.11	E	10,588	0.86	C	14,020	1.13	E	0.02	No	10,661	0.87	C	0.01	No
El Toro Rd & Lake Forest Dr.	PM	10,586	0.85	E	11,986	0.98	F	10,691	0.86	E	0.01	No	12,136	0.99	F	0.01	No
D. I-5 Freeway between	AM	10,577	0.90	D	9,420	0.80	D	10,735	0.91	D	0.01	No	9,485	0.80	D	0.01	No
Lake Forest Dr. & Bake Pkwy	PM	8,401	0.71	C	9,641	0.82	D	8,495	0.72	C	0.01	No	9,775	0.83	D	0.01	No

Notes: NB = northbound; SB – southbound; V/C = volume to capacity; LOS = level of service

[a] Freeway mainline volumes, capacity, V/C ratios, and LOS are consistent with the "I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200, EFIS 1200000318) Traffic Report" prepared by Stantec in June 2012.

[b] Consistent with the HCM methodology, the LOS reported is based on Basic Freeway Segment Density (pc/mi/ln), not the V/C ratio.

Year 2018 Cumulative Plus Project

Table 23 shows the freeway mainline segment levels of service for Year 2018 Cumulative Plus Project traffic conditions during the weekday AM and PM peak hours.

Based on the application of the 2013 CMP criteria, Table 23 shows that the Project is not expected to cause significant impacts along mainline freeway segments within the study area under Year 2018 Cumulative Plus Project conditions.

Table 23
Year 2018 Freeway Mainline Segment Peak Hour Levels of Service

Freeway Mainline Segment	Peak Hour	Year 2018 Cumulative Base [a]						Year 2018 Cumulative + Project									
		NB			SB			NB					SB				
		Vol	V/C (1)	LOS [b]	Vol	V/C (2)	LOS [b]	Vol	V/C (3)	LOS [a]	V/C Diff (3)-(1)	Proj Sig Imp?	Vol	V/C (4)	LOS [b]	V/C Diff (4)-(2)	Proj Sig Imp?
A. I-5 Freeway between	AM	11,034	1.05	F	9,126	0.86	D	11,083	1.06	F	0.01	No	9,245	0.88	C	0.02	No
La Paz Rd & Alicia Pkwy	PM	9,815	0.95	E	11,268	1.08	F	9,916	0.96	E	0.01	No	11,338	1.09	E	0.01	No
B. I-5 Freeway between Alicia Pkwy & El	AM	12,984	1.05	F	10,039	1.04	F	13,033	1.06	F	0.01	No	10,158	1.05	C	0.01	No
Toro Rd	PM	10,405	1.08	E	11,862	1.07	F	10,506	1.09	E	0.01	No	11,932	1.08	F	0.01	No
C. I-5 Freeway between	AM	14,245	1.15	E	10,897	0.88	D	14,423	1.16	E	0.01	No	10,970	0.89	C	0.01	No
El Toro Rd & Lake Forest Dr	PM	10,895	0.87	E	12,335	1.01	F	11,000	0.88	E	0.01	No	12,485	1.02	F	0.01	No
D. I-5 Freeway between	AM	10,885	0.92	D	9,695	0.82	D	11,043	0.94	D	0.02	No	9,760	0.83	D	0.01	No
Lake Forest Dr & Bake Pkwy	PM	8,645	0.73	C	9,922	0.84	D	8,739	0.74	C	0.01	No	10,056	0.85	D	0.01	No

Notes: NB = northbound; SB – southbound; V/C = volume to capacity; LOS = level of service

[a] Freeway mainline volumes (adjusted to reflect 2018 conditions), capacity, V/C ratios, and LOS were derived from the "I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200, EFIS 1200000318) Traffic Report" prepared by Stantec in June 2012.

[b] Consistent with the HCM methodology, the LOS reported is based on Basic Freeway Segment Density (pc/mi/ln), not the V/C ratio.

Overall, as discussed herein and further detailed in the TIA (Appendix G), based on the application of the significance criteria applicable to the Project, the Project is not expected to cause significant traffic impacts at any of the 61 key intersections under Existing (2015) and Year 2018 conditions, and at any of the freeway mainline segments analyzed. Therefore, impacts associated with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with an applicable CMP would be less than significant.

As addressed in Section 3.16(a) and further detailed in the TIA (Appendix G), based on the applicable significance criteria, the Project is not expected to cause significant traffic impacts at any of the 61 key intersections under Existing (2015) and Year 2018 conditions, and at any of the freeway mainline segments analyzed, inclusive of CMP intersections/segments/facilities. Therefore, impacts associated with an applicable CMP would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with air traffic patterns would occur.

The closest public airport to the Project site is John Wayne Airport, located approximately 10 miles to the northwest. The Project would not be located in the airport influence area for the John Wayne Airport (ALUC 2005). Therefore, no impacts associated with air traffic patterns would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with hazardous design features would be less than significant.

The City and OCFA have adopted roadway design standards that would preclude the construction of any unsafe design features. The Project's traffic and circulation improvements would be required to adhere to the City's and OCFA's design standards, which would be imposed on the Project by the City and OCFA during the building plan check and development review process. Compliance with these established design standards would ensure that hazards due to design features would not occur. Therefore, no impacts associated with hazardous design features would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) Would the project result in inadequate emergency access?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with emergency access would be less than significant.

As described in Section 3.16(d), the Project's traffic and circulation improvements would be required to adhere to the City's and OCFA's design standards, which would ensure safe circulation, both on site and off site. The Project would introduce new/expanded internal circulation improvements on site, including internal drive aisles and intersections, as well as surface parking areas and a parking structure. The Project would provide narrow, low-speed internal drive aisles that would be safe and walkable for pedestrians, while maintaining an efficient circulation system for vehicles. To address fire access needs, the internal drive aisles and parking structure would be designed in accordance with all OCFA design standards for emergency access. Additionally, the Project would be required to incorporate all applicable design and safety requirements as set forth in the most current adopted fire codes, building codes, and nationally recognized fire and life safety standards of the City and OCFA. Further, during the building plan check and development review process, the City would coordinate with OCFA to ensure that adequate circulation and access is provided within the traffic and circulation components of the Project.

Off site, temporary lane closures and occasional street closures may be required, particularly during the delivery of heavy equipment. A Traffic Control Plan to

provide safe and efficient traffic flow in the area and on the Project site would be prepared prior to construction. The Traffic Control Plan would be prepared in consultation with the City and would contain project-specific measures for noticing, signage, policy guidelines, and the limitation of lane closures to off-peak hours.

As is standard practice in the City, should lane or street closures be required, the City would notify the OCSD and/or OCFA of the location, timing, and duration of any such closure prior to the start of construction activities. This notification would allow OCSD and OCFA to plan accordingly so that any lane or street closures do not affect emergency response in the project area. Therefore, impacts associated with emergency access would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that no impacts associated with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities would occur.

The Project would improve pedestrian connectivity on and adjacent to the Project site through the construction of new and expansion of existing pedestrian features that serve the current Mall property and surrounding area. For example, the redeveloped Mall would include a number of pedestrian facilities, including a network of paseos that would not only connect the various commercial retail uses proposed as part of the Project, but would also connect to a number of smaller public spaces integrated into the Mall. The Project would implement an improved and comprehensive landscaping plan that would contribute to the comfort and safety of pedestrians and bicyclists throughout the Project site and its surroundings. Additionally, residents of the Project would be within walking distance of existing OCTA bus stops provided along Avenida de La Carlota and El Toro Parkway. Project residents would also be within walking distance of the Laguna Hills Transportation Center, which is located in the immediate project vicinity. Figure 10, Alternative Modes of Transportation, illustrates the pedestrian, bicycle and bus transportation connectivity. Figure 21 in the TIA shows the improvements that the project applicant has proposed at various mall entrances to improve traffic flow. Further, the General Plan Update contains goals and policies that support alternative transportation, including working with OCTA to ensure public transportation remains a viable alternative to the automobile for residents and working to

improve bike and pedestrian connectivity throughout the City. Therefore, no impacts associated with alternative transportation would occur, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

g) Would the project result in inadequate parking capacity?

No New or Substantially More Severe Significant Impact. A parking analysis was conducted by Linscott, Law and Greenspan (LLG 2015) to determine if there would be a deficit of parking spaces as a result of the proposed Project. The parking analysis can be found in Appendix I. The analysis found that the future supply of 3,824 spaces for commercial uses and 1,933 spaces for residential uses would be adequate in meeting the project's future parking requirements. The parking analysis used the UVSP parking methodology which requires a ratio of 4.5 spaces per 1,000 square feet of Gross Leasable Area (GLA). As long as restaurant/entertainment/cinema uses are 20 percent or less of the mall's total square footage, then the ratio of 4.5 spaces per 1,000 SF GLA should be applied to the entire GLA floor area without consideration of the individual land use types or parking ratios. If the restaurant/entertainment/cinema uses exceed 20 percent of the mall's total square footage, then the Shared Parking methodology should be applied using UVSP ratios for individual uses. The restaurant/entertainment/cinema uses would comprise 26 percent of the total square footage, therefore, the UVSP shared parking model was applied in estimating the parking needs of the non-residential components of the project. The proposed supply for the commercial components of the project totals 3,824 spaces as follows:

- 2,051 spaces in parking lots on site (reflects a potential future loss of 22 surface spaces near Avenida de la Carlota due to Caltrans' I-5 Freeway Widening project)
- 1,581 spaces in a 6-level parking structure
- 192 on-street spaces along private/Mall-owned streets (111 spaces on Calle de la Louisa, 27 spaces on Ronda del Rossmoor, 54 spaces on Calle de los Caballeros intended for supplemental resident guest parking and remote employee parking)

The proposed supply for the residential component is 1,933 spaces.

A Shared Parking Analysis was conducted using the UVSP shared parking model. The Shared Parking Analysis looked at the different demand times from the combination of different land uses to determine the number of spaces needed to support the collective whole. This was done by adding the different parking profiles (by time of day or day of the week) of each use comprising the project. Then the peak parking ratio (or "highpoint" for

each land use's time-of-day parking profile) typically equals the "code" parking ratio for that use. Parking adjustments were used to account for any internal capture trips (walk-in) attributable to synergy between uses within the project site and adjoining commercial and medical uses, and alternatives modes of travel (i.e., carpool, drop-off/pick-up at designated on-site locations, public transit via on the on-site bus stops and the Laguna Hills Transportation Center, Laguna Woods shuttle via designated stops on site, and bicycle). These adjustments were small. As another conservative measure, seasonal adjustments were not applied, therefore, the shared parking demand in the study is overstated because it assumes each land use category is at 100 percent demand at any given month, when the demand would vary by land use by month, resulting in a combined parking demand that could be much less than what is reported in the study. The resultant maximum or peak demand was calculated at 3,788 spaces occurring at 1:00 p.m. under weekday conditions corresponding to a surplus of 36 spaces when compared to the future 3,824-space supply. Parking surpluses would be greater at all other hours of a weekday. On weekends, the peak demand is 3,781 spaces (at 2:00 p.m.), which is less than weekday conditions. This constitutes a surplus of 43 spaces under weekend conditions and parking surpluses would be greater during all other hours of a weekend day.

Based on the conservative findings above, the future supply of 3,824 spaces for commercial uses would be adequate in meeting the Project's non-residential parking requirements. This is a conservative assessment because no seasonal adjustments (which reduce parking demand depending upon which month is evaluated) were applied; therefore, the peak demand of 3,788 spaces was estimated based on the assumption that each commercial component is generating 100% of its demand. To evaluate more realistic parking conditions, an analysis of July, Peak December and Late Summer demand was calculated. July conditions represent summer months when movie theaters experience their peak. Peak December corresponds to the peak shopping season. Late December reflects high demand for entertainment uses and moderate demand for retail between Christmas and New Year's Day. The findings are summarized below:

July Conditions

- Weekday demand: 2,893 spaces (931-space surplus)
- Weekend demand: 2,880 spaces (944-space surplus)

Peak December Conditions

- Weekday demand: 3,624 spaces (200-space surplus)
- Weekend demand: 3,652 spaces (172-space surplus)

Late December Conditions

- Weekday demand: 3,021 spaces (803-space surplus)
- Weekend demand: 3,071 spaces (753-space surplus)

For the residential component, the city code ratios are as follows:

- 1 bedroom or less: 1.0 covered space, 0.5 uncovered space, 0.2 visitor space
- 2 bedrooms: 1.0 covered space, 1.0 uncovered space, 0.2 visitor space
- 3 bedrooms: 2.0 covered spaces, 0.5 uncovered space, 0.2 visitor space

Based on the above findings, the parking demand is expected to be less and surpluses greater under actual conditions compared to what is reported in the Parking Analysis.

The application of the above code ratios to 556 studio/one-bedroom units, 407 two-bedroom units, and 25 three-bedroom units (totaling 988 units) yields a total parking requirement of 1,908 spaces. Comparing to the proposed residential parking supply of 1,933 spaces, the 1,908 demand corresponds to a surplus of 25 spaces. Based on these finds there would be adequate future supply to meet residential parking demand for both residents and residential guests and visitors. In order to further minimize any parking impacts, the applicant has included parking management strategies into the project as project design features:.

- Provide valet service
- Install electronic parking counters and board in the new parking structure
- Add signage prohibiting hospital and other medical office parkers from parking on site
- If necessary, provide off-site parking for employees during peak shopping season in December
- Designate pick-up/drop-off areas on site
- Designate shuttle stops on site (that serve Laguna Woods, Laguna Hills Transportation Center, hospital, and medical office)
- Provide bicycle racks, bike share facilities, and EV charging stations on site.

Therefore, impacts associated parking would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

No transportation and traffic mitigation measures were required in the General Plan Program EIR.

3.17 Utilities and Service Systems

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with wastewater treatment requirements would be less than significant.

According to the General Plan Program EIR, there is remaining capacity at South Orange County Wastewater Authority's (SOCWA) Regional Treatment Plant facility that is sufficient to serve potential new development and redevelopment in the City as anticipated under the General Plan Update. Consistent with Mitigation Measure PSU-1, the City reviews all development projects in consultation with the appropriate water district to ensure adequate water supplies, treatment, and distribution capacity for all projects would be achieved without a negative impact to the community.

Additionally, the City has implemented and maintains a stormwater conveyance system that is separate from the wastewater conveyance system which is operated and maintained by ETWD. The Project Applicant would be required to prepare and implement a SWPPP for construction activities pursuant to the NPDES Stormwater Discharge Permit. The SWPPP would specify BMPs the Project Applicant would implement for protecting water quality by controlling and minimizing stormwater pollution prior to and during grading and construction and show the placement of those BMPs. In addition, the Project Applicant would be required to prepare and implement a Water Quality Management Plan for post construction controls of stormwater, thereby minimizing potential infiltration of stormwater discharge pollutants to the City's stormwater system and keeping them separate from the ETWD wastewater system.

Therefore, impacts associated with wastewater treatment requirements would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with the construction or expansion of water and wastewater treatment facilities would be less than significant.

Water Treatment Facilities

According to the General Plan Program EIR, new development and redevelopment pursuant to the General Plan Update would be primarily located within the three opportunity areas (which include the Project site) or the four future study areas discussed in Chapter 3, Project Description, of the General Plan Program EIR. The Project site lies within the service area of the ETWD. As stated in the General Plan Program EIR, according to the ETWD Urban Water Management Plan, because the planning area is almost entirely developed, water infrastructure is in place and few improvements would be required to accommodate new development (City of Laguna Hills 2009b). The Project would include both the installation of new and the rerouting of existing on-site water lines that would connect to existing main lines.

Consistent with General Plan Program EIR Mitigation Measure PSU-1, the City reviews all development projects in consultation with the appropriate water district to ensure adequate water supplies, treatment, and distribution capacity for all projects would be achieved without a negative impact to the community.

ETWD currently receives potable water supplies from the MWDOC, which are treated at the Diemer Filtration Plant located north of Yorba Linda. ETWD received 8,650 acre feet per year of potable water in the 2015 fiscal year from MWDOC (Appendix H).

ETWD currently operates the Recycled Water Tertiary Treatment Plant, which treats wastewater generated within the ETWD service area and supplies within the ETWD service area for non-potable uses. In the 2015 fiscal year, the Recycled Water Tertiary Treatment Plant produced 464 acre feet per year of non-potable water (Appendix H).

The Baker Water Treatment Plant (WTP) will be a new 28.1 million gallon per day plant at the existing Irvine Ranch Water District's Baker Filtration Plant site in the City of Lake Forest. The Baker WTP will treat raw imported water from Metropolitan and potentially Irvine Lake water. ETWD has capacity rights of 3,600 acre feet per year when the Baker WTP comes online in 2016. Expected actual delivery at 90% production time is 3,258 acre

feet per year. The Baker WTP is not considered a "new" day-to-day water supply, it merely would offset and reduce the amount of purchased Metropolitan treated water from the Diemer Filtration Plant (Appendix H).

As such, a WSA (Appendix H) has been prepared by ETWD to ensure that the district has sufficient current and future water supplies, as well as adequate treatment and distribution infrastructure, to serve the Project's demands. According to the WSA, the Project would result in a demand of 257 acre feet per year of potable water, 17 acre feet per year of which are dedicated irrigation demand. The WSA concluded that the total projected water supplies available to ETWD during average, single-dry, and multiple-dry water years over the next 20 years are sufficient to meet the projected water demands for the Project, in addition to ETWD's existing uses. Therefore, impacts associated with water treatment facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Wastewater Treatment Facilities

As described in Section 3.17(a), there is remaining capacity at SOCWA's Regional Treatment Plant facility that is sufficient to serve potential new development and redevelopment in the City as anticipated under the General Plan Update. The Project would include both new and rerouted on-site sewer lines that would connect to the existing main line. Consistent with General Plan Program EIR Mitigation Measure PSU-1, the City reviews all development projects in consultation with the appropriate water district to ensure adequate water supplies, treatment, and distribution capacity for all projects would be achieved without a negative impact to the community. Similar to water supply, the City will require confirmation from ETWD that the district is capable of meeting the Project's wastewater generation before issuance of building permits. Therefore, impacts associated with wastewater treatment facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with stormwater drainage facilities would be less than significant.

The Project would meet the HMP Criteria by mitigating flow and duration through on-site hydrologic control measures and addressing sediment loss through on-site management controls. The Hydrology and Hydraulic Report (Appendix E) includes the results of modeling conducted to ensure the proposed on-site stormwater drainage system's effectiveness during design storm events. According to the report, the Project would maintain existing drainage patterns, and any on-site runoff would be treated and detained in conformance with Orange County WQMP and hydromodification requirements. These requirements will result in a significant decrease of flows in the proposed conditions.

The Project would upgrade the existing on-site storm drain facilities, constructing three detention basins that would be designed to collect the vast majority of on-site stormwater flows. In addition to these basins, other infiltration-based stormwater BMPs would be incorporated into the Project design, including permeable pavements, landscape areas, vegetated swales, and other LID drainage improvements designed to slow and treat runoff (see the WQMP [Appendix E] for a list of specific BMPs to be used on the Project site). The performance of these BMPs have been modeled using the South Orange County Hydrology Model, which provides continuous simulation of peak flow rates, from 10% of the 2-year runoff event up to the 10-year runoff event for PDPs (i.e., HMP Criteria).

The Project would be subject to all applicable hydromodification requirements set forth in the HMP, with the City reviewing and confirming compliance with the HMP prior to issuance of building permits. Therefore, impacts associated with stormwater drainage facilities would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with water supplies would be significant and unavoidable, even with incorporation of mitigation.

As stated in the General Plan Program EIR, according to the ETWD Urban Water Management Plan, because the planning area is almost entirely developed, water infrastructure is in place and few improvements would be required to accommodate new development (City of Laguna Hills 2009b). Consistent with General Plan Program EIR Mitigation Measure PSU-1, the City reviews all development projects in consultation with

the appropriate water district to ensure adequate water supplies, treatment, and distribution capacity for all projects would be achieved without a negative impact to the community.

As such, a WSA has been prepared by ETWD to ensure that the district has sufficient current and future water supplies, as well as adequate treatment and distribution infrastructure, to serve the Project's demands. According to the WSA, the Project would result in a demand of 257 acre feet per year of potable water, 17 acre feet per year of which are dedicated irrigation demand. The WSA concluded that the total projected water supplies available to ETWD during average, single-dry, and multiple-dry water years over the next 20 years are sufficient to meet the projected water demands for the Project, in addition to ETWD's existing uses. This demonstrates compliance with General Plan Program EIR MM-PSU-1 requiring preparation of a Water Supply Assessment or water supply verification demonstrating available water supplies exist to support the proposed development project..

Therefore, impacts associated with water supplies would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

e) Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with wastewater treatment capacity would be less than significant.

According to the General Plan Program EIR, there is remaining capacity at SOCWA's Regional Treatment Plant facility that is sufficient to serve potential new development and redevelopment in the City as anticipated under the General Plan Update. Consistent with General Plan Program EIR Mitigation Measure PSU-1, the City reviews all development projects in consultation with the appropriate water district to ensure adequate water supplies, treatment, and distribution capacity for all projects would be achieved without a negative impact to the community.

The City will require confirmation through a will serve letter, to be issued by ETWD, that the district is cable of meeting the Project's wastewater treatment demands before issuance of building permits. Therefore, impacts associated with wastewater treatment capacity would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

No New or Substantially More Severe Significant Impact. The Program EIR found that impacts associated with permitted landfill capacity would be less than significant with mitigation from the General Plan Program EIR.

As concluded in the General Plan Program EIR, new development and associated population growth under the General Plan Update would increase demand for solid waste collection and disposal capacity. The Project would also be required to use the City's solid waste removal franchisee, which allows oversight and regulation of solid waste practices, ensuring that sites within the City are adhering to solid waste diversion requirements.

Prima Deshecha Landfill in San Juan Capistrano serves the City of Laguna Hills. This landfill permits a maximum of 4,000 tons of waste a day (County of Orange 2015). According to solid waste generation rates published by the California Department of Resources Recycling and Recovery (Cal Recycle), residential uses produce approximately 12.23 pounds of solid waste per household per day (Cal Recycle2013a), while commercial retail uses produce roughly 0.0312 pounds of solid waste per square foot of floor space per day (Cal Recycle 2013b). Based on these generation rates and the Project's 988 residential dwellings and net reduction of 41,700 square feet of commercial/retail/restaurant/office GFA space, the Project would produce approximately 10,800 pounds (5.4 tons) of solid waste per day. However, in an effort to meet the solid waste diversion goals set forth by Assembly Bill 939, the City has a 49.8% solid waste diversion rate as of 2014 (City of Laguna Hills 2014). Assuming that this diversion rate holds into the future, it is estimated that roughly half of the daily amount of solid waste generated by the Project – or approximately 5,400 pounds (2.7 tons) – would require disposal at a permitted landfill facility. This solid waste disposal requirement represents only a nominal percentage of the maximum permitted daily throughput at the Prima Deshecha Landfill.

Therefore, impacts associated with permitted landfill capacity would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

No New or Substantially More Severe Significant Impact. The General Plan Program EIR found that impacts associated with federal, state, and local statutes and regulations related to solid waste would be less than significant.

All collection, transportation, and disposal of any solid waste generating by the Project would comply with all applicable federal, state, and local statutes and regulations. In particular, Assembly Bill 939 requires that at least 50% of solid waste generated by a jurisdiction be diverted from landfill disposal through source reduction, recycling, or composting. Cities, counties, and regional agencies are required to develop a waste management plan that would achieve a 50% diversion from landfills (California Public Resources Code, Section 40000 et seq.). Assembly Bill 341 (AB 341) requires all large commercial and multi-family waste generators to subscribe to source-separated recycling (California Public Resources Code, Section 42649.2. et seq.). As such, the project will provide adequate space in enclosures used by retailers, residents, and restaurants to house source-separated and/or single-stream recycling service. Similarly, Assembly Bill 1826 (AB 1826) will require nearly all generators of organic waste (i.e. restaurants and food service establishments) to subscribe to organics diversion services on or before January 1, 2020 (California Public Resources Code, Section 42649.81 et seq.). As such, the project will provide adequate space in waste enclosures used by food service establishments to house organics diversion receptacles. AB 1826 also requires commercial and multi-family properties to divert landscaping waste from the landfill. The project will ensure that all landscaping waste generated by ornamental landscaping at the residential premises be diverted from the landfill either by the City's contract hauler or by the landscaping contractors who service the properties.

AB 341 also set a statewide diversion goal of 75% by 2020 (California Public Resources Code, Section 41780.01 et seq.). Currently, the 75% diversion goal set forth in AB 341 is not a local mandate that requires a 75% diversion rate at the local government level. However, in an effort to achieve the statewide 75% diversion goal, the project will arrange for recycling and organics service that can achieve diversion rates comparable to 75%.

Effective January 1, 2014, CALGreen mandates permitted new residential and non-residential building construction, demolition and certain additions and alteration projects to recycle and/or salvage for reuse a minimum 50 percent of the nonhazardous C&D debris generated during the project (CALGreen sections 4.408,

5.408, 301.1.1 and 301.3). The project will meet or exceed the 50% diversion requirement set-forth in the CALGreen building code during its construction and demolition phases.

Solid waste generated in the City is collected and transported by the City's solid waste removal franchisee, which is permitted and licensed to collect and transport solid waste. Once collected, solid waste is transported to sorting/disposal facilities permitted to accept residential and commercial solid waste, with each facility's operations routinely inspected by regional and state regulatory agencies for compliance with all applicable statutes and regulations.

As required by existing regulations, any hazardous materials (e.g., asbestos-containing materials, lead-based paint) collected on the Project site during demolition, construction, or operational activities would be transported and disposed of by a permitted and licensed hazardous materials service provider at a facility permitted to accept such hazardous materials.

Therefore, impacts associated with federal, state, and local statutes and regulations related to solid waste would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR.

Applicable General Plan Program EIR Mitigation Measures

The following utilities and service systems mitigation measures from the General Plan Program EIR are applicable to the Project:

MM PSU-1 The City shall review all development projects in consultation with the appropriate water district to ensure adequate water supplies, treatment, and distribution capacity for all projects will be achieved without a negative impact to the community. For those projects subject to SB 610 and/or SB 221, the City shall require a Water Supply Assessment or water supply verification demonstrating available water supplies exist to support the proposed development project. In the event that sufficient uncommitted capacity does not exist, the City shall not grant discretionary approval until capacity becomes available.

MM PSU-2 The City shall implement applicable provisions in the MNWD [Moulton Niguel Water District] and ETWD Urban Water Master Plans to ensure that adequate water supplies are available to meet the needs of current and future growth, as well as during an emergency event or drought. The City

shall support efforts by these agencies to research and employ new technologies that improve water services and/or sustainability of water supplies in Laguna Hills.

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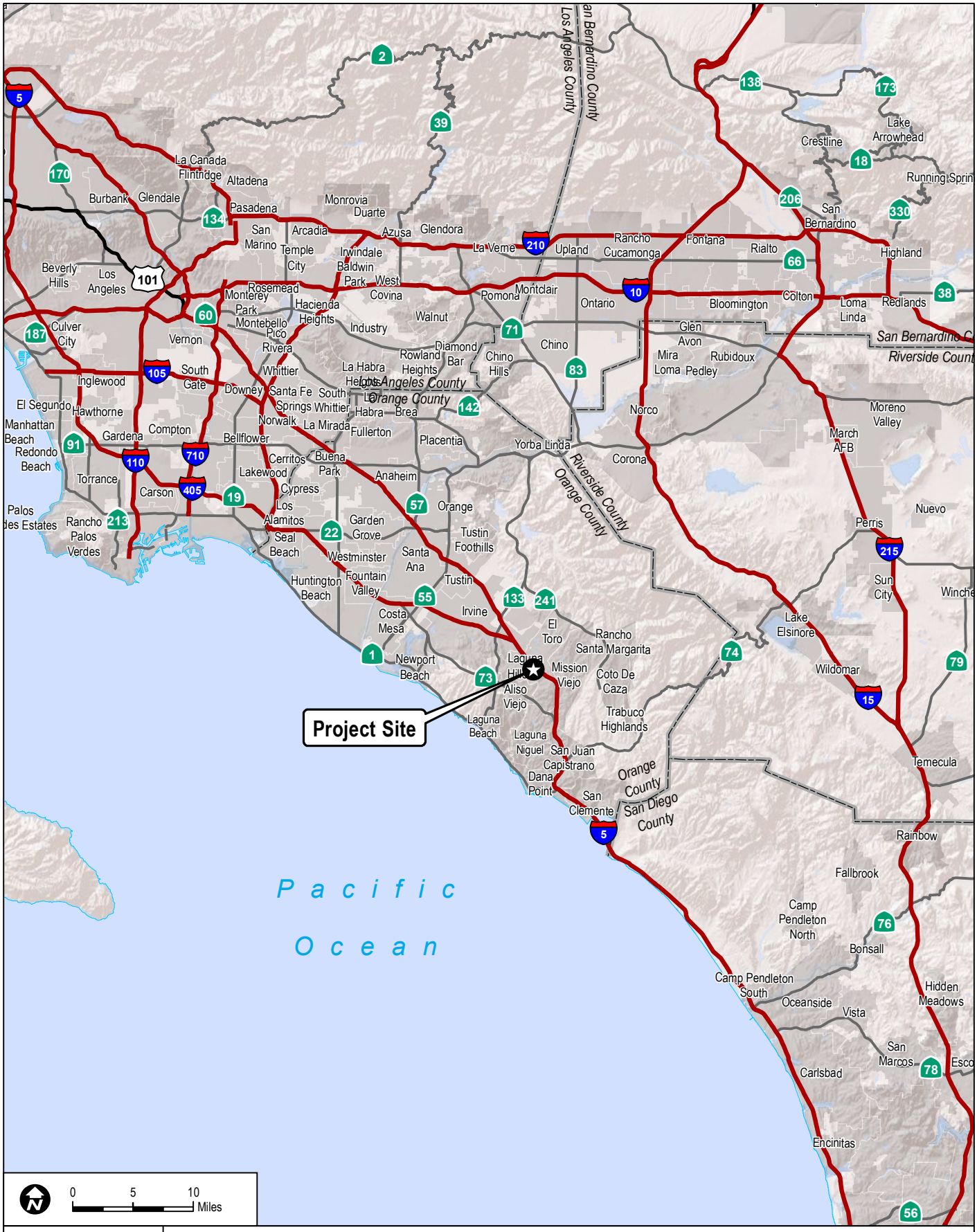

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FIGURE 1

Regional Map

Five Lagunas Project

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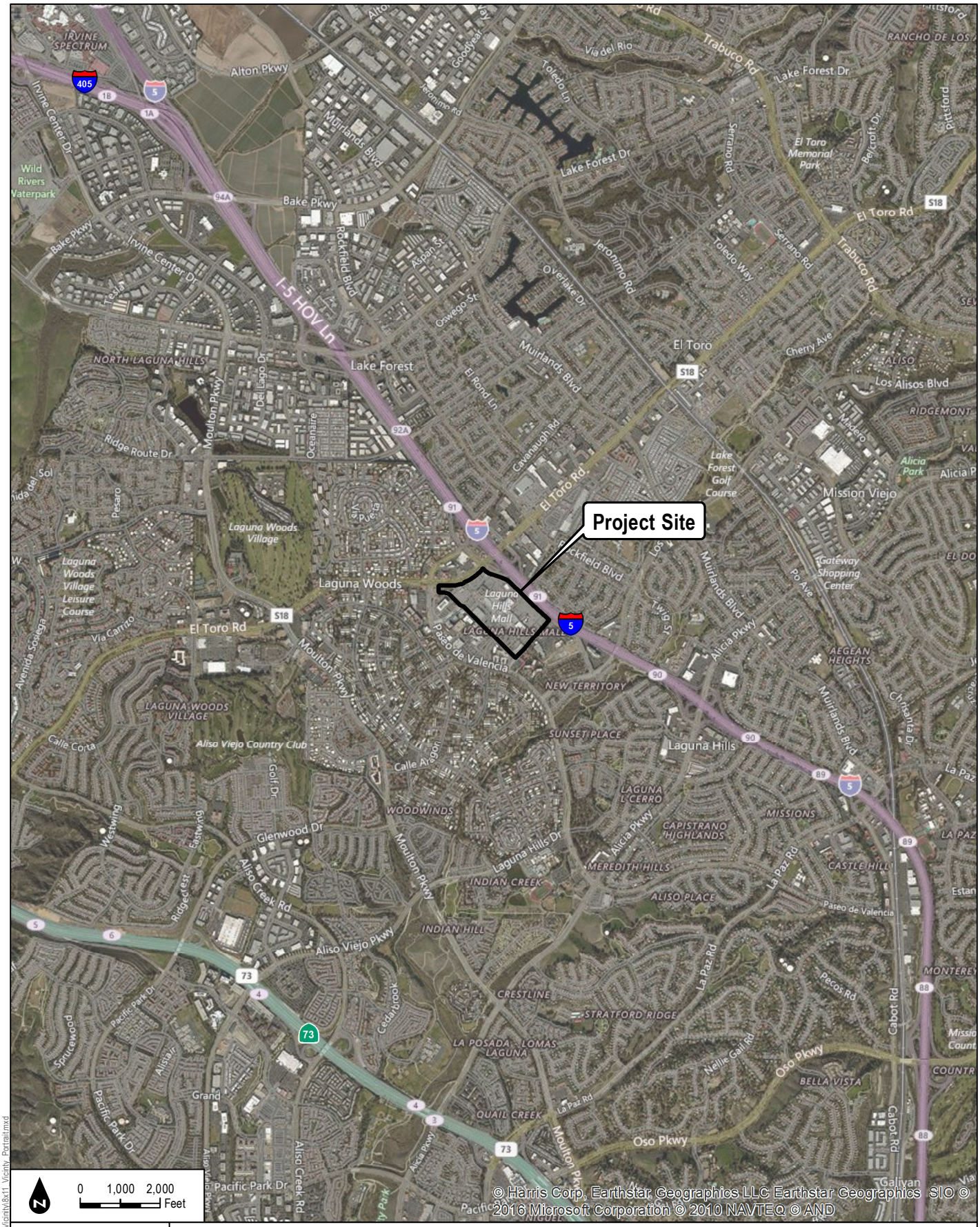

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SOURCE: USGS 7.5-Minute Series San Juan Capistrano Quadrangle.

FIGURE 2

Vicinity Map

Five Lagunas Project

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SOURCE: City of Laguna Hills 2002; Bing Maps 2015

FIGURE 3

Urban Village Specific Plan Area

Five Lagunas Project

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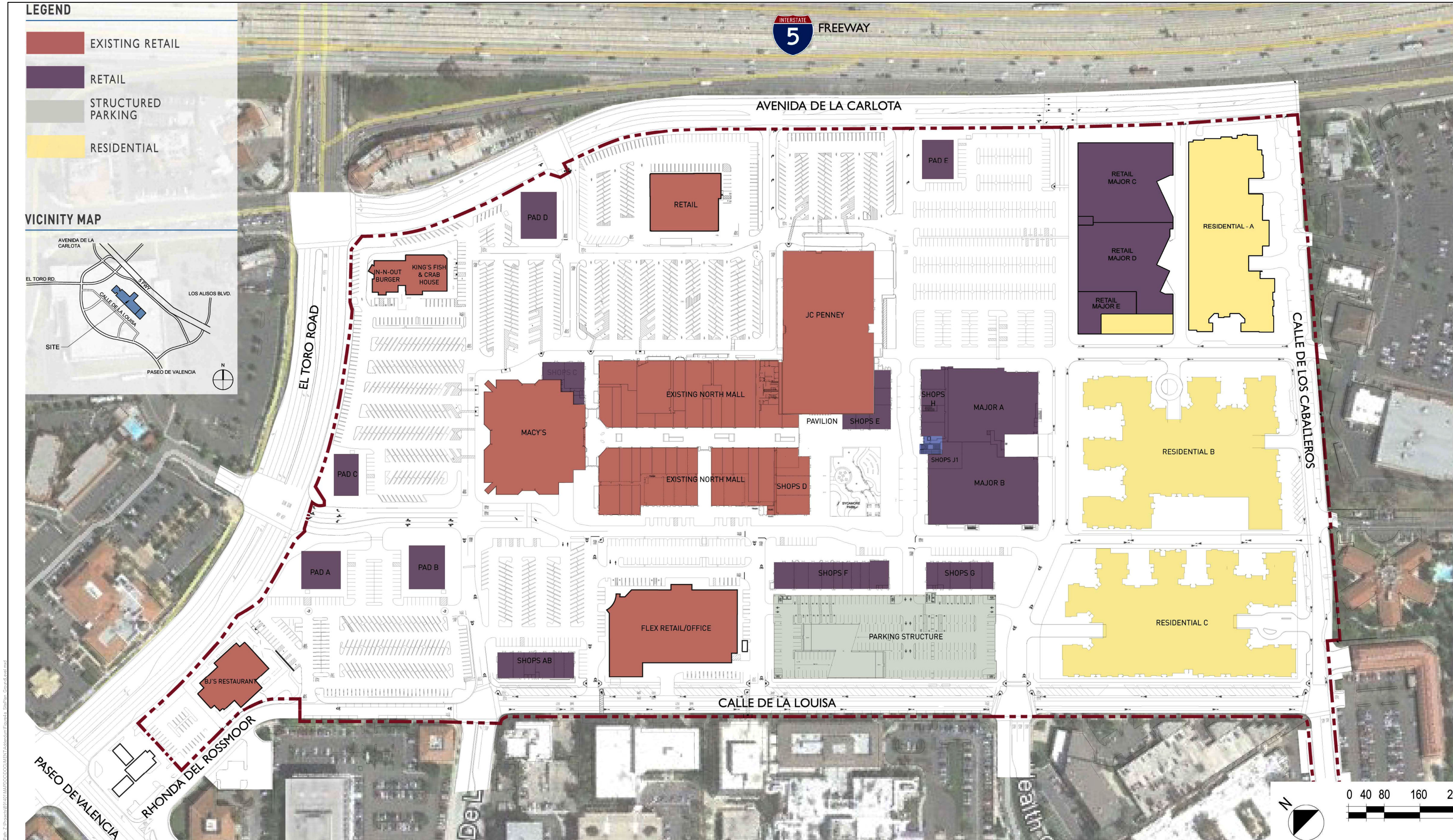

SOURCE: Architects Orange

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FIGURE 4A

Site Plan (Ground Level)

Five Lagunas Project

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LEGEND

- EXISTING RETAIL
- RETAIL
- STRUCTURED PARKING
- RESIDENTIAL

VICINITY MAP

INTERSTATE 5 FREEWAY

AVENIDA DE LA CARLOTA

EL TORO ROAD

CALLE DE LOS CABALLEROS

PAD D

RETAIL

PAD E

IN-N-OUT BURGER

KING'S FISH & CRAB HOUSE

JC PENNEY

RESIDENTIAL - A

MACY'S

EXISTING NORTH MALL

PAVILION

SHOPS E

RESIDENTIAL B

PAD C

EXISTING NORTH MALL

SHOPS D

SYCAMORE PARK

CINEMA

SHOPS J2

PAD A

PAD B

SHOPS F

SHOPS G

RESIDENTIAL C

FLEX RETAIL/OFFICE

PARKING STRUCTURE

SHOPS AB

BJ'S RESTAURANT

CALLE DE LA LOUISA

PASEO DEVALENCIA

RHONDA DEL ROSSMOOR

N

0 40 80 160 240

SOURCE: Architects Orange

FIGURE 4B

Site Plan (Upper Level)

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Five Lagunas Project

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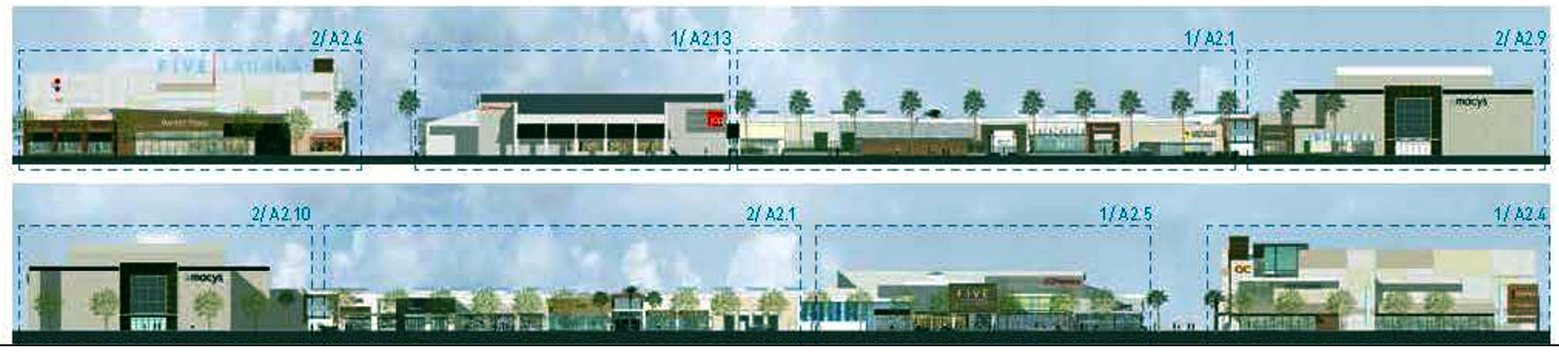
1. PROPOSED NORTH MALL EAST ELEVATION

2. PROPOSED NORTH MALL WEST ELEVATION



KEY PLAN

SOURCE: Architects Orange

FIGURE 5A

Elevations (Commercial Uses)

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Five Lagunas Project

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1. EAST ELEVATION

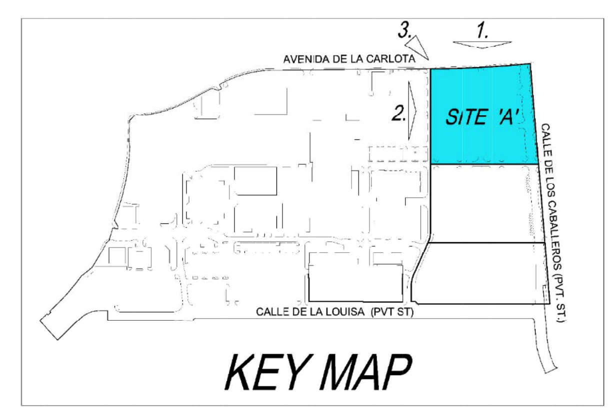
2. NORTH ELEVATION

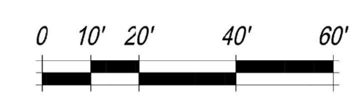
3. GROUND LEVEL VIEW TO RETAIL CORNER - LOOKING SOUTH WEST

MATERIAL LEGEND:

1. EXTERIOR PLASTER WITH REVEALS SAND FINISH
2. HORIZONTAL SIDING
3. THIN PORCELAIN TILE VENEER
4. MANUFACTURED STONE VENEER
5. VINYL WINDOW
6. METAL PANEL SYSTEM
7. RAILING - GLASS PANEL
8. PAINTED METAL SCREEN
9. METAL AWNING
10. ALUMINUM STOREFRONT SYSTEM
11. METAL FASCIA
12. METAL TRELLIS

NOTE: ALL MATERIALS NOTED OR APPROVED EQUAL





SOURCE: Perkowitz & Ruth Architects, 2015

FIGURE 5B

Elevations (Residential Uses)

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Five Lagunas Project

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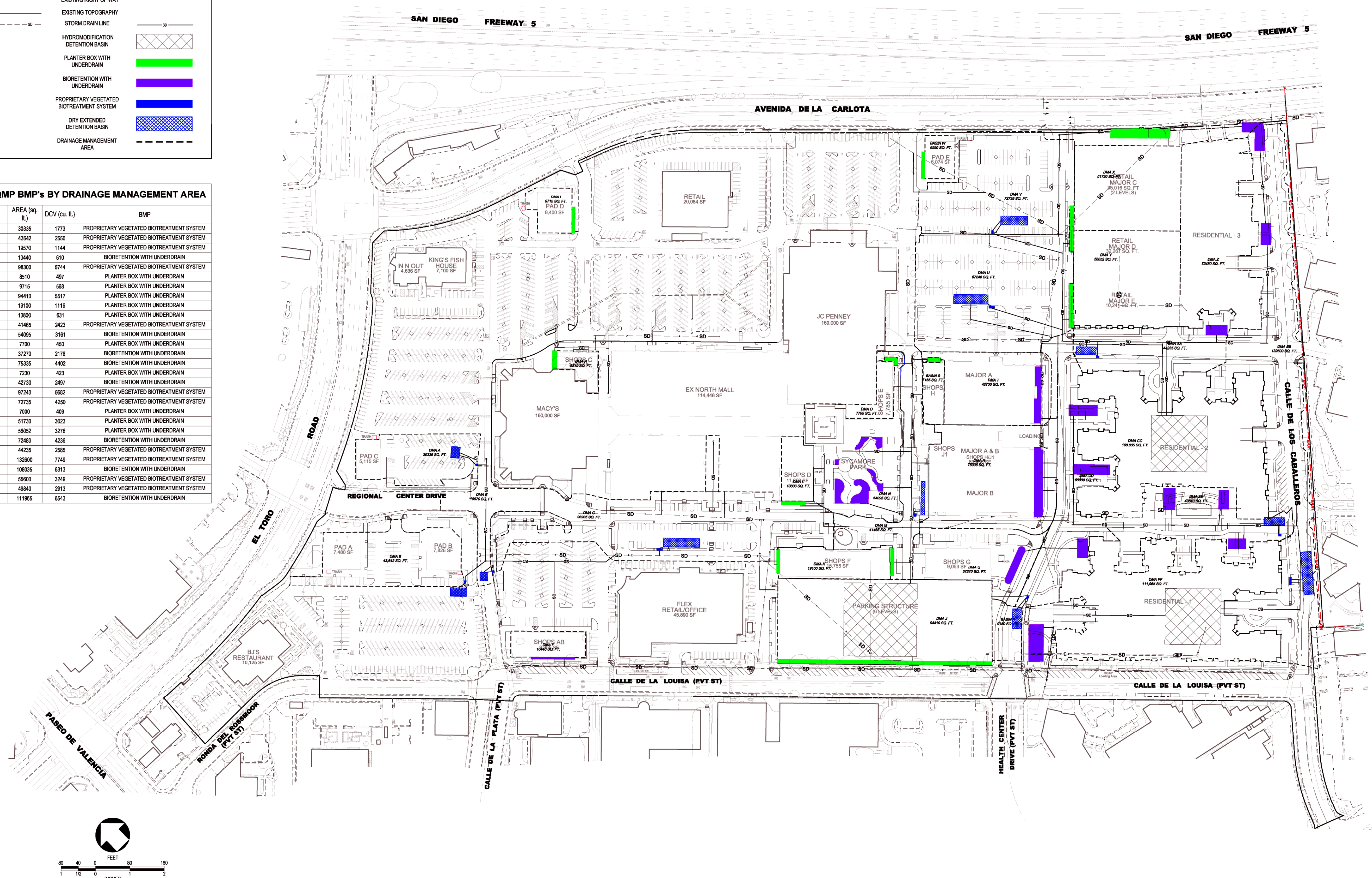
LEGEND:

EXISTING		PROPOSED
	EXISTING RIGHT OF WAY	
	EXISTING TOPOGRAPHY	
SD	STORM DRAIN LINE	SD
	HYDROMODIFICATION DETENTION BASIN	
	PLANTER BOX WITH UNDERDRAIN	
	BIORETENTION WITH UNDERDRAIN	
	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM	
	DRY EXTENDED DETENTION BASIN	
	DRAINAGE MANAGEMENT AREA	

WQMP BMP's BY DRAINAGE MANAGEMENT AREA

DMA	AREA (sq. ft.)	DCV (cu. ft.)	BMP
A	30335	1773	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
B	43642	2550	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
E	19570	1144	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
F	10440	610	BIORETENTION WITH UNDERDRAIN
G	98300	5744	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
H	8510	497	PLANTER BOX WITH UNDERDRAIN
I	9715	568	PLANTER BOX WITH UNDERDRAIN
J	94410	5517	PLANTER BOX WITH UNDERDRAIN
K	19100	1116	PLANTER BOX WITH UNDERDRAIN
L	10800	631	PLANTER BOX WITH UNDERDRAIN
M	41465	2423	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
N	54095	3161	BIORETENTION WITH UNDERDRAIN
O	7700	450	PLANTER BOX WITH UNDERDRAIN
Q	37270	2178	BIORETENTION WITH UNDERDRAIN
R	75335	4402	BIORETENTION WITH UNDERDRAIN
S	7230	423	PLANTER BOX WITH UNDERDRAIN
T	42730	2497	BIORETENTION WITH UNDERDRAIN
U	97240	5682	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
V	72735	4250	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
W	7000	409	PLANTER BOX WITH UNDERDRAIN
X	51730	3023	PLANTER BOX WITH UNDERDRAIN
Y	56052	3276	PLANTER BOX WITH UNDERDRAIN
Z	72480	4236	BIORETENTION WITH UNDERDRAIN
AA	44235	2585	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
BB	132600	7749	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
CC	108035	6313	BIORETENTION WITH UNDERDRAIN
DD	55600	3249	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
EE	49840	2913	PROPRIETARY VEGETATED BIOTREATMENT SYSTEM
FF	111965	6543	BIORETENTION WITH UNDERDRAIN



SOURCE: Perkowitz & Ruth Architects, 2015

FIGURE 6

Water Quality Management Plan

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Five Lagunas Project

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DUDEK

SOURCE: Bing Maps, 2015

FIGURE 7

Noise Measurement and Modeling Locations

Five Lagunas Project

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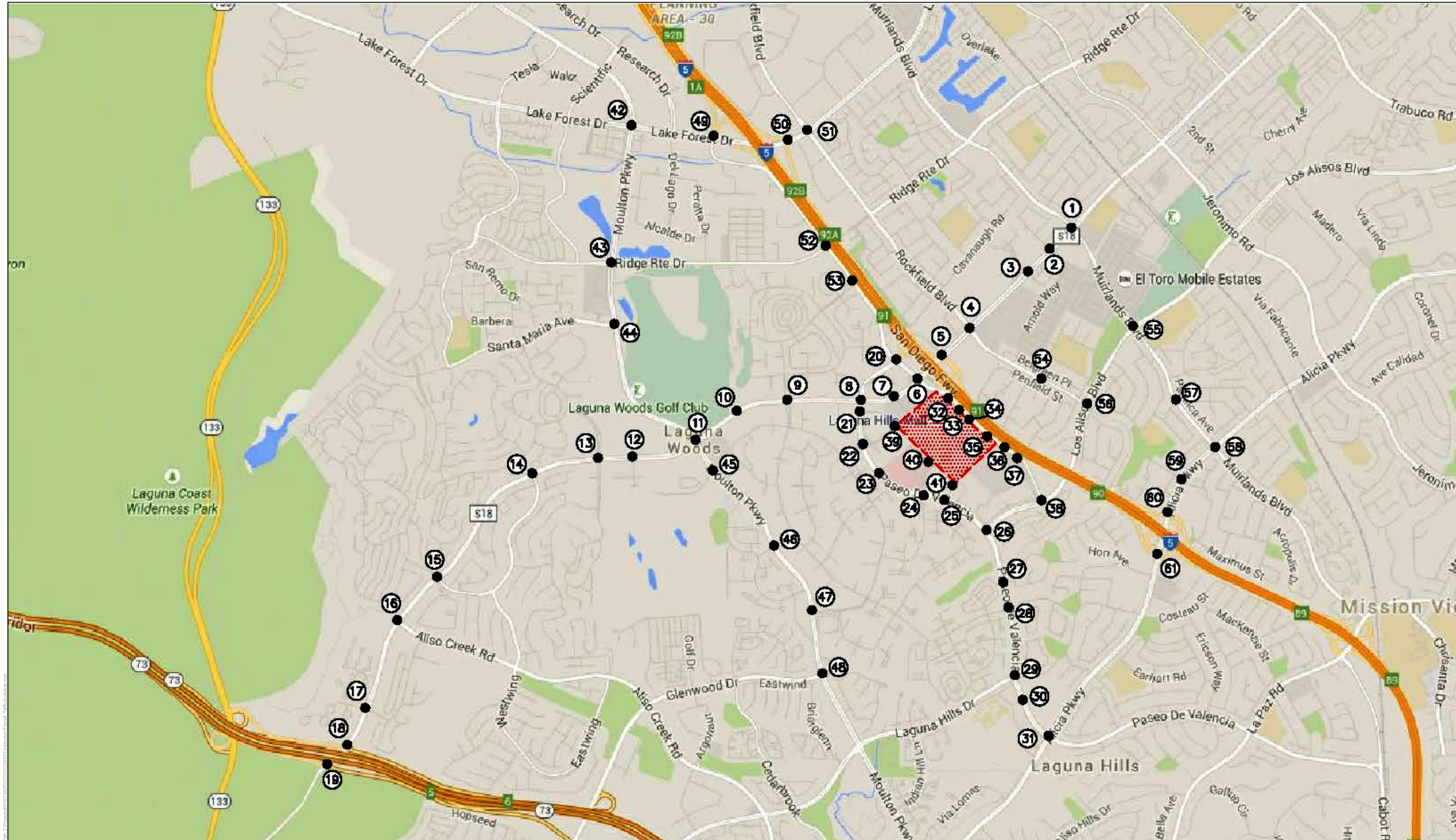

SOURCE: Linscott, Law & Greenspan Engineers, 2015

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Five Lagunas Project

FIGURE 8

Traffic Study Area

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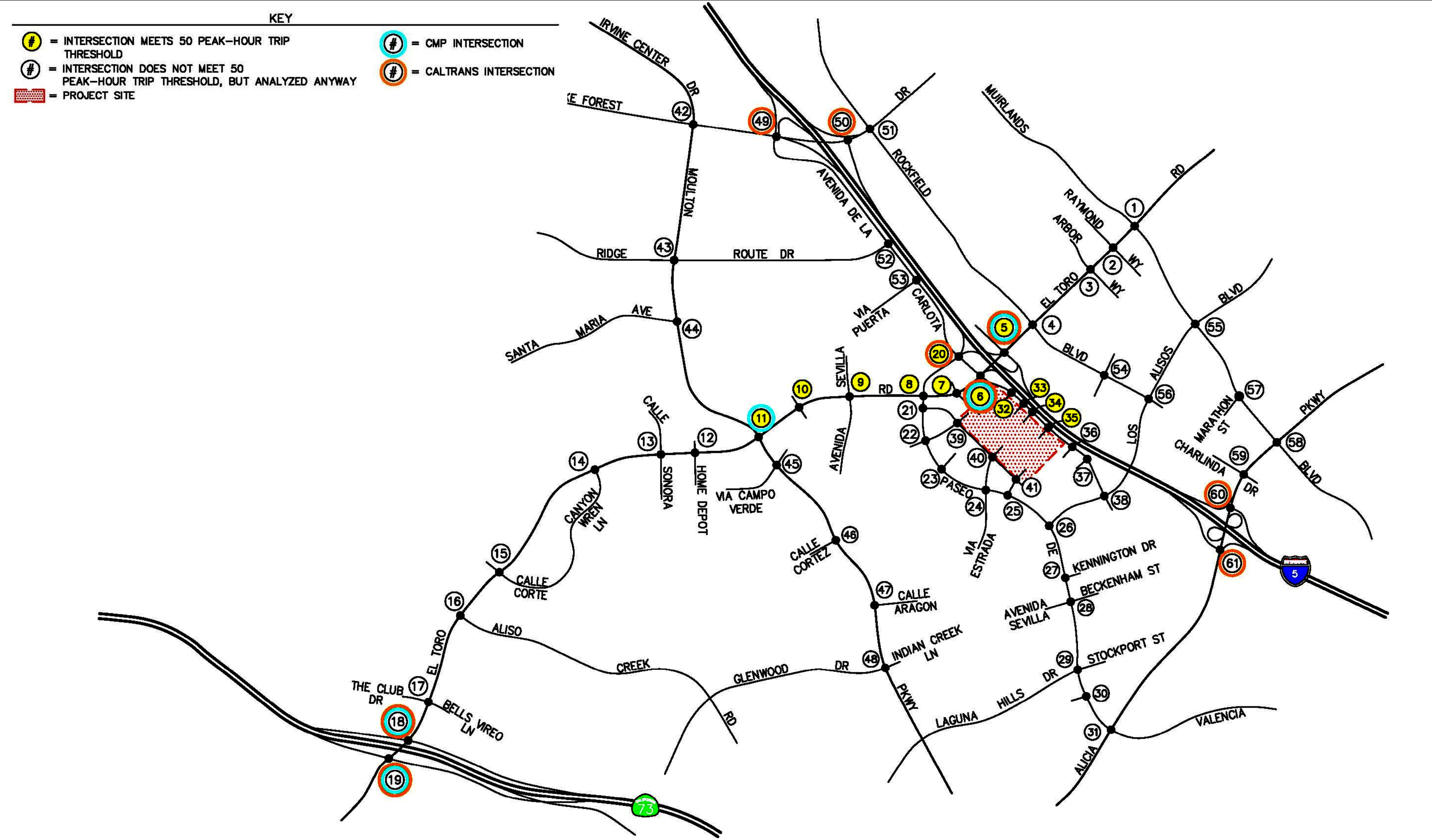

SOURCE: Linscott, Law & Greenspan Engineers, 2015

FIGURE 9
Intersections Meeting Study Criteria

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Five Lagunas Project

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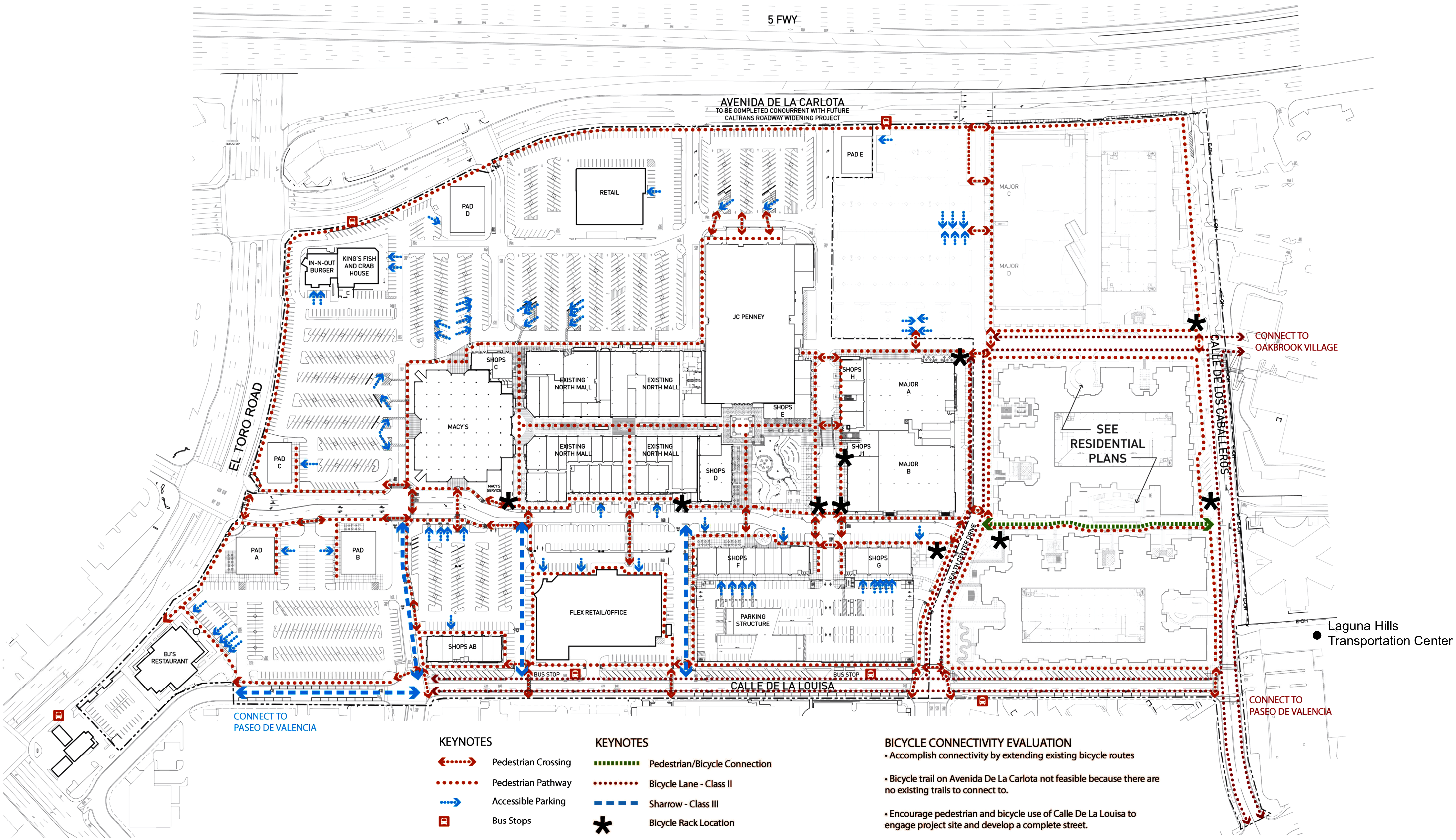

BICYCLE CONNECTIVITY EVALUATION

- Accomplish connectivity by extending existing bicycle routes
- Bicycle trail on Avenida De La Carlota not feasible because there are no existing trails to connect to.
- Encourage pedestrian and bicycle use of Calle De La Louisa to engage project site and develop a complete street.

DUDEK

SOURCE: Linscott, Law & Greenspan Engineers, 2015

Five Lagunas Project

FIGURE 10

Alternate Modes of Transportation

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APPENDIX A

Program EIR Environmental Impacts and Mitigation Measures Table (Table 2-1 of Program EIR)

APPENDIX B

Air Quality and Greenhouse Gas Emissions

APPENDIX C

Cultural Resources Letter Report

APPENDIX D

Geotechnical Study

APPENDIX E

Water Quality Management Plan and Hydrology and Hydraulic Report

APPENDIX F

Noise Technical Report

APPENDIX G

Traffic Impact Analysis

APPENDIX H

Water Supply Assessment

APPENDIX I

Parking Study

APPENDIX J

Phase I Environmental Site Assessment

APPENDIX K

Biological Resource Tables