ENCANTO RESIDENTIAL PROJECT

FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Lead Agency:
City of Lake Forest
Development Services Department
25550 Commercentre Drive, Suite 100
Lake Forest, California 92630
(949) 461-3449
(949) 461-3511 (Fax)
http://www.lakeforestca.gov/

Prepared by:
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20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

December 2015

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SECTION 1

INTRODUCTION

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INTRODUCTION

This section comprises the Comments and Responses of the Final Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Encanto Residential Project (Project). The purpose of this document is to respond to all comments received by the City of Lake Forest (City) regarding the environmental information and analyses contained in the IS/MND.

As required by the California Environmental Quality Act (CEQA) Guidelines Section 15073, a Notice of Intent (NOI) to adopt an MND was sent to responsible agencies and trustee agencies in addition to various public agencies, citizen groups, and interested individuals concerned with the Project. In addition, the NOI was filed with the Orange County Clerk and the State Clearinghouse on September 2, 2015.

The Draft IS/MND was circulated for public review for a period of 30 days, from September 2, 2015, to October 1, 2015. Copies of the Draft IS/MND were made available for public review at the City Development Services Department Planning Counter, two area libraries, and on the internet.

Comments were accepted for a period of 30 days in order to ensure adequate time for residents and agencies to comment on the Draft IS/MND. Five comment letters were received during the public review period. Comments were received from the State Clearinghouse acknowledging that the City complied with State Clearinghouse review requirements pursuant to CEQA, the California Department of Fish and Wildlife, the Irvine Ranch Water District, the City of Irvine, the Transportation Corridor Agencies, and the Tongva Ancestral Territorial Tribal Nation.

The City, as the Lead Agency, is required to consider agency and public comments on a negative declaration. Although preparation of responses to comments received on an IS/MND is not required by CEQA, responses have been prepared.

Information provided in this Response to Comments document clarifies, amplifies, or makes minor modifications to the IS/MND. No significant changes have been made to the information contained in the IS/MND as a result of the responses to comments, and no significant new information has been added that would require recirculation of the document.

A revised version of the IS/MND has been prepared to make minor corrections and clarifications to the public draft IS/MND as a result of comments received during the public review period. Revisions to the public draft IS/MND are shown in track changes in Section 3 of this document. Text that has been added is underlined (underlined) and text that has been deleted is shown with strikeout (~~strikeout~~).

Together, the responses to comments and the revised text of the IS/MND are collectively referred to as the Final IS/MND; the Final IS/MND will be submitted for the consideration by the City Planning Commission and City Council prior to a vote to approve the Final IS/MND.

INDEX OF COMMENTS RECEIVED

The following is an index list of the agencies that commented on the IS/MND prior to the close of the public comment period or immediately thereafter. The comments received have been organized in a manner that facilitates finding a particular comment or set of comments. Each comment letter received is indexed with a number below.

Comment Code	Signatory	Date
State		
S-1	Office of the State Clearinghouse	10/02/15
S-2	California Department of Fish and Wildlife	10/01/15
Local		
L-1	City of Irvine	09/21/15
L-2	Transportation Corridor Agencies	10/01/15
L-3	Irvine Ranch Water District	10/01/15
Native American Tribe		
T-1	Tongva Ancestral Territorial Tribal Nation	09/03/15

FORMAT OF RESPONSES TO COMMENTS

Responses to each of the comment letters are provided on the following pages. The comment index numbers are provided in the upper right corner of each comment letter, and individual points within each letter are numbered along the right-hand margin of each letter. The City of Lake Forest's responses to each comment letter immediately follow the letter and are referenced by index numbers in the margins. As noted in some of the responses, the proposed Final IS/MND includes text revisions that provide corrections and clarifications to the public draft IS/MND.

SECTION 2

RESPONSES TO COMMENTS

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S-1

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

RECEIVED

OCT 05 2015

CITY OF LAKE FOREST
DEVELOPMENT SERVICES DEPT

October 2, 2015

Ron Santos
City of Lake Forest
25550 Commercentre Drive
Lake Forest, CA 92630

Subject: Encanto Residential Project
SCH#: 2015091005

Dear Ron Santos:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 1, 2015, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation." S-1-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	**2015091005**
Project Title	Encanto Residential Project
Lead Agency	Lake Forest, City of

Type	**MND** Mitigated Negative Declaration
Description	The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached residential units. The Project proposes three floor plans that would include three to four bedrooms and a two-car garage, accessed from the front of each unit. All lots would include private outdoor areas in the rear and side yards, and some of the lots would include expanded side yard areas. The private outdoor areas included on each lot would be protected by a 6 ft tall fence with gated access along the side yard. The proposed Project also includes development of a private neighborhood park located near the entrance to the residential community.

Lead Agency Contact

Name	Ron Santos		
Agency	City of Lake Forest		
Phone	949 461 3449	*Fax*	
email			
Address	25550 Commercentre Drive		
City	Lake Forest	*State* CA	*Zip* 92630

Project Location

County	Orange		
City	Lake Forest		
Region			
Lat / Long	33° 6.67' .74" N / 117° 6.88' 15.9" W		
Cross Streets	Alton Parkway and Commercentre Drive		
Parcel No.	610-371-02 and 610-371-05		
Township	*Range*	*Section*	*Base*

Proximity to:

Highways	
Airports	
Railways	
Waterways	
Schools	
Land Use	Z: Pacific Commercentre Planned Community - High Technology GPLUD: Light Industrial

Project Issues	Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Fiscal Impacts; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse
Reviewing Agencies	Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; Caltrans, District 12; Air Resources Board; Regional Water Quality Control Board, Region 8; Native American Heritage Commission

Date Received	09/02/2015	*Start of Review*	09/02/2015	*End of Review*	10/01/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

RECEIVED
10-01-15
City of Lake Forest

October 1, 2015

Mr. Ron Santos
City of Lake Forest Development Services Department
25550 Commercentre Drive, Suite 100
Lake Forest, California 92630
rsantos@lakeforestca.gov

Subject: Comments on the Notice of Intent to Adopt a Mitigated Negative Declaration for the Encanto Residential Project (SCH# 201591005)

Dear Mr. Santos:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the proposed Encanto Residential Project, City of Lake Forest, Orange County, California, dated September 2015. The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning (NCCP) program. The City of Lake Forest (City) is participating in the Central/Coastal Orange County NCCP/Habitat Conservation Plan (HCP) as a non-participating landowner.

The previously rough-graded project site is located south of Alton Parkway, west of Commercentre Drive, and north of Arctic Ocean Drive within the City. The project site is within the NCCP/HCP planning area, with the boundary of the NCCP/HCP Reserve System 125 feet to the northeast. The project consists of the development of approximately 52 single-family residential units, road and utility infrastructure, and landscaped areas on approximately 5.75 acres, with an additional 1.44 acres surrounding the development designated as a fuel modification zone separate from the project area. S-1-2

The Department's main concerns regarding the proposed project include the draft MND's lack of discussion regarding indirect and cumulative impacts to least Bell's vireo (*Vireo bellii pusillus*), direct impacts to birds that may result from bird strike on the proposed glass perimeter wall, exclusion of the fuel modification zone from the project area, and impacts that may occur to resources within the NCCP/HCP Reserve area adjacent to the project site. We offer the following comments and recommendations to assist the City in avoiding or minimizing potential project impacts on biological resources.

1. The draft MND does not address potential adjacency impacts to least Bell's vireo, a species listed as endangered under CESA. Least Bell's vireo were observed in habitat directly adjacent (north) to the project area in 2008 (Bonterra Consulting). The Department recommends that species-specific surveys be conducted for least Bell's vireo prior to construction. We also recommend that measures are implemented to ensure construction

activities during the breeding season do not cause nest abandonment. A discussion regarding potential for impacts to this species, as well as avoidance and minimization measures, should be included in the final MND.

2. We have additional concern regarding least Bell's vireo and other passerine species pertaining to the construction of a "… 6 foot tall perimeter wall would be (that would be) designed using a combination of block and glass materials" (draft MND, page 27). The Department requests further discussion on this topic in the final MND, as it is unclear as to whether the use of glass in the perimeter wall design was analyzed for impacts resulting from bird strike.

   Further avoidance of direct impacts to birds, particularly migratory species, can be achieved through incorporation of "bird safe" elements in architectural design. Elements such as glazed windows, well-articulated building facades, and minimal nighttime lighting are encouraged to reduce collisions of migratory birds with buildings. Large flat windows, reflective glass, and transparent corners are strongly discouraged. We recommend that the City follow as many of these guidelines as appropriate when considering structure design, as described in San Francisco's Standards for Bird Safe Buildings (the document can be found online at: http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf).

3. The Department requests clarification on the reason for fuel modification Zone B's exclusion from the project site boundary (draft MND, page 2-20). We consider all fuel modification zones, including Zone B, to be part of the project's impacts, and as such it should be included in the calculation of the project's impacts to habitats and species. In the final MND, Zone B should be assessed as part of the project area and an assessment of biological resources and potential impacts should be discussed. S-1-2

4. Because the proposed project would create a significant amount of ground disturbance, concern exists over the impacts the project will have on storm water quality and general hydrology in the surrounding area. Given Governor Brown's Drought State of Emergency Declaration, issued January 17, 2014, the final MND should analyze the efficacy of Low Impact Development (LID) options to minimize storm water impacts, including:

   a. Site layout with regard to sensitive resources, including off site native habitat,

   b. The use of pervious surfaces (crushed aggregate, turf block, unit pavers, pervious concrete and asphalt) as alternatives to impervious surfaces, and

   c. Structure roof spouts emptying over pervious surfaces.

   If it is anticipated that runoff cannot be dispersed through LIDs, the final MND should consider directing runoff to facilities designed to detain and treat runoff, such as detention or bioretention basins. Storm water impacts should be explored throughout the project footprint as well as off-site native habitat.

5. To reduce the potential for the spread of non-native seeds, the Department recommends that all heavy equipment proposed for use on the project site be verified as cleaned (including wheels, tracks, undercarriages, and bumpers, as applicable) before delivery to the

project site. The City should ensure that all equipment delivered to the initial staging area(s) is documented as being weed free, including: (1) vegetation clearing equipment; (2) earth moving equipment; and (3) all project-associated vehicles (including personal vehicles) that, upon inspection by the monitoring biologist, are deemed to present a risk for spreading weeds. Equipment should be cleaned at existing construction yards or at a wash station. The biological monitor shall document that all construction equipment (as described above) has been cleaned prior to working within the project site.

6. In addition, the use of native plants in landscaping discourages spread of invasive species. It also provides additional benefits such as the attraction of native pollinators and reduced water consumption. Therefore, it is recommended that appropriate native plants should be used to the greatest extent feasible in landscaped areas. The applicant should not plant, seed, or otherwise introduce invasive exotic plant species to landscaped areas. Exotic plant species not to be used include those species listed on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory, which is available online at http://www.cal-ipc.org. This list includes (but is not limited to) the following: pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom. In addition, landscaping should not contain plants that require extensive irrigation, fertilizers, or pesticides. Therefore, the final MND should include a plant palette which does not contain non-native invasive species. S-1-2

We appreciate the opportunity to comment on the draft MND for this project and to assist the County in further minimizing and mitigating project impacts to biological resources. The Department requests an opportunity to review and comment on any response that the City has to our comments and to receive notification of the forthcoming hearing date for the project (CEQA Guidelines; §15073(e)). If you have any questions or comments regarding this letter, please contact Jennifer Edwards at jennifer.edwards@wildlife.ca.gov or (858) 467-2717.

Sincerely,

Gail K. Sevrens
Environmental Program Manager
South Coast Region

ec: Christine Medak (U.S. Fish and Wildlife Service)
Scott Morgan (State Clearinghouse)

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LETTER CODE: S-1

COMMENTER: State of California, Governor's Office of Planning and Research, State Clearinghouse

DATE: October 2, 2015

RESPONSE S-1-1

The comment provides information regarding processing of the document by the State of California, Governor's Office of Planning and Research, State Clearinghouse. The comment indicates that the Draft Initial Study/Mitigated Negative Declaration (IS/MND) was sent to State agencies for review. In addition, the comment acknowledges that the City of Lake Forest has complied with the State Clearinghouse review requirements for draft environmental documents pursuant to the California Environmental Quality Act.

The comment does not contain any substantive statements or questions about the environmental analysis or conclusions contained in the Draft IS/MND or the analysis therein. Therefore, no further response is necessary.

RESPONSE S-1-2

The State of California, Governor's Office of Planning and Research, State Clearinghouse, transmitted a copy of a letter from the State of California, Department of Fish and Wildlife (CDFW), to the City of Lake Forest regarding their review of the Draft IS/MND. This letter has been coded as Comment Letter S-2. Please refer to Responses to Comments S-2-1 through S-2-14 for a complete response to CDFW's comments.

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

RECEIVED
10-01-15
City of Lake Forest

S-2

October 1, 2015

Mr. Ron Santos
City of Lake Forest Development Services Department
25550 Commercentre Drive, Suite 100
Lake Forest, California 92630
rsantos@lakeforestca.gov

Subject: Comments on the Notice of Intent to Adopt a Mitigated Negative Declaration for the Encanto Residential Project (SCH# 201591005)

Dear Mr. Santos:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the proposed Encanto Residential Project, City of Lake Forest, Orange County, California, dated September 2015. The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning (NCCP) program. The City of Lake Forest (City) is participating in the Central/Coastal Orange County NCCP/Habitat Conservation Plan (HCP) as a non-participating landowner. S-2-1

The previously rough-graded project site is located south of Alton Parkway, west of Commercentre Drive, and north of Arctic Ocean Drive within the City. The project site is within the NCCP/HCP planning area, with the boundary of the NCCP/HCP Reserve System 125 feet to the northeast. The project consists of the development of approximately 52 single-family residential units, road and utility infrastructure, and landscaped areas on approximately 5.75 acres, with an additional 1.44 acres surrounding the development designated as a fuel modification zone separate from the project area. S-2-2

The Department's main concerns regarding the proposed project include the draft MND's lack of discussion regarding indirect and cumulative impacts to least Bell's vireo (*Vireo bellii pusillus*), direct impacts to birds that may result from bird strike on the proposed glass perimeter wall, exclusion of the fuel modification zone from the project area, and impacts that may occur to resources within the NCCP/HCP Reserve area adjacent to the project site. We offer the following comments and recommendations to assist the City in avoiding or minimizing potential project impacts on biological resources. S-2-3

1. The draft MND does not address potential adjacency impacts to least Bell's vireo, a species listed as endangered under CESA. Least Bell's vireo were observed in habitat directly adjacent (north) to the project area in 2008 (Bonterra Consulting). The Department recommends that species-specific surveys be conducted for least Bell's vireo prior to construction. We also recommend that measures are implemented to ensure construction S-2-4

activities during the breeding season do not cause nest abandonment. A discussion regarding potential for impacts to this species, as well as avoidance and minimization measures, should be included in the final MND. S-2-4

2. We have additional concern regarding least Bell's vireo and other passerine species pertaining to the construction of a "… 6 foot tall perimeter wall would be (that would be) designed using a combination of block and glass materials" (draft MND, page 27). The Department requests further discussion on this topic in the final MND, as it is unclear as to whether the use of glass in the perimeter wall design was analyzed for impacts resulting from bird strike. S-2-5

   Further avoidance of direct impacts to birds, particularly migratory species, can be achieved through incorporation of "bird safe" elements in architectural design. Elements such as glazed windows, well-articulated building facades, and minimal nighttime lighting are encouraged to reduce collisions of migratory birds with buildings. Large flat windows, reflective glass, and transparent corners are strongly discouraged. We recommend that the City follow as many of these guidelines as appropriate when considering structure design, as described in San Francisco's Standards for Bird Safe Buildings (the document can be found online at: http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf).

3. The Department requests clarification on the reason for fuel modification Zone B's exclusion from the project site boundary (draft MND, page 2-20). We consider all fuel modification zones, including Zone B, to be part of the project's impacts, and as such it should be included in the calculation of the project's impacts to habitats and species. In the final MND, Zone B should be assessed as part of the project area and an assessment of biological resources and potential impacts should be discussed. S-2-6

4. Because the proposed project would create a significant amount of ground disturbance, concern exists over the impacts the project will have on storm water quality and general hydrology in the surrounding area. Given Governor Brown's Drought State of Emergency Declaration, issued January 17, 2014, the final MND should analyze the efficacy of Low Impact Development (LID) options to minimize storm water impacts, including: S-2-7

   a. Site layout with regard to sensitive resources, including off site native habitat,

   b. The use of pervious surfaces (crushed aggregate, turf block, unit pavers, pervious concrete and asphalt) as alternatives to impervious surfaces, and

   c. Structure roof spouts emptying over pervious surfaces.

   If it is anticipated that runoff cannot be dispersed through LIDs, the final MND should consider directing runoff to facilities designed to detain and treat runoff, such as detention or bioretention basins. Storm water impacts should be explored throughout the project footprint as well as off-site native habitat. S-2-8

5. To reduce the potential for the spread of non-native seeds, the Department recommends that all heavy equipment proposed for use on the project site be verified as cleaned (including wheels, tracks, undercarriages, and bumpers, as applicable) before delivery to the S-2-9

project site. The City should ensure that all equipment delivered to the initial staging area(s) is documented as being weed free, including: (1) vegetation clearing equipment; (2) earth moving equipment; and (3) all project-associated vehicles (including personal vehicles) that, upon inspection by the monitoring biologist, are deemed to present a risk for spreading weeds. Equipment should be cleaned at existing construction yards or at a wash station. The biological monitor shall document that all construction equipment (as described above) has been cleaned prior to working within the project site. S-2-9

6. In addition, the use of native plants in landscaping discourages spread of invasive species. It also provides additional benefits such as the attraction of native pollinators and reduced water consumption. Therefore, it is recommended that appropriate native plants should be used to the greatest extent feasible in landscaped areas. The applicant should not plant, seed, or otherwise introduce invasive exotic plant species to landscaped areas. Exotic plant species not to be used include those species listed on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory, which is available online at http://www.cal-ipc.org. This list includes (but is not limited to) the following: pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom. In addition, landscaping should not contain plants that require extensive irrigation, fertilizers, or pesticides. Therefore, the final MND should include a plant palette which does not contain non-native invasive species. S-2-10

We appreciate the opportunity to comment on the draft MND for this project and to assist the County in further minimizing and mitigating project impacts to biological resources. The Department requests an opportunity to review and comment on any response that the City has to our comments and to receive notification of the forthcoming hearing date for the project (CEQA Guidelines; §15073(e)). If you have any questions or comments regarding this letter, please contact Jennifer Edwards at jennifer.edwards@wildlife.ca.gov or (858) 467-2717. S-2-11

Sincerely,

Gail K. Sevrens
Environmental Program Manager
South Coast Region

ec: Christine Medak (U.S. Fish and Wildlife Service)
Scott Morgan (State Clearinghouse)

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LETTER CODE: S-2

COMMENTER: State of California, Department of Fish and Wildlife

DATE: October 1, 2015

RESPONSE S-2-1

The comment is introductory and states that the California Department of Fish and Wildlife (CDFW) reviewed the Notice of Intent to Adopt a Mitigated Negative Declaration for the proposed Encanto Residential Project (Project). The comment also states that CDFW is a Trustee Agency with jurisdiction over natural resources affected by the proposed Project and a Responsible Agency for those aspects of the Project that come under the purview of the California Endangered Species Act. The comment also states that CDFW administers the Natural Community Conservation Planning (NCCP) program and that the City of Lake Forest (City) is participating in the Central/Coastal Orange County NCCP/Habitat Conservation Plan (HCP) as a non-participating landowner.

The City of Lake Forest acknowledges CDFW's role as a Trustee Agency; however, it should be noted that no permits are required from CDFW for project approval.

As stated in Section 4.4, Biological Resources, of the Initial Study/Mitigated Negative Declaration (IS/MND), the Project site is located within the Orange County Central and Coastal NCCP/HCP planning area but outside the boundaries of the NCCP/HCP Reserve System. The Reserve System boundary is located approximately 125 feet (ft) northwest of the proposed Project site; however, the Project site is in an area identified in the NCCP/HCP as urbanized and is located in an area designated for development. The development of the proposed Project would not result in the removal of any sensitive habitat species identified in the Orange County Central and Coastal NCCP/HCP.

RESPONSE S-2-2

The comment provides a summary of the proposed Project and its location. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE S-2-3

This comment states that CDFW's main concerns regarding the proposed Project include the Draft IS/MND's lack of discussion regarding indirect and cumulative impacts to least Bell's vireo, direct impacts to birds that may result from bird strikes on the proposed glass perimeter wall, exclusion of the flue modification zone from the Project area, and impacts that may occur to resources within the NCCP/HCP Reserve adjacent to the Project site. This comment is a summary. Please refer to Responses to Comments S-2-4 through S-2-10 for a complete response to each of the issues summarized in this introductory comment.

RESPONSE S-2-4

The comment states that the Draft IS/MND does not address potential adjacency impacts to least Bell's vireo, which were observed in habitat north of the Project site in 2008. The comment recommends species-specific surveys for least Bell's vireo and mitigation measures to ensure that construction activities during the breeding season do not cause nest abandonment.

Potential impacts to least Bell's vireo were evaluated as part of the *Biological Technical Report for the Encanto Residential Development* (Glenn Lukos Associates, Inc., May 2015) (Appendix B to the IS/MND). As shown in Table 4-1 of that report, least Bell's vireo is among the special-status animals evaluated for the Project site. None were observed on the Project site, and the site does not contain suitable habitat for the species. Further, as stated on page 4-35 of the Draft IS/MND, implementation of the proposed Project would be subject to the provisions of the Migratory Bird Treaty Act (MBTA), which prohibits disturbing or destroying active nests. In addition, nests and eggs are protected under Fish and Game Code Section 3503. Project implementation must be accomplished in a manner that avoids impacts to active nests during the breeding season. Therefore, if Project construction (including fuel modification) occurs between February 1 and September 15, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to ground- and/or vegetation-disturbing activities to confirm the absence of nesting birds. As documented in Mitigation Measure B-1, avoidance of impacts can be accomplished through a variety of means, including establishing suitable buffers around any active nests, noise attenuation measures, and consultation with the wildlife agencies, if necessary. With implementation of Mitigation Measure B-1, potentially significant impacts to nesting birds, including the least Bell's vireo, would be reduced to a less than significant level.

RESPONSE S-2-5

The comment states that CDFW is concerned about possible bird strike impacts related to the 6 ft tall perimeter wall and recommends the incorporation of "bird safe" elements into the architectural design of the walls. CDFW recommends that the City follow as many "bird safe" guidelines as appropriate when considering structure design, as described in San Francisco's *Standards for Bird Safe Buildings*.

The City and County of San Francisco's *Standards for Bird-Safe Buildings* explains the documented risks that structures present to birds. The document summarizes design options to minimize bird strike including, but not limited to, window treatments, lighting design, and lighting operation. The document proposes a three-pronged approach to the problem: (1) establishment of requirements for the most hazardous conditions; (2) use of an educational checklist to educate project sponsors and their future tenants on potential hazards; and (3) creation and expansion of voluntary programs to encourage more bird-safe practices including acknowledging those who pursue certification through a proposed new program for "bird-safe building" recognition.

As recommended by CDFW, the design options recommended in City and County of San Francisco's *Standards for Bird-Safe Buildings* (e.g., window treatments, lighting) were considered in conjunction with the project impact analysis, but deemed inappropriate for a low fence enclosing private rear yards. Furthermore, the City of Lake Forest has not adopted the *Standards for Bird Safe Buildings*

and, as detailed below, has found that impacts related to bird strike for the proposed Project would be less than significant.

The proposed Project would include a combination of solid masonry/stone walls, tubular steel, solid vinyl fencing, and partial stone walls with tempered glass panels. Fence and gate details are shown on Sheet 11 in Appendix L of the IS/MND. The 6 ft perimeter wall along the western, eastern, and northern boundaries of the Project site would be designed using a combination of masonry/stone and glass materials. The approximate dimensions would include 6 ft high masonry columns, a 2 ft masonry base, and each glass panel would be approximately 3.5 ft high by 4 ft wide. Each 3.5 by 4 ft glass panel would be separated or framed by a 2-inch metal post. In addition, 6 ft masonry columns would be located at regular intervals (approximately every 36 ft) along the wall. The steel posts and masonry columns would be perceived as solid obstructions and would help deter bird strikes.

Least Bell's vireo and other passerine habitat occurs to the west and north of the Project site. As shown in the photo below, this habitat consists primarily of mulefat scrub with a few southern willow scrub species in the northwest corner. The habitat is topographically separated from the Project by an approximately 30 ft high manufactured slope, with the top of slope well above the upper limits of the vegetation canopy below. Inadvertent bird strikes against the perimeter wall are unlikely to occur since the vegetation would not reflect against the glass wall partitions at this elevation.

Overall, the topographic separation of the wall from the vegetated corridor and the architectural features of the wall as proposed would help reduce incidence of bird strike such that any related impacts would be less than significant for the Project as proposed. No mitigation would be required.

Photograph 1: Looking northwest at the vegetated corridor that is located 30 ft below the top of the manufactured slope.

RESPONSE S-2-6

The comment requests clarification regarding the reason for Fuel Modification Zone B's exclusion from the Project site boundary. The comment further states that CDFW considers all fuel modification zones to be part of the Project site and, as such, potential impacts to Zone B should be evaluated.

Although Fuel Modification Zone B is not located within the Project boundary it will be subject to off-site improvements (clearing, irrigation, and maintenance) as explained in Section 2.0, Project Description, of the Final IS/MND. As discussed in the *Biological Technical Report for the Encanto Residential Development* (Glenn Lukos Associates, Inc., May 2015) included in Appendix B of the IS/MND, the area surveyed as part of the biological resources investigation included all of the fuel modification areas, including Zone B. In addition, Mitigation Measure B-1 explicitly states that restrictions related to the MBTA apply to fuel modification activities such as those that would occur in Zone B. Therefore, potential impacts related to biological resources occurring within Zone B were appropriately analyzed and mitigated.

RESPONSE S-2-7

The comment states that the IS/MND should analyze the efficacy of low impact development (LID) options to minimize storm water impacts including: (a) site layout with regard to sensitive species, including off-site native habitat; (b) the use of pervious surfaces as alternatives to impervious surfaces; and (c) structure roof spouts emptying over pervious surfaces.

LID options have been included in the proposed Project. As discussed in Section 4.9 of the IS/MND, the proposed Project would implement LID Best Management Practices (BMPs), which include two precast biofiltration boxes with underdrains (Modular Wetlands Model MWS-C-8-16), and implement Hydrologic Conditions of Concern BMPs, which include an underground detention chamber (Contech 72-inch CMP). The infiltration chambers reduce the volume and velocity of runoff from the Project site, thereby decreasing the potential for soil erosion. In addition, the infiltration chambers have a high removal effectiveness for sediment, nutrients, trash, metals, bacteria, oil and grease, and organics. Proposed non-structural Source Control BMPs include education for property owners, tenants, and occupants; activity restrictions; common area landscape management; BMP maintenance; common area litter control; employee training; common area catch basin inspection; and street sweeping. Proposed structural Source Control BMPs include storm drain stenciling and signage; efficient irrigation systems and landscape design, water conservation, smart controllers; and hillside landscaping.

In addition, as specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) to identify construction BMPs to be implemented during construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills. Mitigation Measures WQ-2 through WQ-4 specify that permanent BMPs that target pollutants of concern would be implemented and maintained to infiltrate and treat storm water runoff. Mitigation Measures WQ-1 through WQ-4 would prevent substantial impacts to water quality through implementation of construction and post-construction BMPs to target pollutants of concern in runoff from the Project site. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to creation or contribution of runoff water, which would generate substantial additional sources of polluted runoff, would be reduced to a less than significant level. Because the mitigation measures included in the IS/MND would effectively and efficiently reduce impacts to water quality to less than significant levels, the City need not impose the additional LID measures identified in comment S-2-7. (See *Gilroy Citizens for Responsible Planning v. City of Gilroy* (2006) 140 Cal.App.4th 911, 935 [California Environmental Quality Act (CEQA) does not require lead agencies to adopt every imaginable mitigation measure in order to reduce a project's impacts].)

RESPONSE S-2-8

The comment states that the IS/MND should consider directing runoff to facilities designed to detain and treat runoff, such as detention or bioretention basins if runoff cannot be dispersed through LIDs. The comment also states that storm water impacts should be explored throughout the Project footprint as well as off-site native habitat. Please refer to Response to Comment S-2-7, which explains where and how the IS/MND addresses these issues.

RESPONSE S-2-9

The comment states that the City should ensure that all equipment delivered to the initial staging area is documented as weed free in order to reduce the potential for the spread of non-native seeds. The comment does not identify any new or more significant environmental effects that were not addressed in the IS/MND. Therefore, the CDFW's recommended measure would not be necessary to reduce environmental effects. Nonetheless, recognizing that the CDFW's proposal is a best practice that should be implemented, the City will include a condition of approval that stipulates that all equipment delivered to the initial staging area is documented as weed free in order to reduce the potential for the spread of non-native seeds.

RESPONSE S-2-10

The comment states that the applicant should not plant, seed, or otherwise introduce invasive exotic species on the Project site. The comment states that specific plant species that the City should consider to not be used include those species listed on the California Invasive Plant Council (Cal-IPC) *Invasive Plant Inventory*. The landscaping palette to be used on site will include the use of native plant species in addition to drought tolerant, ornamental, and turf species. Nonetheless, the City will include a condition of approval prohibiting the use of invasive exotic plants (i.e., those plant species rated as "High" or "Moderate" in the Cal-IPC *Invasive Plant Inventory*). A revised landscape plan has been included in the Final IS/MND (Figure 2.6) that does not include those species listed on the Cal-IPC list.

RESPONSE S-2-11

The comment concludes the comment letter. The comment requests that CDFW be given an opportunity to review and comment on any response that the City has to the comments contained in this letter. A copy of the written proposed responses to CDFW's comments will be provided at least 10 days prior to the first public hearing for the proposed Project. CDFW will also be informed of any forthcoming hearing dates in accordance with *State CEQA Guidelines* Section 15073(e).

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Community Development

cityofirvine.org

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6000

RECEIVED

SEP 21 2015

CITY OF LAKE FOREST
DEVELOPMENT SERVICES DEPT

September 17, 2015

Mr. Ron Santos
Senior Planner
City of Lake Forest
Development Services Department
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

Subject: Notice of Intent to adopt a Mitigated Negative Declaration (MND) and Initial Study for Encanto Residential Project

Dear Mr. Santos:

Thank you for the opportunity to comment on the Notice of Intent to adopt a MND and Initial Study for the Encanto Residential Project. City of Irvine staff has reviewed the submittal and has no comments at this time. L-1-1

If you have any questions, please contact me at 949-724-6314 or by email at dlaw@cityofirvine.org.

Sincerely,

FOR:

David R. Law, AICP
Senior Planner

cc: Bill Jacobs, Principal Planner (via email)

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LETTER CODE: L-1

COMMENTER: City of Irvine

DATE: September 17, 2015

RESPONSE L-1-1

The comment states that the City of Irvine thanks the City of Lake Forest for the opportunity to comment on the Notice of Intent to adopt an Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Encanto Residential Project. The comment also states that City of Irvine staff reviewed the submittal and has no comments at this time.

The comment does not contain any substantive comments or questions about the IS/MND. This comment will be made available to the decision-makers. No further response is required.

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L-2

RECEIVED
10-01-15
City of Lake Forest

San Joaquin Hills Transportation Corridor Agency

Chairman:
Ross Chun
Aliso Viejo

Transportation Corridor Agencies™

Foothill/Eastern Transportation Corridor Agency

Chairman:
Craig Young
Yorba Linda

September 30, 2015

Via E-mail to: *rsantos@lakeforest.gov*

Ron Santos, Senior Planner
City of Lake Forest Development Services Department
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

Subject: Notice of Intent to Adopt a Mitigated Negative Declaration for the Encanto Residential Project at 25192 Commercentre Drive

Dear Mr. Santos:

The Transportation Corridor Agencies (TCA) has reviewed, and is pleased to submit these comments on the Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the Encanto Residential Project (Project) at 25192 Commercentre Drive in the City of Lake Forest (City). The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached residential units. The Project site is bound on the north by the intersection of Alton Parkway and Commercentre Drive, on the east by Commercentre Drive, on the south by light industrial uses with Arctic Ocean Drive beyond, and on the west by open space consisting of a manufactured landscape slope with a concrete drainage channel, power lines, an Irvine Ranch Water District water tower, and an access road. Development of the proposed Project would require approvals from the City, including, but not limited to, grading and building permits. The City, as the California Environmental Quality Act lead agency, has determined that a MND is the appropriate document for the Project. L-2-1

The Project is within the Foothill/Eastern Transportation Corridor Agency fee program area and will require payment of Development Impact Fees as a condition of issuing building permits pursuant to the Major Thoroughfare and Bridge Fee Program adopted in 1988. As such, TCA requests to be kept on the City's distribution list and looks forward to receiving all future notices, the MND, along with any other forthcoming documentation for the Project. L-2-2

TCA appreciates the opportunity to provide input to your planning process. If you have questions or require additional information, please do not hesitate to contact me at 949.754.3496 or via email (dferemenga@thetollroads.com). L-2-3

Sincerely,

Doug Feremenga, PhD., AICP CEP, LEED AP
Principal Environmental Analyst

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LETTER CODE: L-2

COMMENTER: Transportation Corridor Agencies

DATE: September 30, 2015

RESPONSE L-2-1

The comment states that Transportation Corridor Agencies (TCA) has reviewed and is pleased to submit comments on the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Encanto Residential Project. The comment also provides a summary of the proposed Project.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-2-2

The comment states that the proposed Project is within the Foothill/Eastern Transportation Corridor Agency fee program area and will require payment of development fees as a condition of approval. Payment of such fees is required prior to issuance of building permits pursuant to the Major Thoroughfare and Bridge Fee Program adopted in 1988. The comment also states that TCA would like to receive future notices and forthcoming documentation pertaining to the project.

Payment of required development fees will occur prior to the issuance of development permits. TCA will remain on the mailing list to receive future notices regarding the project. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-2-3

The comment concludes the comment letter and provides contact information should additional information be needed from TCA.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

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RECEIVED
10-01-15
City of Lake Forest

IRVINE RANCH WATER DISTRICT 15600 Sand Canyon Ave., P.O. Box 57000, Irvine, CA 92619-7000 (949) 453-5300

October 1, 2015

Ron Santos
Senior Planner
City of Lake Forest
Development Services Department
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

Re: Notice of Intent to Adopt a Mitigated Negative Declaration for the Encanto Residential Project at 25192 Commercentre Drive

Dear Mr. Santos:

Irvine Ranch Water District (IRWD) has received the City of Lake Forest's Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the Encanto Residential Project at 25192 Commercentre Drive and offers the following comments. L-3-1

In relation to Page 4-126 Section b) Water: In fiscal year 2013-2014, IRWD delivered approximately **98,431** acre-feet of water (including potable and non-potable). IRWD recommends that the draft MND be updated reflect this amount and fiscal year. L-3-2

IRWD also recommends that the draft MND be revised to better reflect the following: In response to historically dry conditions throughout California, in April 2015, the Governor of the State of California issued an Executive Order directing the State Water Resources Control Board (SWRCB) to implement mandatory potable (drinking) water reductions to reduce statewide usage by 25 percent. These restrictions will require water suppliers to California's cities and towns to reduce usage compared with the amount used in 2013. Every retail water purveyor does not have the same target percentage and the reductions range from four to thirty six percent. As correctly stated in the draft MND, IRWD has been tasked by the State to reduce drinking water use throughout its service area by 16 percent. L-3-3

On **July 13, 2015**, IRWD declared a Level Two Water Shortage, not July 13, 2105 as stated in the draft MND. L-3-4

In relation to Page 4-128 Water Use During Construction: IRWD recommends that the draft MND be amended as follows: In addition, IRWD requires construction contractors to utilize recycled water for fugitive dust control during the drought level two declaration. As stated above, the proposed Project includes installation of a recycled water hydrant on the Project site. The recycled water hydrant would connect to the existing 12-inch recycled water line in Commercentre Drive. L-3-5

IRWD requests that the MND provide a discussion of recycled water demand or uses by the Project. Recycled water will be available to the Project and IRWD requests the Project proponents to maximize the use of recycled water. A meeting to discuss the Lake Forest Sub-Area Master Plan (SAMP) will include discussion of the use of recycled water. L-3-6 L-3-7

In relation to Page 4-129: The first paragraph should be amended to read as follows: **IRWD** is not currently experiencing a shortage related to recycled (non-potable) water. According to **IRWD**, **recycled** water production remains constant and is considered "drought-proof" as a result of the fact that sewage flows remain virtually unaffected by dry years. L-3-8

In relation to Page 4-130 Table 4.17.C and in response to the statement on page 4-128 that reads "Recycled water would only be used during construction": Table 4.17.C excludes recycled water from the demand calculation of common irrigation areas. This table also assumes that fuel modification and community park areas are served by potable water. IRWD confirms that an addendum to the Lake Forest SAMP will need to be prepared prior to approval of plans at IRWD. An updated water demand table will need to be prepared as part of the SAMP Addendum, taking into consideration recycled water service to common irrigation (HOA-maintained) areas, fuel modification zones, and park areas. Please contact Eric Akiyoshi or Barkev Merserlian of IRWD's Planning Group at (949) 453-5300 to discuss the addendum to the Lake Forest SAMP. L-3-9 L-3-10

An additional change on Page 4-130 of the draft MND is the inclusion of a fifth bullet, which states: L-3-11

- Compliance with Model Water Efficient Landscape Ordinance

In relation to Pages 4-131 and 4-132: As previously stated, IRWD will require that an addendum to the Lake Forest SAMP be completed prior to IRWD's approval of plans. Currently, the Lake Forest SAMP lists the proposed site as industrial. The SAMP addendum shall address any impacts to the potable, non-potable (recycled), and sewer systems associated with the proposed Encanto Residential Site. The preliminary system capacity information provided by IRWD staff in the past will need to be verified in the SAMP addendum. L-3-12

In relation to Page 4-133 Section d: The draft MND should be revised to indicate the following: The relatively moderate increase in water use would be accounted for the anticipated **Project**. The Project would not necessitate new or expanded water entitlements and **IRWD** would be able to accommodate the increased demand for potable water **from the Project**. L-3-13

IRWD appreciates the opportunity to review and provide comment to this MND. If you have any questions or require additional information, please contact the undersigned at (949) 453-5325 or Jo Ann Corey, Engineering Technician III at (949) 453-5326. L-3-14

Sincerely,

Fiona M. Sanchez
Director of Water Resources

cc: Eric Akiyoshi, IRWD
Barkev Merserlian, IRWD

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LETTER CODE: L-3

COMMENTER: Irvine Ranch Water District

DATE: October 1, 2015

RESPONSE L-3-1

The comment is introductory and states that the Irvine Ranch Water District (IRWD) received the City of Lake Forest (City) Notice of Intent (NOI) to adopt a Mitigated Negative Declaration (MND) for the proposed Encanto Residential Project (Project). The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the Initial Study (IS)/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-3-2

The comment states that in fiscal year 2013–2014, IRWD delivered 98,431 acre-feet (af) of water.

The Draft IS/MND stated that IRWD delivered approximately 93,037 acre-feet (af) of water (including potable and non-potable water) in fiscal year 2012–2013. The Final IS/MND will be updated to provide the water delivery calculation for fiscal year 2013–2014 as requested by IRWD. The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-3

The comment recommends that additional language be added to the IS/MND pertaining to the Executive Order issued by the Governor in April 2015 requiring mandatory potable water reductions. The comment confirmed that the IS/MND correctly stated that IRWD has been tasked by the State to reduce drinking water use throughout its service area by 16 percent.

Page 4-126 of the IS/MND has been revised as follows:

> In April 2015, the Governor of the State of California issued an Executive Order directing the SWRCB to implement mandatory <u>potable</u> water reductions in cities and towns across California to reduce water usage by 25 percent. These restrictions will require water suppliers to California's cities and towns to reduce usage compared to the amount used in 2013. <u>Every water purveyor does not have the same target percentage and the reductions range from 4 to 36 percent.</u> IRWD has been tasked by the State to reduce drinking water use throughout the service area by 16 percent.

The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-4

The comment points out a typographical error on page 4-126 of the Draft IS/MND. A date was misstated as July 13, 2105, instead of July 13, 2015. This typographical error will be corrected in the Final IS/MND. The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-5

The comment requests that the IS/MND make clear that IRWD requires construction contracts to utilize recycled water for fugitive dust control *during the Drought Level Two Declaration.* The italicized text will be added to the Final IS/MND, as shown below.

Page 4-128 of the IS/MND was revised as follows:

> In addition, IRWD encourages construction contractors to utilize recycled water for fugitive dust control <u>during the Level Two Water Shortage</u>. As stated above, the proposed Project includes installation of a recycled water hydrant on the Project site. The recycled water hydrant would connect to the existing 12-inch recycled water line in Commercentre Drive. Recycled water would only be used during construction.

The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-6

The comment requests that the IS/MND provide a discussion of recycled water demand or uses by the Project. After circulation of the IS/MND, the project applicant agreed to expand the use of recycled water on the Project Site to include the irrigation of the common areas and Fuel Modification Zones,

totaling approximately 3.08 ac. Page 4-130 and Table 4.17.C have been revised in the Final IS/MND as shown below.

> Long-term demand for water would occur during operation of the proposed Project. As shown in Table 4.17.C, it is estimated that the proposed Project's average daily potable water demand would be approximately 18,460 ~~19,860~~ gallons/day (gpd), or 20.68 ~~22.25~~ afy[1] and the Project's average daily recycled water demand would be approximately 2,996 gpd or 3.36 afy. Therefore, the proposed Project would represent a small portion (0.04 percent) of IRWD's projected surplus potable water supply in 2020.

Table 4.17.C: Estimated Water Demand for the Proposed Project

Land Use	Proposed Project	Demand Coefficient	Water Demand
Potable Water			
Residential – Low-Medium Density (interior and exterior)	52 du	355 gal/du/day	18,460 gal/day
Potable Water Total			18,460 gal/day
Recycled Water			
Community Park	0.21 ac	2,200 gal/ac/day	440 gal/day
Common Landscaped Areas (HOA maintained)	0.08 ac	2,200 gal/ac/day	176 gal/day
Fuel Modification Zones & Slopes	2.38 ac	1,000 gal/ac/day	2,380 gal/day
Recycled Water Total			2,996 gal/day

Note: The area calculation for the Fuel Modification Zones in Table 4.17.C includes Fuel Modification Zone B, which is not within the project boundary but will be subject to off-site improvements (clearing, irrigation, and maintenance) as explained in Section 2.0, Project Description.
Source: IRWD, Water Resources Master Plan, Table 3-1, Interim Land Use and Water Use Factors (January 2012).
ac = acre(s)
du = dwelling unit(s)
gal = gallon(s)

The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-7

The comment states that a meeting to discuss the Lake Forest Sub-Area Master Plan (SAMP) will include a discussion of the use of recycled water. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

[1] Afy= acre feet per year

RESPONSE L-3-8

The comment requests that that the word "recycled" be used in place of the word "reclaimed" in the first paragraph on page 4-129. The change will be made in the Final IS/MND. The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-9

The comment states that Table 4.17.C excludes recycled water from the demand calculation for common irrigation areas, fuel modification areas, and park areas. Please refer to Response to Comment L-3-6, which addresses this concern and explains how recycled water has been factored into the demand calculation in the Final IS/MND.

RESPONSE L-3-10

The comment states that an addendum to the Lake Forest SAMP will be required prior to approval of plans at IRWD. The comment also states that an updated water demand table that includes consideration of recycled water service to common irrigation areas, fuel modification areas, and park areas will need to be prepared as part of that process. It is understood that an addendum to the Lake Forest SAMP will be required prior to approval of plans at IRWD. The addendum process would occur after the City acts on the proposed Project. Please also refer to Response to Comment L-3-6.

RESPONSE L-3-11

This comment requests that a fifth bullet point stating that the Project includes "compliance with Model Water Efficient Landscape Ordinance" be added to a list of the Project's water conservation measures. In the IS/MND on page 2-15, in Section 2, Project Description, it is stated that the proposed Project would comply with the City's Model Water Efficient Landscape Ordinance (LFMC Section 9.146.110). Nonetheless, the bullet point requested by IRWD will also be added to the specific page of the Final IS/MND. The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revisionis a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines* Section 15073.5).

RESPONSE L-3-12

The comment states that an addendum to the Lake Forest SAMP will be required prior to approval of plans at IRWD. The comment also states that the updated SAMP will address any potential impacts to potable, non-potable (recycled), and sewer systems associated with the Project. Completion of the SAMP will be a Condition of Approval; the applicant will be required to complete the SAMP Addendum in consultation with IRWD prior to issuance of building permits. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-3-13

The comment requests some language changes to page 4-133 in the IS/MND. The text in the Final IS/MND will be revised as follows:

> The Project would not necessitate new or expanded water entitlements, and IRWD would be able to accommodate the increased demand for potable water from the Project.

The change is not a "substantial revision" because it does not identify a new, avoidable significant effect or mitigation measures or project revisions to address a new, avoidable significant effect; and the revision does not involve a change to mitigation measures that were proposed in the Draft IS/MND. In addition, the proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-14

The comment concludes the comment letter and provides contact information for a staff person at IRWD. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

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Nicole Dubois

From: Johntommy Rosas <tattnlaw@gmail.com>
Sent: Thursday, September 03, 2015 2:44 PM
To: Nicole Dubois
Cc: Santos, Ron
Subject: Re: Encanto Notice of Intent

thanks
we charge $50- per hour for those services your requesting -
estimated time is 4 hours =$200-invoice
confirm approval or refusal to compensate in violation of ACHP guidance documents. T-1-1
jt

On Thu, Sep 3, 2015 at 12:46 PM, Nicole Dubois <Nicole.Dubois@lsa-assoc.com> wrote:

On behalf of the City of Lake Forest (City), LSA Associates, Inc. (LSA) is transmitting a copy of the Notice of Intent to adopt an Initial Study/Mitigated Negative Declaration for the proposed Encanto Residential Project.

A Planning Commission and/or City Council meeting has not yet been scheduled. If you have any questions, please contact Ron Santos, City of Lake Forest, at (949) 461-3449 or by email at rsantos@lakeforestca.gov.

--

JOHN TOMMY ROSAS
TRIBAL ADMINISTRATOR
TRIBAL LITIGATOR
TONGVA ANCESTRAL TERRITORIAL TRIBAL NATION
A TRIBAL SOVEREIGN NATION UNDER UNDRIP
AND AS A CALIFORNIA NATIVE AMERICAN TRIBE / SB18-AJ52-AJR 42
25 U.S. Code § 1679 - Public Law 85-671
August 18, 1958 | [H. R. 2824] 72 Stat. 619
Tribal sovereignty in the United States is the inherent authority of indigenous tribes to govern themselves within and outside the borders and waters of the United States of America .

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tongvanation.org

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LETTER CODE: T-1

COMMENTER: Tongva Ancestral Territorial Tribal Nation

DATE: September 3, 2015

RESPONSE T-1-1

The comment provides an hourly fee and an estimated number of hours to complete "services" but does not specify what services the commenter believes to have been requested. The comment also mentions "refusal to compensate in violation of ACHP guidance documents."

On September 3, 2015, the Tongva Ancestral Territorial Tribal Nation (Tongva) was emailed a copy of the Notice of Intent to adopt a Mitigated Negative Declaration (MND) and a digital copy of the Initial Study (IS)/MND. The email and information attached to the email were provided to the Tongva because the Tongva were listed on the Native American Contact List received from the State of California, Native American Heritage Commission. As a potentially interested party, the Tongva were invited to provide comments on the analysis in the IS/MND, but no specific services were requested.

The Advisory Council on Historic Preservation (ACHP) guidance documents referenced in the comment are believed to be the ACHP Guidance on Section 106 agreement documents. Section 106 regulations at 36 Code of Federal Regulations (CFR) Section 800.6(b)(1)(i-iv) call for the federal agency to consult with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and other parties to negotiate and execute a Section 106 agreement document that sets out the measures the federal agency will implement to resolve adverse effects to historic properties through avoidance, minimization, or mitigation. The proposed Encanto Residential Project is not a federal undertaking. Further, because no federal funding will be used during project implementation, Section 106 does not apply to the proposed project.

It should be noted that the findings of the records search indicated a total of 25 cultural resource studies have been conducted in, or within a 0.5-mile (mi) radius of, the Project site. Of these 25 cultural resource studies, 8 included a survey within the Project site. The eight surveys within the Project site observed no prehistoric or historic archaeological resources or isolated artifacts. Therefore, no cultural resources have been previously recorded within the boundaries of the Project site. In addition, according to the *Cultural and Paleontology Resources Inventory Report* prepared by ICF International (Appendix C of the IS/MND), the likelihood of encountering archaeological resources in the Project site is considered low because the Project site has been extensively altered by previous ground disturbance. The entire Project area was previously mass graded, which uncovered some areas of previously placed undocumented fill. Only the southwest portion of the Project area contains native soils that may be disturbed by Project construction activities. Because there is a potential to encounter buried, previously unrecorded cultural resources during Project construction activities that disturb native soils, mitigation will be required. To mitigate this potential impact to archaeological resources, an archaeological monitor would be required to be present on site during grubbing, earthmoving, or trenching activities that extend into native soils, and would also do spot-check monitoring for grubbing, earthmoving, or trenching activities that extend into nonnative soils.

If any archaeological resources are discovered during grading and construction activities, work in the area would cease, and deposits would be treated in accordance with federal, State, and local guidelines, including those set forth in California Public Resources Code (PRC) Section 21083.2. More specifically, in the event that archaeological materials are encountered during construction, work in the vicinity of the find shall be halted, and a qualified archaeologist shall be consulted to determine the appropriate treatment of the discovery (California Code of Regulations (CCR), Title 14, Chapter 3, Section 15064.5(f)). Mitigation Measure C-1 also requires the presence of a Native American monitor during grubbing, earthmoving, and trenching activities that extend into native soils, as requested during the consultation processes conducted for the Project. Implementation of Mitigation Measure C-1 would reduce any potential impacts to previously undiscovered cultural resources to a less than significant level.

SECTION 3

ENCANTO RESIDENTIAL PROJECT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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ENCANTO RESIDENTIAL PROJECT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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December 2015

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1.0 INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA), the *State CEQA Guidelines*, the City of Lake Forest's (City) Local CEQA Guidelines, and the City's CEQA Significance Thresholds Guide (March 2009), this Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the Encanto Residential Project (proposed Project) at 25192 Commercentre Drive in the City of Lake Forest. Consistent with *State CEQA Guidelines* Section 15071, this IS/MND includes a description of the proposed Project, an evaluation of the potential environmental impacts, and findings from the environmental review.

This IS/MND evaluates the potential environmental impacts that may result from development of the proposed Project. The City is the Lead Agency under CEQA, and it is responsible for adoption of the IS/MND and approval of the Project.

1.1 CONTACT PERSON

Any questions or comments regarding the preparation of this IS/MND, its assumptions, or its conclusions should be referred to:

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(949) 461-3449 (tel)
(949) 461-3511 (fax)
rsantos@lakeforestca.gov

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2.0 PROJECT DESCRIPTION

2.1 REGIONAL SETTING

The Project site is located in the City of Lake Forest in the County of Orange (County), California. As shown on Figure 2.1, regional access to the Project site is provided by State Route 241 (SR-241) (located to the north of the Project site) and Interstate 5 (I-5) (located to the south of the Project site).

2.2 SURROUNDING LAND USES

The Project site is bounded on the north by the intersection of Alton Parkway and Commercentre Drive, on the east by Commercentre Drive, on the south by light industrial uses with Arctic Ocean Drive beyond, and on the west by open space consisting of a manufactured landscape slope with a concrete drainage channel, power lines, an Irvine Ranch Water District (IRWD) water tower, and an access road. The open space along the west and northwest boundary is a manufactured slope owned and maintained by the Pacific Commercentre Association and includes a Scenic Preservation Easement.[1] Single-family residential (the Baker Ranch Community) and light industrial uses are located to the east beyond Commercentre Drive. Surrounding land uses are shown on Figure 2.2.

2.3 EXISTING SITE CONDITIONS AND LAND USE DESIGNATIONS

The 5.75-acre (ac) Project site (Assessor's Parcel Number [APN] Nos. 610-371-02 and -05) is located in the Pacific Commercentre Planned Community, a ~~352~~ 436 ac industrial (Light Industrial, Business Park, and High Technology) zoning district. The Project site currently has a zoning designation of Pacific Commercentre Planned Community (PC-6) – High Technology. The Project site is currently designated Light Industrial in the City's General Plan and is subject to the Business Development Overlay.

The proposed Project also includes some off-site improvements (clearing, irrigation, and maintenance) that would occur outside the Project site boundaries. The area in which these improvements would occur is referred to as Fuel Modification Zone B. The fuel modification zones are described in Section 2.5.3 of this IS/MND. Fuel Modification Zone B would remain under the ownership of the Pacific Commercentre Association.

As shown on Figure 2.3, the Project site was previously rough graded and is currently undeveloped. A small concrete driveway, a gravel parking lot with cement curbs and light fixtures, and a sidewalk surrounding a dirt pad where a temporary office trailer was previously located are currently on the Project site. There is also a small trash enclosure located near the existing Project entry. Existing site conditions are shown in photographs of the Project site on Figure 2.4.

[1] The Scenic Preservation Easement was originally dedicated to the County before the land was incorporated into the City. The Scenic Preservation Easement was conveyed to the City upon its incorporation.

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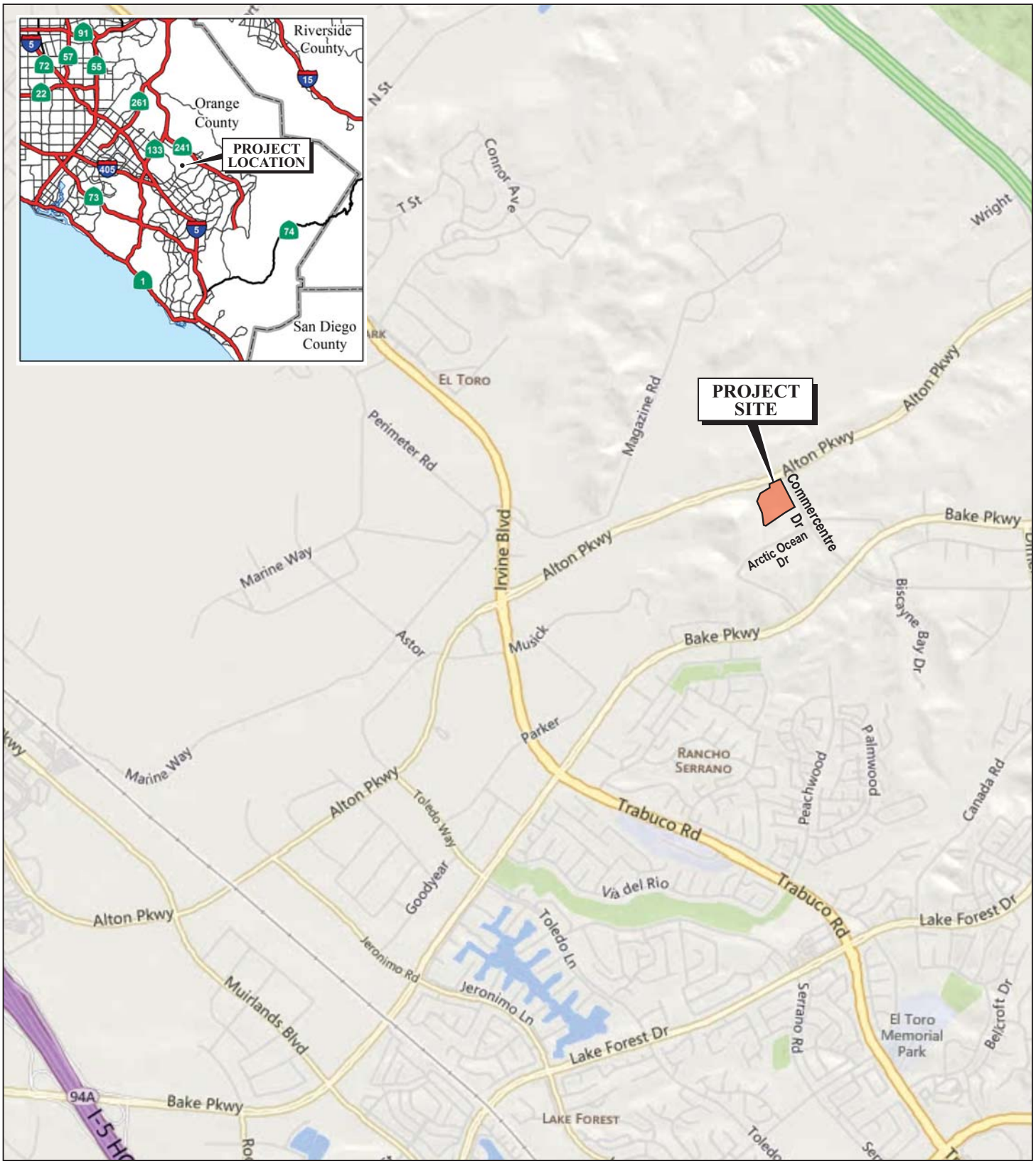

LSA

FIGURE 2.1

N

0 1200 2400
FEET

SOURCE: Bing Maps

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Encanto Residential Project

Project Location

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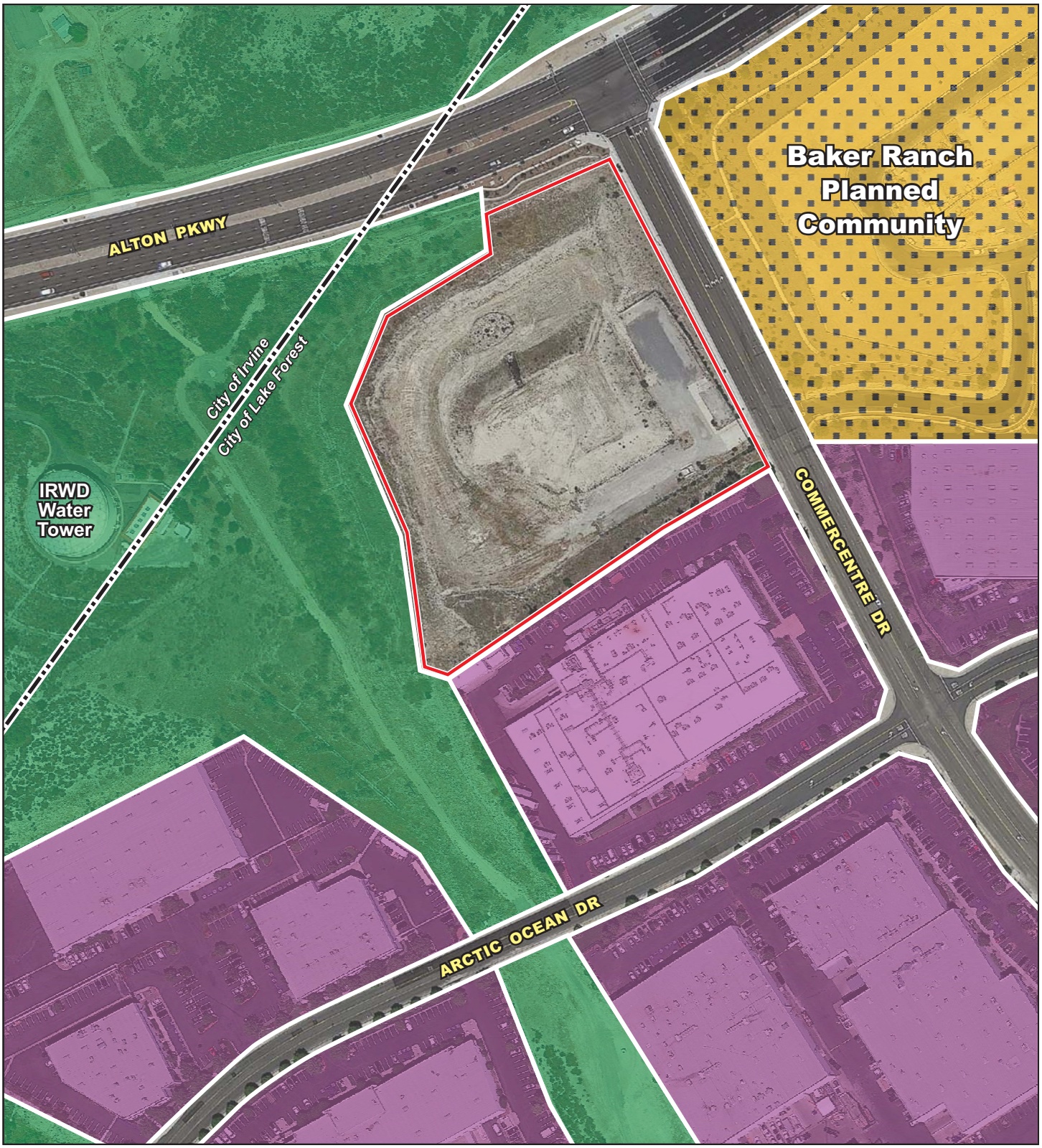

LSA

FIGURE 2.2

LEGEND

- Project Site
- Open Space
- Light Industrial
- Low-Medium Density Residential
- Public Facilities Overlay

N

0 100 200
FEET

SOURCE: Google Earth

Encanto Residential Project

Surrounding Land Uses

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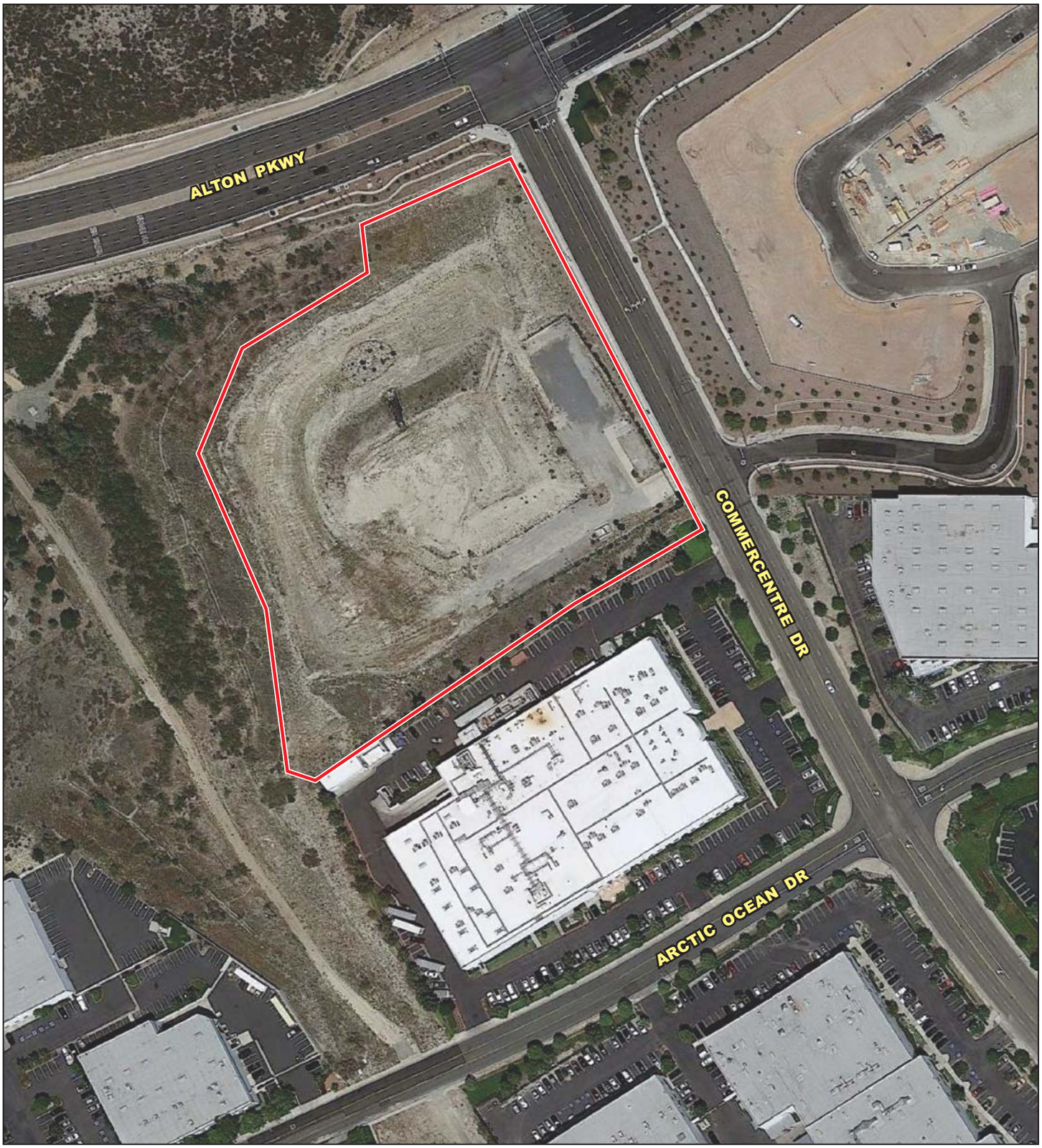

LSA

FIGURE 2.3

LEGEND

- Project Site

N

0 85 170

FEET

SOURCE: Google Earth

Encanto Residential Project

Existing Condition

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Looking northeast at Commercentre Drive.

Looking northwest at the Project site.

Looking northwest at the Project site.

Looking west at the Project site.

Looking west at the Project site.

Looking west at the Project site.

LSA

FIGURE 2.4

Encanto Residential Project

Photographs of Existing Site Condition

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In the existing condition, there is one vehicular access driveway to the Project site via Commercentre Drive. Manufactured landscape slopes and fences of various materials (i.e., wrought-iron, tubular steel, and chain-link fences) surround the site. Built as part of the Alton Parkway road improvements, a 2- to 5-foot (ft) tall block retaining wall is currently located along Commercentre Drive and would remain after Project implementation. There are sidewalks, curbs, and gutters along Commercentre Drive ~~and Alton Parkway~~ that would remain after Project implementation. There are no sidewalks along Alton Parkway south of Commercentre Drive.

2.4 PROJECT SITE HISTORY

In 1989, the Project site was rough graded and used as a temporary storm drain detention basin serving the Pacific Commercentre Planned Community. In 1997, additional rough grading occurred on the site, including relocation and backfilling of the storm drain detention basin and placement of a 28,000-cubic-yard (cy) soil stockpile over most of the Project site. The stockpile served to surcharge and compact the engineered fill in order to make the site suitable for future development. In 1999, the City allowed the Pacific Bell Telephone Company (Pacific Bell) to temporarily locate an office trailer on the Project site. Pacific Bell installed the gravel parking area with cement curbs, light fixtures, a trash enclosure, and a sidewalk surrounding around the temporary office trailer. In early spring 2015, the 28,000 cy soil stockpile was removed from the Project site.

2.5 PROPOSED PROJECT

2.5.1 Proposed General Plan and Zoning

The proposed Project includes a General Plan Amendment request to modify the land use designation of the Project site from Light Industrial with Business Development Overlay to Low-Medium-Density Residential (7 to 15 dwelling units per acre [du/ac]). Following Project implementation, the Project site would have a net density of 10.9 du/ac.

The Project site currently has a zoning designation of Pacific Commercentre Planned Community (PC-6) – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a Planned Development District (PD District) as the combining district. The PD District is used in conjunction with the base district (R2 Multifamily Dwellings District) to indicate the additional permitted uses and development standards associated with the planned development. According to the City's 2008–2014 Housing Element, the purpose of the PD District is to produce planned development projects that take advantage of modern site planning techniques providing for better use of common areas and open space. The planned development results in flexibility by allowing development standards (including lot coverage, setbacks, and building sizes) to be determined through the approval of a zone change and site development permit.

In addition, and because the Project includes a General Plan Amendment, the applicant has also requested a Development Agreement. The Development Agreement is intended to ensure that Meritage Homes of California, Inc. has provided funding sufficient to provide the adequate and appropriate infrastructure and public facilities required by development of the Project site, and that the infrastructure and public facilities would be available no later than when required to serve demand

generated by development of the property. The project defined and contemplated in the Development Agreement is consistent with the proposed Project described herein below.

2.5.2 Development Proposal

The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached residential units. The Project proposes three floor plans that would include three to four bedrooms and a two-car garage, accessed from the front of each unit. All lots would include private outdoor areas in the rear and side yards, and some of the lots would include expanded side yard areas. The private outdoor areas included on each lot would be protected by a 6 ft tall fence with gated access along the side yard. Table 2.A summarizes the square footage of the three proposed floor plans.

Table 2.A: Proposed Floor Plan Details

Floor Plan	Stories	Square Footage	Number of Units	Percent of Total
1	2	1,938	16	30.8
2	3	2,125	19	36.5
3[1]	2	2,138	17	32.7

[1] A three-story option is available with this floor plan. If chosen, the third story would add an additional 364 square feet.

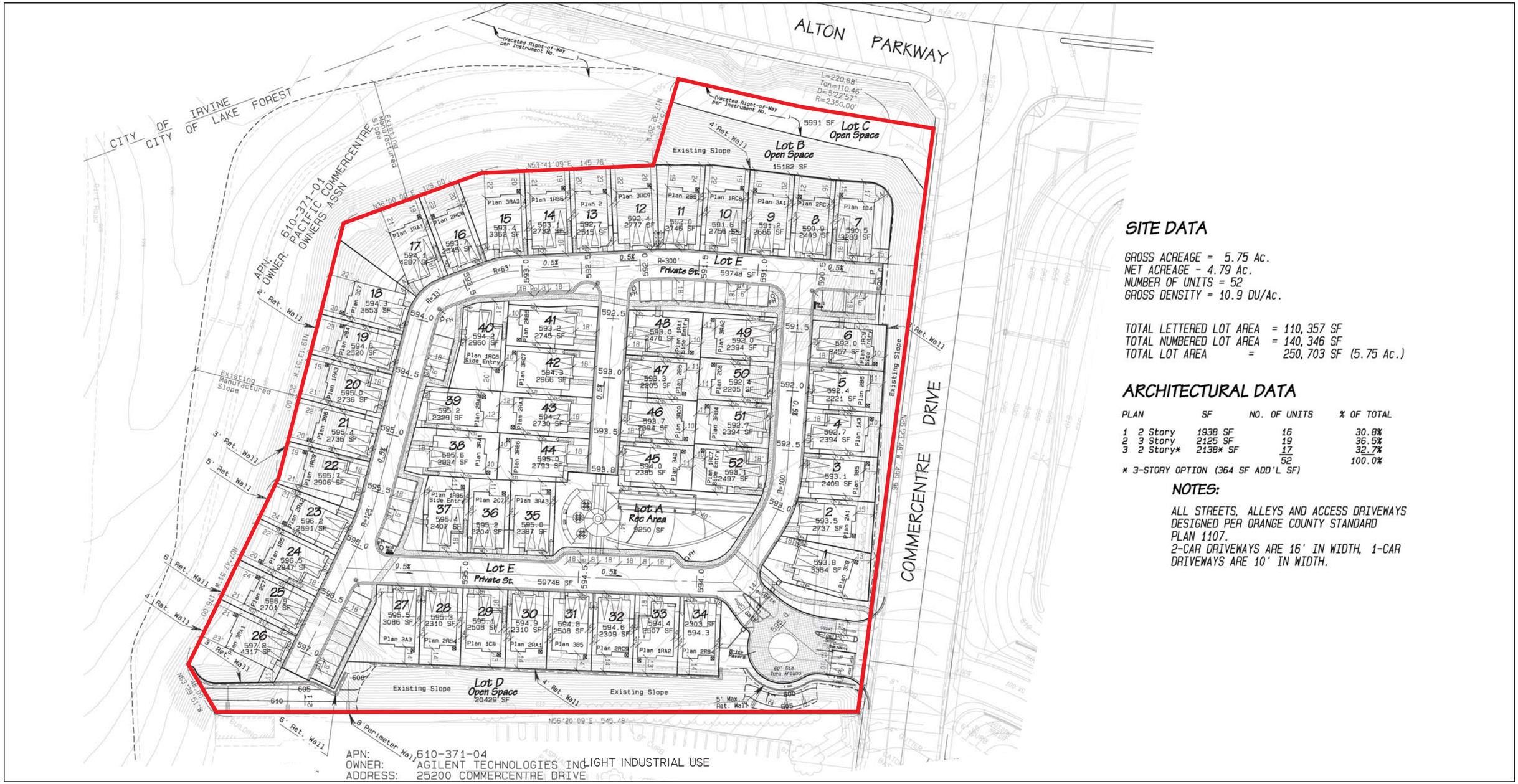
The proposed Project also includes development of a private neighborhood park located near the entrance to the residential community. The neighborhood park would be designed as a gathering space for residents and their guests and would consist of a paved, sand, and accessible play surface. The neighborhood park would include the following amenities:

- Café tables, chairs, and umbrellas
- Fire ring with lounge seating
- Large stone barbeque area with two built-in barbeques
- Large shade structure with bench seating
- Turf/play area separated from the street by a low stone wall with play equipment

The conceptual site plan is shown on Figure 2.5.

2.5.3 Building and Site Design

Earthwork and Grade Separations. There are and would continue to be substantial grade separations between the Project site and the surrounding land uses. Alton Parkway would be approximately 32 ft below the proposed finished grade of the Project site. Commercentre Drive would be approximately 17 ft below the proposed finished grade of the Project site. The adjacent light industrial uses to the south would be approximately 16 ft above the proposed finished grade of the



SITE DATA

GROSS ACREAGE = 5.75 Ac.
NET ACREAGE - 4.79 Ac.
NUMBER OF UNITS = 52
GROSS DENSITY = 10.9 DU/Ac.

TOTAL LETTERED LOT AREA = 110, 357 SF
TOTAL NUMBERED LOT AREA = 140, 346 SF
TOTAL LOT AREA = 250, 703 SF (5.75 Ac.)

ARCHITECTURAL DATA

PLAN	SF	NO. OF UNITS	% OF TOTAL
1 2 Story	1938 SF	16	30.8%
2 3 Story	2125 SF	19	36.5%
3 2 Story*	2138* SF	17	32.7%
		52	100.0%

* 3-STORY OPTION (364 SF ADD'L SF)

NOTES:

ALL STREETS, ALLEYS AND ACCESS DRIVEWAYS DESIGNED PER ORANGE COUNTY STANDARD PLAN 1107.
2-CAR DRIVEWAYS ARE 16' IN WIDTH, 1-CAR DRIVEWAYS ARE 10' IN WIDTH.

LSA

FIGURE 2.5

LEGEND

Project Site

0 40 80
FEET

SOURCE: Michael Baker International

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Encanto Residential Project

Conceptual Site Plan

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Project site. The dirt road to the west would be approximately 15 ft below the proposed finished grade of the Project site. Approximately 9,000 cubic yards of cut and fill (balanced on-site) is anticipated.

Building Design. The proposed Project would be designed following the Tuscan, Mediterranean, and Spanish design influences, in a manner consistent with the architecture used in the Baker Ranch Community.

Parking. Based on the City's parking requirement (Lake Forest Municipal Code [LFMC] Section 9.168.040[1]), the proposed Project would be required to provide 160 parking spaces. Per the site plan, the proposed Project would provide 104 garage parking spaces, 46 open spaces and 11 guest spaces, for a total of 161 parking spaces. In addition, 6 lots include full width/depth driveways with a capacity for 2 vehicles each (12 spaces total).[2] Guest and open parking spaces would be located throughout the residential community to meet the City's parking requirement that one additional parking space be located within 200 ft of each dwelling without a full-width (16 ft minimum width) and full-length (17 ft minimum length) driveway.

Landscaping and Fencing. Figure 2.6 depicts the Conceptual Landscape Plan for the proposed Project. The Conceptual Landscape Plan includes landscaping along Commercentre Drive, as well as along the southern boundary of the Project site. Landscaping along Alton Parkway would include various trees and ground cover to provide slope erosion control, as well as various screening shrubs. The landscaping proposed on the slope on the northern side of the Project site would match the existing landscaping between Alton Parkway and the Project site. Landscaping along Commercentre Drive would include various trees and ground cover to provide slope erosion control as well as various screening shrubs on the Project side of the existing 5 ft tall retaining block wall, which would remain in place after Project implementation. The spacing and density of the landscaping along Commercentre Drive would be designed to match the landscaping in place for the Baker Ranch Community on the east side of Commercentre Drive. Landscaping along the southern boundary of the Project site would include various trees and ground cover to provide slope erosion control as well as various screening shrubs to provide privacy from the light industrial uses to the south of the Project site.

The Conceptual Landscape Plan also includes landscaping within the gated residential community that would be maintained by either the homeowner's association (HOA) or individual homeowners, depending on the location of the landscaping. Landscaping on either side of the gated entrance and around the neighborhood park would include various trees and low-water-use varieties of turf sod that would be maintained by the HOA. Additionally, a low hedge around the neighborhood park would be included to provide privacy for the residential units with yards adjacent to the park. Landscaping in the front yard of each residential unit would include various trees, ground cover, and low-water-use varieties of turf sod that would be maintained by each homeowner.

---

1 Section 9.168.040, Residential off-street parking requirements, requires 2 garage spaces per unit, 1 open space per unit for units with garages setback less than 17 feet from the back of the curb or sidewalk, and 0.2 guest space per unit.

2 Driveway parking spaces on full-width/depth driveways are not included in the parking provided tabulation.

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LANDSCAPE CONSTRUCTION NOTES

1. EXISTING RETAINING WALL AND PARKWAY AT COMMERCENTRE DRIVE. PROTECT IN PLACE. HOA OWNED AND MAINTAINED. ATTACH NEW 42" H DECORATIVE PAINTED TUBULAR STEEL FENCE TO TOP OF EXISTING WALL. TUBULAR STEEL FENCE TO MATCH TUBULAR STEEL AT ENTRY GATE.
2. SLUMP BLOCK RETAINING WALL AND CAP, HEIGHT PER GRADING PLAN WITH 5' GLASS PANEL FENCE.
3. 8' HEIGHT PERIMETER SLUMP BLOCK SCREEN WALL AND CAP.
4. ENTRY MONUMENT - MASONRY RETAINING WALL WITH STONE VENEER. COMMUNITY NAME AS SHOWN ON DETAIL. STONE MATERIAL AND PATTERN TO MATCH BAKER RANCH. HEIGHT AS NOTED ON PLANS. SEE ELEVATION D ON SHEET 11.
5. SOLID MASONRY THEME WALL - SLUMP BLOCK AND CAP. MATERIALS TO MATCH BAKER RANCH. 5' HEIGHT. SEE DETAIL F ON SHEET 11.
6. LOW STONE SEATING / PLANTER WALL. STONE TO MATCH ENTRY MONUMENT.
7. PLAY AREA EQUIPMENT WITH ACCESSIBLE SURFACE. ACTUAL EQUIPMENT TO BE DETERMINED AT FINAL DESIGN.
8. GLASS PANEL FENCE. MATERIALS AND COLOR TO MATCH BAKER RANCH. 5' MIN. HEIGHT. SEE DETAIL F ON SHEET 11.
9. DECORATIVE PAINTED TUBULAR STEEL OR ALUMINUM VEHICULAR AND PEDESTRIAN GATE. SEE ELEVATION E ON SHEET 11.
10. INTERIOR LOT VINYL FENCING AND GATE. SEE DETAIL F ON SHEET 11.
11. GATE KEY PAD.
12. EXPOSED AGGREGATE PAVEMENT WITH INTEGRAL COLOR OR EQUAL.
13. SHADE COVER WITH BENCHES.
14. OPEN TURF.
15. MAIL BOX.
16. SCREENING HEDGE/ VINE.
17. LOW PRIVACY HEDGE
18. ARCH
19. FIRE RING
20. LOUNGE SEATING
21. UMBRELLA TABLE
22. STONE BBQ
23. INTERLOCKING PAVERS
24. PLAYGROUND SAND

GENERAL NOTES:

1. ALL LANDSCAPING AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CITY OF LAKE FOREST MUNICIPAL CODE, INCLUDING BUT NOT LIMITED TO CITY WIDE DESIGN GUIDELINES, THE WATER EFFICIENT LANDSCAPE ORDINANCE (ORDINANCE 207), SECTION 9.144.060.1 SCREENING, 9.144.060.2 LANDSCAPING AND 9.144.080.5 FENCES AND WALLS.
2. ALL LANDSCAPE AREAS SHALL BE IRRIGATED WITH AN ELECTRICALLY OPERATED, REMOTE CONTROLLED IRRIGATION SYSTEM UTILIZING LOW VOLUME IRRIGATION. THE SYSTEM SHALL BE HYDROZONED BASED ON PLANTS WATER-USE, APPLY WATER EFFICIENTLY AND DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY'S MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (LATEST EDITION).
3. THE TREE, SHRUB AND GROUND COVER SPECIES AND DESIGN FOR THE SLOPE ADJACENT TO COMMERCENTRE DRIVE TO MATCH THE SLOPE LANDSCAPE DESIGN ON THE EAST SIDE OF COMMERCENTRE DRIVE.
4. THE TREE, SHRUB AND GROUND COVER SPECIES AND DESIGN FOR THE SLOPE ADJACENT TO ALTON PARKWAY TO MATCH THE SLOPE LANDSCAPE DESIGN BETWEEN ALTON PARKWAY AND THE PROJECT SITE.
5. UTILITY AND MECHANICAL EQUIPMENT (E.G. ELECTRIC AND GAS METERS, ELECTRICAL PANELS, TRANSFORMERS AND JUNCTION BOXES) SHOULD BE SCREENED FROM VIEW OR INCORPORATED INTO THE ARCHITECTURE OF THE BUILDING - SEE DETAIL C ON SHEET 10.
6. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE OCFA APPROVED (7-16-15) CONCEPTUAL FUEL MODIFICATION PLAN PREPARED BY FIRESAFE PLANNING SOLUTIONS.
7. INVASIVE EXOTIC PLANT SPECIES ARE NOT PERMITTED (SEE CALIFORNIA INVASIVE COUNCIL INVASIVE - PLANT INVENTORY.

PLANT PALETTE

HOME OWNERS ASSOCIATION MAINTAINED LANDSCAPE AREAS (13,600 S.F.)

GATED ENTRY, RECREATION AND PARKWAY AREAS	SPACING	WATER USE
TREES:		
CUPRESSUS SEMPERVIRENS - ITALIAN CYPRESS (21 TOTAL)	*	M
ULMUS PARVIFOLIA - EVERGREEN ELM (19 TOTAL)	*	L
36" & 24" BOX SIZES		
* SPACING AS SHOWN ON THE PLAN		
ACCENT PLANTS:		
AGAVE SPECIES - AGAVE	4' OC	L
ALOE SPECIES - ALOE	3' OC	M
BOUGAINVILLEA SPECIES - BOUGAINVILLEA	6' OC	L
MUELENBERGIA SPECIES - ORNAMENTAL GRASS	3' OC	M
ROSA "CARPET ROSE" - CARPET ROSE	3' OC	M
ROSA "ICEBERG" - ICEBERG ROSE	3' OC	M
PHORMIUM TENAX - FLAX	4' OC	L
STRELITZIA REGINAE - BIRD OF PARADISE	3' OC	M
5 AND 1 GALLON CONTAINER SIZES		
SHRUBS:		
CALLISTEMON "LITTLE JOHN" - BOTTLE BRUSH	3' OC	L
CARISSA MACROCARPA "BOXWOOD BEAUTY" - NATAL PLUM	4' OC	M
LIGUSTRUM LUCIDUM - GLOSSY PRIVET	4' OC	M
PITTOSPORUM TOBIRA VARIEGATA - VARIEGATED TOBIRA	4' OC	M
VIBURNUM TINUS "SPRING BOQUET" - LAURUSTINUS	4' OC	M
5 AND 1 GALLON CONTAINER SIZES		
GROUND COVER:		
MYOPORUM PARVIFOLIUM - MYOPORUM GROUND COVER	4' OC	L
ROSMARINUS PROSTRATUS - ROSEMARY	2' OC	L
TRACHELOSPERMUM JASMINOIDES - STAR JASMINE	2' OC	M
1 GALLON AND ROOTED CUTTINGS FROM FLATS		
VINES:		
FICUS PUMILA - CREEPING FIG	L' OC	M
(ATTACH TO EXPOSED RETAINING WALL SURFACES)		
1 GALLON CONTAINER SIZES		
LOW WATER USE VARIETIES OF TURF SOD (1,000 S.F.)	-	H

SLOPE-EROSION CONTROL (24,850 S.F.)

TREES (43 TOTAL):		
CHAMAEROPS HUMILIS - MEDITERRANEAN FAN PALM	**	M
EUCALYPTUS SPECIES - EUCALYPTUS	**	M
PINUS HALEPENSIS - ALEPPO PINE	**	L
24" BOX AND 15 GALLON CONTAINER SIZES		
** SPACING AND DENSITY TO MATCH SLOPE LANDSCAPE ON OTHER SIDE OF COMMERCENTER DRIVE		
GROUND COVER:		
LONICERA JAPONICA "HALLIANA" - HALL'S JAPANESE HONEY SUCKLE	6' OC	L
1 GALLON CONTAINER SIZES		

SCREENING SHRUBS (8,500 S.F.)

HETEROMELES ARBUTIFOLIA - TOYON	6' OC	L
LIGUSTRUM LUCIDUM - GLOSSY PRIVET	5' OC	M
PHOTINIA X FRASERI - PHOTINIA	6' OC	M
PRUNUS CAROLINIANA - CAROLINA CHERRY	4' OC	M

PRIVATE PROPERTY OWNER MAINTAINED LANDSCAPE AREAS (10,300 S.F.)

FRONT YARDS - INSTALLED BY DEVELOPER		
TREES (62 TOTAL):		
LAGERSTROEMIA INDICA - CRAPE MYRTLE	*	M
LAURUS NOBILIS "SARATOGA" - SWEET BAY	*	L
LIGUSTRUM LUCIDUM - GLOSSY PRIVET	*	M
MAGNOLIA GRANDIFLORA "LITTLE GEM" - LITTLE GEM SOUTHERN MAGNOLIA	*	M
PHOTINIA X FRASERI - PHOTINIA	*	M
PRUNUS CAROLINIANA - CAROLINA CHERRY	*	M
TABEBUIA IPE - PINK TRUMPET TREE	*	M
24" BOX AND 15 GALLON SIZES		
* SPACING AS SHOWN ON THE PLAN		
ACCENT SHRUBS:		
ALOE SPECIES - ALOE	3' OC	L
AGAVE ATTENUATA - FOX TAIL AGAVE	3' OC	M
DIETES SPECIES - FORTNIGHT LILY	3' OC	M
PHORMIUM TENAX - NEW ZEALAND FLAX	4' OC	L
ROSA "CARPET ROSE" - ROSE	3' OC	M
STRELITZIA REGINAE - BIRD OF PARADISE	3' OC	M
5 AND 1 GALLON CONTAINER SIZES		
FOUNDATION SHRUBS:		
ARBUTUS UNEDO "COMPACTA" - STRAWBERRY	3' OC	L
CALISTEMON "LITTLE JOHN" - BOTTLE BRUSH	3' OC	L
CARISSA MACROCARPA "BOXWOOD BEAUTY" - NATAL PLUM	4' OC	M
OLEA "LITTLE OLLIE" - DWARF OLIVE	4' OC	L
RHAPHIOLEPIS INDICA "BALLERINA" - INDIA HAWTHORN	3' OC	M
5 AND 1 GALLON SIZES		
GROUND COVER:		
MYOPORUM PARVIFOLIUM - MYOPORUM GROUND COVER	4' OC	M
ROSMARINUS PROSTRATUS - ROSEMARY	2' OC	L
TRACHELOSPERMUM JASMINOIDES - STAR JASMINE	2' OC	M
1 GALLON AND ROOTED CUTTINGS FROM FLATS		

EXISTING COMMERCENTRE DRIVE PARKWAY (1,275 S.F.)

MYRTUS COMMUNIS "COMPACTA" - DWARF MYRTLE	30" OC	M
5 GALLON SIZE		
FICUS PUMILA - CREEPING FIG	8' OC	M
1 GALLON SIZE (PLANT AT BASE OF EXISTING WALL)		

WATER USE CALCULATIONS

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETo)x(0.55)x(LA)x(0.62) = GALLONS PER YEAR
MAWA = 49.6 x 0.5 x 50,525 x 0.62 = 868,060 GALLONS PER YEAR

ESTIMATED APPLIED WATER USE (EAWU)
ETWU = [(ETo)x(PF)x(LA)x(0.62)]/(IE) = GALLONS PER YEAR

HYDROZONE 1 (ENTRY, RECREATION & PARKWAY AREAS (33,875 SF, 24% OF LANDSCAPE AREA):
MEDIUM WATER USE PLANTS - DRIP IRRIGATION
49.6 x 0.5 x 13,875 x 0.62/0.9 = 237,047 GALLONS PER YEAR

HYDROZONE 2 RECREATION AREA (1,000 SF, 2% OF LANDSCAPE AREA):
LOW WATER USE TURF - DRIP IRRIGATION
49.6 x 0.8 x 1,000 x 0.62/0.9 = 27,556 GALLONS PER YEAR

HYDROZONE 3 SLOPE-EROSION CONTROL AREA (22,600 SF, 30% OF LANDSCAPE AREA):
LOW WATER USE PLANTS - DRIP IRRIGATION
49.6 x 0.3 x 22,600 x 0.62/0.9 = 231,665 GALLONS PER YEAR

HYDROZONE 4 SLOPE-EROSION CONTROL AREA (2,250 SF, 4% OF LANDSCAPE AREA):
MEDIUM WATER USE TREES - BUBBLER IRRIGATION
49.6 x 0.5 x 2,250 x 0.62/0.8 = 43,245 GALLONS PER YEAR

HYDROZONE 5 SCREENING SHRUBS AREA (8,500 SF, 15% OF LANDSCAPE AREA):
MEDIUM WATER USE PLANTS - DRIP IRRIGATION
49.6 x 0.5 x 8,500 x 0.62/0.9 = 145,258 GALLONS PER YEAR

HYDROZONE 6 FRONT YARDS AREA (10,300 SF, 18% OF LANDSCAPE AREA):
MEDIUM WATER USE PLANTS - DRIP IRRIGATION
49.6 x 0.5 x 10,300 x 0.62/0.9 = 175,973 GALLONS PER YEAR

TOTAL EAWU = 860,479 GALLONS PER YEAR
(PROPOSED WATER USAGE IS LOWER THAN MAXIMUM WATER ALLOWANCE/ ETWU COMPLIES WITH MAWA)
NOTES:
- CALCULATIONS SHOWN REPRESENT THE WORST CASE SCENARIO USING POTABLE WATER.
- RECYCLED WATER WILL BE USED WHERE AVAILABLE.

LSA

FIGURE 2.6

LEGEND

Project Site

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Encanto Residential Project

Conceptual Landscape Plan

SOURCE: RBF

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In total, 49,700 square feet (sf) of landscaping would be installed. All landscaped areas would be irrigated with an electrically operated irrigation system utilizing weather sensors and low-volume irrigation. The system would be designed based on plants' water use and would apply water efficiently. The system would be designed in accordance with the requirements of the City's Water Efficient Landscape Ordinance (LFMC Section 9.146.110).

The proposed Project would include the construction of a 6 ft tall perimeter wall along the western and northern boundaries of the Project site. The 6 ft tall perimeter wall would be designed using a combination of block and glass materials. The perimeter wall would consist of materials with a minimum density of 3.5 pounds per square foot or combination of materials that meet this criteria. Such barrier materials include, but are not limited to, the following: ¼ in tempered glass, ¼ in laminated glass, ¼ in Plexiglas, or masonry. An 8 ft tall solid perimeter wall is proposed along the southern boundary of the proposed Project to provide privacy and buffer potential noise from the existing light industrial use. The 8 ft perimeter wall would also consist of materials with a minimum density of 3.5 pounds per square foot.

A 5 ft tall vinyl fence is proposed along the interior side property lines of each unit. Additionally, a low hedge around the neighborhood park would be included to provide privacy for the homes with yards adjacent to the park. Retaining walls would vary in height throughout the gated residential community but would be 4 ft or lower along the Project boundaries facing public streets.

Vehicular and Pedestrian Access. Vehicular access to the proposed Project would occur via one gated access entry off Commercentre Drive. The vehicular access would be located in the southeastern portion of the Project site and would line up with the vehicular access to the Baker Ranch Community on the east side of Commercentre Drive. The gate would be automatic and would be designed to meet City standard gated entry requirements. Residents would have remote controls to open the automatic gate. There would also be a call box that would ring to residents' phones to provide guest access. A code-protected pedestrian gate adjacent to the vehicular gate would also be included for residents and their guests. Emergency vehicles would be able to enter and exit the Project site via the one gated-access driveway off Commercentre Drive. The gate control would be operable by a Knox emergency override key switch. In addition, a remote gate-opening device would be installed on the electronically operated gate. The remote opening systems currently available from the Orange County Fire Authority (OCFA) are either optical or radio-controlled. Optical systems work the same as the traffic signal preemption system by using the emergency vehicle's strobe light to open the gate. The radio-controlled system open would open the gate when the emergency responder clicks the receiver on an 800-megahertz (MHz) radio.

Circulation. Circulation through the residential community would occur via a private access drive that would provide direct access to each residential unit's garage. The proposed Project would include wedge curbs to eliminate the need for driveway cuts.

The Orange County Transportation Authority (OCTA) operates two routes within 0.5 mile (mi) of the Project site (Route 206 – Intracounty Express Route and Route 408 – Stationlink Route).

Lighting. The proposed Project would include on-site lighting consisting of street lighting (approximately 14 ft in height), low-level bollard lighting (less than 4 ft in height), and wall lighting (less than 7 ft in height). All lighting would be hooded or shielded to focus the light downward and prevent light spillage onto adjacent properties.

Signage. The proposed Project would include a community identification monument sign wall with a maximum height of 6 ft at the Project entry, as well as directional signage on-site and address signage on the residential units. Separate Planning Commission approval of a Minor Planned Sign Program is required for all on-site signs.

Police and Fire Access. Fire and police access would be facilitated by a fire lane and the installation of directional signage. Per LFMC Chapter 8.24, Section 903.2.8 Group R, an automatic sprinkler system installed in accordance with LFMC Chapter 8.24, Section 903.3 would be provided throughout all buildings on the Project site. The proposed Project also includes the installation of eight fire hydrants on-site.

Fuel Modification Zone. The Project site is not located in a very high fire hazard severity zone (VHFHSZ), as adopted by the City of Lake Forest. However, the open space adjacent to the west and north of the Project site is considered a VHFHSZ. The project's OCFA-approved fuel modification plan employs three fuel modification zones. Fuel modification zones are landscaping areas in which existing combustible vegetation is removed from strips of land and replaced with spaced and irrigated fire-resistant plants and further adjoining strips of land in which vegetation is partially removed. The zones provide an integral level of protection for structures from wildfires by slowing the speed and reducing the intensity of the fire.[1]

As shown on Figure 2.7, the three fuel modification zones include Zone A, Zone B, and a special maintenance area. It should be noted that Zone A and the special maintenance area are included in the Project site boundary, but Zone B is outside the Project site boundary. Zone A would be located on the flat area behind the residential units on the west side of the Project site and would include non-combustible construction. Each individual private homeowner would be responsible for maintaining Zone A. The special maintenance area would be located on the landscaped areas fronting Alton Parkway, Commercentre Drive, and the south side of the Project site, and would include maintenance requirements to reduce the chances of ignition from wildfires. Refer to Figure 2.6 for more detailed information regarding the conceptual landscape plan. The HOA would inspect the special maintenance area twice per year to ensure that the special maintenance areas retain the original design. Zone B (wet zone) would be located outside of the Project site boundary, on the existing manufactured landscape slope on the west side of the Project site, and would include the removal of 100 percent of native shrubs. The HOA would be responsible for maintaining Zone B, although the land would remain under the ownership of the Pacific Commercentre Association. The duty to perform fire prevention maintenance for all fuel modification zones will be an express obligation in the recorded covenants, conditions, and restrictions (CC&Rs) for the development.

[1] Orange County Fire Authority. Vegetation Management Guidelines (January 2014), http://www.ocfa.org/_uploads/pdf/guidec05.pdf, accessed March 18, 2015.

FUEL MODIFICATION LEGEND

ZONE A (FLAT) - NON-COMBUSTIBLE CONSTRUCTION
17' SETBACK ZONE FOR NON-COMBUSTIBLE CONSTRUCTION ONLY. MAINTAINED BY THE PRIVATE HOMEOWNER.

ZONE B - WET ZONE (100% REMOVAL NATIVE SHRUBS)
FIRST 80' FROM ZONE A. ZONE B SHALL BE PERMANENTLY IRRIGATED, FULLY LANDSCAPED WITH APPROVED DROUGHT TOLERANT, DEEP ROOTED, MOISTURE RETENTIVE MATERIAL. THIS ZONE SHALL BE PLANTED WITH CONTAINER SHRUB MATERIAL AND HYDROSEEDED PER OCFA APPROVED PLANT LIST. HANDSEEDING OF BARE AREAS MAY NEED TO BE PERFORMED SIX MONTHS AFTER HYDROSEEDING ESTABLISHMENT PERIOD. ZONE B AREA SHALL BE MAINTAINED BY HOMEOWNER ASSOCIATION.

HOA LANDSCAPED AREAS WITHIN THE INTERIOR OF THE COMMUNITY
HOA LANDSCAPED AREAS AS INDICATED ON THIS PLAN WITHIN THE INTERIOR OF THE COMMUNITY SHALL COMPLY WITH THE SPECIAL MAINTENANCE AREAS REQUIREMENTS PROVIDED BELOW, AND SHALL BE DEVOID OF ALL PALM TREES, PINE TREES AND EUCALYPTUS TREES.

SPECIAL MAINTENANCE AREA (SMA)- WET ZONE:
THE SPECIAL MAINTENANCE AREAS HAVE MAINTENANCE REQUIREMENTS TO REDUCE THE CHANCES OF IGNITION FROM WILDFIRES. THEY NEED MAINTENANCE JUST AS FUEL MODIFICATION ZONES DO AND SHALL BE MAINTAINED ON A YEAR ROUND BASIS, WITH REMOVAL OF ALL DEAD AND DYING PLANT MATERIAL, REPLACEMENT OF DEAD OR DISEASED SPECIES WITH PLANT MATERIAL WITH THE SAME GROWTH CHARACTERISTICS FROM THE APPROVED LANDSCAPE PLANS. IRRIGATION SHALL BE VERIFIED ON A REGULAR BASIS TO ENSURE IT IS IN A WORKING A CONDITION AND THE PLANTS SHALL BE IRRIGATED AS NECESSARY TO KEEP THEM HEALTHY WITH THEIR APPROPRIATE MOISTURE CONTENT. A COPY OF THE APPROVED LANDSCAPE PLANS SHALL BE PROVIDED TO THE HOA BY THE DEVELOPER AND REMAIN ON RECORD INDEFINITELY WITH THE HOA. COPIES OF PLANS SHALL BE PROVIDED TO THE CONTRACTED MAINTENANCE COMPANY. IT IS THE RESPONSIBILITY OF THE HOA TO FORWARD A COPY OF THE APPROVED LANDSCAPE PLANS TO ANY NEW PROPERTY MANAGEMENT COMPANY. THE HOA SHALL INSPECT THE SPECIAL MAINTENANCE AREAS TWICE A YEAR TO ENSURE THE SPECIAL MAINTENANCE AREAS RETAIN THE ORIGINAL DESIGN OF THE AREAS.
THE FOLLOWING ARE FURTHER SPECIAL MAINTENANCE AREA (SMA) REQUIREMENTS:

- OTHER THAN TREES, A LARGE PERCENTAGE OF THE SPECIAL MAINTENANCE AREA SHALL CONSIST OF A GROUND COVER THAT NATURALLY GROWS NO TALLER THAN 2 FEET IN HEIGHT.
- THE AREAS ARE COMPLETELY IRRIGATED AND HAVE PLANTS THAT NEED IRRIGATION TO RETAIN HEALTHY FUEL MOISTURE.
- ANY DEAD AND DYING SPECIMENS AND BRANCHES SHALL BE REMOVED.
- LEAF LITTER ON TOP OF VEGETATIVE COVER SHALL BE REMOVED.
- LANDSCAPE DESIGN PLANS SHALL BE RETAINED BY THE HOA INDEFINITELY AND THE SLOPES SHALL ALWAYS REMAIN AS THEY WERE DESIGNED.
- AS PLANTS MIGRATE OR NEW PLANTS SEED-IN, THOSE SHALL BE REMOVED TO RETAIN THE ORIGINAL DESIGN.
- FUTURE CHANGES TO SLOPE DESIGNS SHALL BE APPROVED BY OCFA.
- THE MAINTENANCE REQUIREMENTS OF THE SPECIAL MAINTENANCE AREAS SHALL BE FACTORED INTO THE FUNDING WITH THE FUEL MODIFICATION ZONES.
- SPECIAL MAINTENANCE AREAS SHALL BE DESIGNED AND ALSO MAINTAINED AS TO NOT PROVIDE DIRECT FLAME OR AN EXCESSIVE AMOUNT OF RADIANT HEAT ON STRUCTURES.
- SPECIAL MAINTENANCE AREAS WILL HAVE A LIMITED USE OF NATIVE GRASSES AS APPROVED BY OCFA.

LSA

LEGEND

Project Site

0 50 100
FEET

SOURCE: RBF

I:\CLF1501\G\Fuel Modification.cdr (7/27/15)

FIGURE 2.7

Encanto Residential Project

Conceptual Fuel Modification Plan

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Sustainability Features. The proposed Project would be consistent with California's Title 24 energy efficiency code and would incorporate the following sustainability features:

- Energy Star dishwashers;
- A high-efficiency heating, ventilation, and air conditioning (HVAC) system;
- High-efficiency (low-flow) plumbing fixtures;
- Programmable thermostats with humidity control to allow the homeowner to program various set points at various times of the day based on their individual lifestyle;
- Low-volatile-organic-compound (VOC) paints and finishes;
- ½ Pound Open Cell Polyurethane Spray Foam would be applied in walls and attics for all residential units;
- All windows would have a Sound Transmission Class (STC) rating of 27 or higher;
- Compact Fluorescent Lamps (CFLs) in at least 80 percent of the homes in the residential community;
- Dual-pane windows with at least two layers of low-emissivity (Low E) coating;
- Two-button, dual-flush toilets; and
- An electrically operated irrigation system utilizing weather sensors and low-volume irrigation.

In addition, all homes would be third-party certified for Environmental Protection Agency (EPA) Energy Star for Homes Version 3.0 Compliance.

2.5.4 Infrastructure Improvements

On-Site and Off-Site Infrastructure. The Project infrastructure components to be implemented would require connections to existing off-site infrastructure systems. These systems, which consist of water, sanitary sewer, and storm water drains, would be constructed on-site and would be fully provided and maintained by the property owner. All on-site systems would connect to existing infrastructure in Commercentre Drive.

Specific infrastructure improvements would include:

- Installation of a new domestic water line that would connect to an existing 12-inch polyvinyl chloride (PVC) line in Commercentre Drive, which connects to an existing 18-inch cement mortar lining (CML) line in Alton Parkway.
- Installation of a recycled water hydrant on the Project site. The recycled water hydrant would connect to the existing 12-inch recycled water line in Commercentre Drive.
- Installation of a new sanitary sewer line that would connect to an existing 8-inch vitrified clay pipe (VCP) line in Commercentre Drive, which connects to an existing 15-inch VCP line in Alton Parkway.

- ~~Installation of a series of StormTech MC-3500 (or equivalent) underground infiltration chambers located in four areas on the Project site (refer to Figure 2.8). The infiltration chambers would connect to a new 24-inch storm drain on the Project site, which would connect to the existing 42-inch storm drain in Commercentre Drive.~~
- Installation of a two Modular Wetlands Model MWS-C-8-16 biofiltration boxes (or equivalent) and one Contech 72" Corrugated Metal Pipe (CMP) underground detention chamber (or equivalent) on the Project site (refer to Figure 2.8). The biofiltration boxes and underground detention chamber would connect to a new 24 inch storm drain on the Project site, which would connect to the existing 42 inch storm drain in Commercentre Drive.
- Installation of on-site gas lines that would connect to an existing gas line in Commercentre Drive.
- Installation of a new on-site electrical transformer. (All internal power distribution would be underground.)

Water Quality. The proposed Project would require installation of two Modular Wetlands Model MWS-C-8-16 (or equivalent) biofiltration boxes and one Contech 72" CMP (or equivalent) underground detention chamber. ~~StormTech MC-3500 (or equivalent) underground infiltration chambers at four separate locations on the Project site.~~ The proposed biofiltration boxes and detention chamber ~~infiltration chambers~~ would meet Low-Impact Development (LID) requirements.

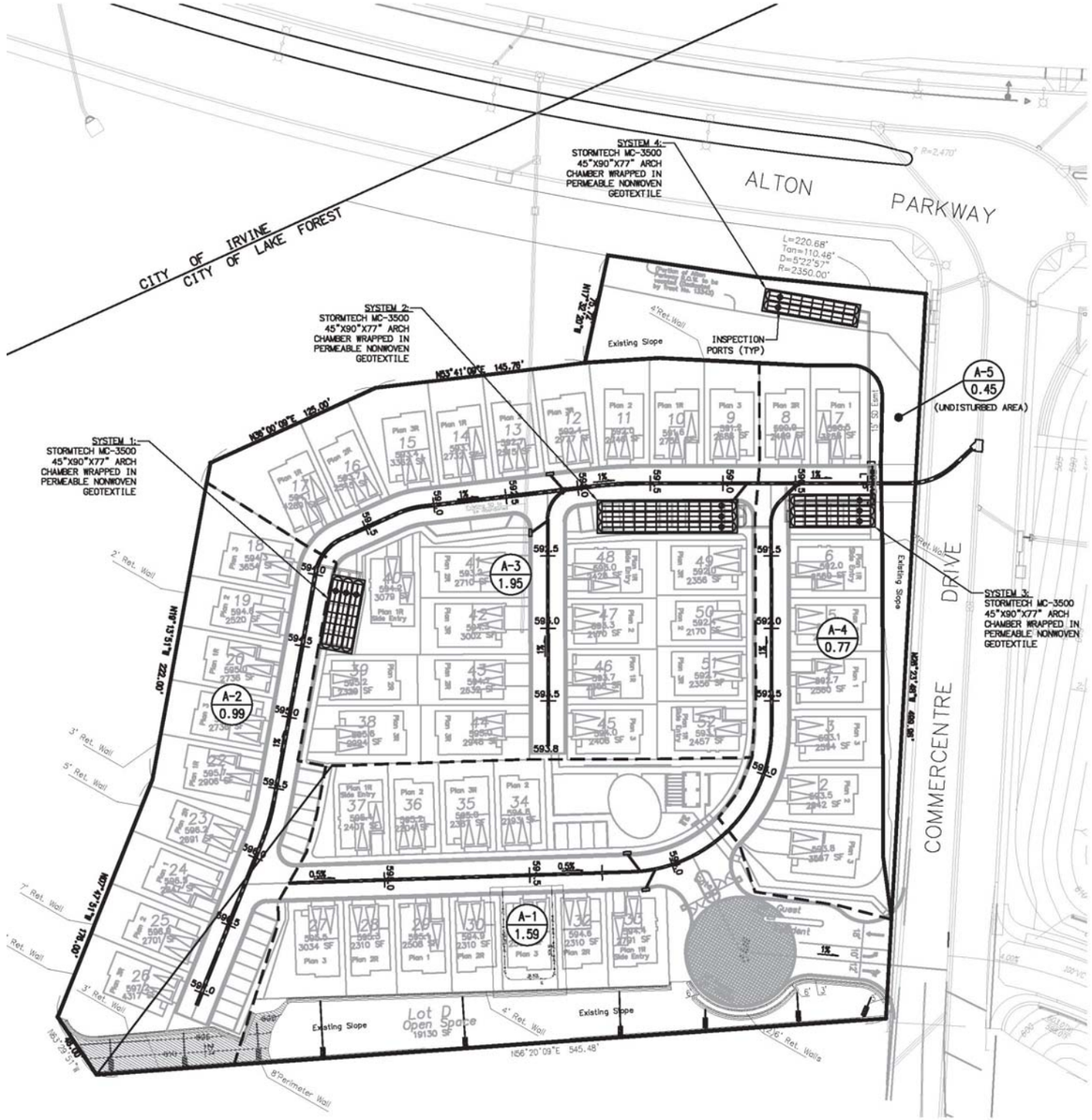
The proposed Project is subject to the requirements of the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) North Orange County Permit (Order No. R8-2009-030). The Project must develop a Project specific Water Quality Management Plan (WQMP) to meet the requirements of Order No. R8-2009-0030 and implement Best Management Practices (BMPs) to mitigate for pollutants of concern and runoff concerns. BMPs would be described in complete detail within the WQMP for the Project. Prior to construction, the Project would obtain coverage under the North Orange County Permit. The WQMP site map is shown on Figure 2.8. Refer to Section 4.9 for additional information pertaining to hydrology and water quality.

2.5.5 Implementation/Phasing

Project construction would generally occur in the following four steps:

- Phase 1: Site Preparation
- Phase 2: Grading
- Phase 3: Construction
- Phase 4: Paving

The Project would begin with removal of the parking lot, curbs, sidewalk, trash enclosure, and light fixtures. Thereafter, Project site preparation, grading (soil would be balanced on-site), construction, and paving would occur. Construction trips that would be generated on a daily basis throughout each phase of construction would derive from construction workers and delivery of construction materials.



LEGEND

- DRAINAGE BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- B-12 / 11.3 — SUBAREA DESIGNATION / AREA (ACRES)
- STORMTECH MC-3500 UNDERGROUND INFILTRATION CHAMBERS

LSA

FIGURE 2.8

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SOURCE: RBF

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Encanto Residential Project

WQMP Site Map

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The construction phase with the highest construction trip generation would be Phase 3, Construction. During this phase of Project construction, there would be 72 passenger car equivalent (PCE) construction trips generated on a daily basis, with 24 trips occurring during the a.m. peak hour and 24 trips occurring during the p.m. peak hour.[1] The weekday a.m. peak period is 7:00 to 9:00 am and the weekday p.m. peak period is 4:00 p.m. to 6:00 p.m. Construction workers would arrive and depart during the peak hours, while delivery trucks would arrive and depart throughout the day. It is estimated that 10 percent of delivery trips would occur during each peak hour.

Project construction is anticipated to take 12 months. The expected date of completion is 2017. All construction equipment, including construction worker vehicles, would be staged on the Project site for the duration of the construction period.

2.6 DISCRETIONARY ACTIONS

Development of the proposed Project would require discretionary approvals by the City as the Lead Agency. The City's discretionary actions would include the following:

- **General Plan Amendment (GPA 9-14-4593).** The Project proposes to change the General Plan land use designation of the Project site from Light Industrial to Low-Medium-Density Residential (7 to 15 du/ac).
- **Development Agreement between City and Developer.** A Development Agreement between the City and the Project Applicant would be prepared to specify the standards and conditions that would govern development of the property.
- **Zone Change (ZC 9-14-4594).** The Project site currently has a zoning designation of Pacific Commercentre Planned Community – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a Planned Development District as the combining district.
- **Tentative Tract Map (TTM 17810).** A TTM is required to subdivide the Project site into 52 lots for single-family residential units, open space, an HOA, and private street parcels.
- **Site Development Permit (SDP 9-14-~~4496~~ 4596).** An SDP accompanies the TTM to provide for the review of detailed plans for the proposed development project. The SDP proposes 52 single-family dwellings, a private park, private streets, surface parking, landscaping, fencing and other associated improvements.
- **Minor Planned Sign Program.** Separate approval by the Planning Commission of a Minor Planned Sign Program is required for Neighborhood Project Identification Signs.

2.7 OTHER MINISTERIAL CITY ACTIONS

Ministerial permits/approvals (e.g., grading permits and building permits) would be issued by the City or other appropriate agency to allow site preparation, curb cuts (if necessary), installation of biofiltration boxes and underground detention ~~infiltration~~ chamber~~s~~, and connections to the utility

[1] The trip generation was based on an estimate of 20 workers on-site each day as well as eight round trips per day for deliveries.

infrastructure, dwelling units, paving, landscaping, walls and fences, and other Project features subject to ministerial permits.

2.8 PROBABLE FUTURE ACTIONS BY RESPONSIBLE AGENCIES

Because the Project also involves approvals, permits, or authorization from other agencies, these agencies are "Responsible Agencies" under CEQA. Section 15381 of the *State CEQA Guidelines* defines Responsible Agencies as public agencies other than the Lead Agency that will have discretionary approval power over the Project or some component of the Project, including mitigation. These agencies include, but are not limited to, the agencies identified in Table 2.B.

Table 2.B: Probable Future Actions by Responsible Agencies

Responsible Agency	Action
Orange County Fire Authority	Approval of Fuel Modification Plan and Fire Master Plan
State Water Resources Control Board	Applicant/Developer must submit Permit Registration Documents, including a Notice of Intent, to comply with the National Pollution Discharge Elimination System North Orange County Permit (Order No. R8-2009-030).
Irvine Ranch Water District	Approval of an Addendum to the Lake Forest Sub-Area Master Plan

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Less Than Significant Impact with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forest Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☒ Public Services	☒ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

DETERMINATION. On the basis of this initial evaluation:

1. I find that the Project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐

2. 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. ☒

3. I find the proposed Project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

4. 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. ☐

5. 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 EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required. ☐

Project Planner _____ Date _____

Planning Manager _____ Date _____

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4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced, as discussed below).
5. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063 (c)(3)(D)). In this case, a brief discussion should identity the following:
   a. Earlier Analysis Used. Identify and state where they are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
6. Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and Lead Agencies are free to use different formats; however, Lead Agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
   a. The significance criteria or threshold, if any, used to evaluate each question; and
   b. The mitigation measure identified, if any, to reduce the impact to less than significant.

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4.1 AESTHETICS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Substantially damage scenic resources, including scenic vistas from public parks and views from designated scenic highways or arterial roadways?	☐	☐	☐	☒
(b) Create a new source of substantial night lighting that would result in "sky glow" (i.e. illumination of the night sky in urban areas) or "spill light" (i.e. light that falls outside of the area intended to be lighted) onto adjacent sensitive land uses?	☐	☒	☐	☐
(c) Create a new source of substantial glare which would adversely affect daytime visibility and/or views in the area?	☐	☐	☒	☐
(d) Substantially degrade the existing visual character or quality of the site and its surroundings where:				
i) The project exceeds the allowed height or bulk regulations, or exceeds the prevailing height and bulk of existing structures.	☐	☐	☒	☐
ii) The project is proposed to have an architectural style or to use building materials that will be in vivid contrast to an adjacent development where that development had been constructed adhering to a common architectural style or theme.	☐	☐	☒	☐
iii) The project is located on a visually prominent site and, due to its height, bulk, architecture or signage, will be in vivid contrast to the surrounding development or environment degrading the visual unity of the area.	☐	☐	☒	☐
iv) A project would include unscreened outdoor uses or materials.	☐	☐	☒	☐
v) A project would result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development.	☐	☐	☒	☐

Impact Analysis:

a) According to the City's *CEQA Significance Thresholds Guide* (March 2009), an aesthetic or scenic resource is an element, or group of elements, that embodies a sense of beauty. A scenic vista is generally defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. According to the Recreation and Resources Element (2010) of the City's General Plan, the City contains many important natural resources and features, including its eucalyptus forest and other trees, lakes, creeks, canyons, hillsides, mineral resources areas, and other open lands. The western portion of the City is nearly sea level while the northeastern portion becomes progressively higher and steeper, reaching elevations of up to 1,500 ft. Views of the rugged mountains are enjoyed from the western portion, and views of the Saddleback Valley floor and the Pacific Ocean are available from the higher elevations in the eastern portion. According to the Recreation and Resources Element, preserving the unique topographic character of the City is important for visual quality and geologic stability.

The Project site is located in the western portion of the City. The Project site is bounded on the north by the intersection of Alton Parkway and Commercentre Drive, on the east by Commercentre Drive, on the south by light industrial uses with Arctic Ocean Drive beyond, and on the west by open space consisting of a manufactured landscape slope with a concrete drainage channel, power lines, an IRWD water tower, and an access road. The open space along the west and northwest boundary is a manufactured slope owned and maintained by the Pacific Commercentre Association and includes a Scenic Preservation Easement.[1] Single-family residential and light industrial uses are located to the east beyond Commercentre Drive.

There are no public parks on, or adjacent to, the Project site. The nearest public park to the Project site is Rancho Serrano Park, approximately 0.6 mi south of the site. The Project site is not visible from the Rancho Serrano Park. Therefore, the proposed Project does not have the potential to damage scenic vistas from public parks, and no mitigation is required. Refer to Section 4.15, Recreation, for additional discussion and analysis of potential impacts related to public parks in the City.

The California Department of Transportation's (Caltrans) Landscape Architecture Program administers the Scenic Highway Program, contained in the State Streets and Highways Code, Sections 260–263. State highways are classified as either Eligible for Scenic Designation or Officially Designated. Within the County, there are three eligible (State Route 1 [SR-1], State Route 57 [SR-57], and State Route 74 [SR-74]) and one officially designated (State Route 91 [SR-91]) State scenic highways.[2] The nearest State highway eligible for State scenic highway designation is SR-74, which is located approximately 11 mi southeast of the Project site, and the officially-designated State scenic highway, SR-91, is located more than 13 mi north of the Project site. The Project site is not visible from any of the eligible or officially designated State scenic highways classified by the Caltrans Scenic Highway Program in the County. Additionally, State Route 241 (SR-241), located approximately 1 mi northeast of the Project site, is not eligible for, or officially designated as, a State scenic highway by the Caltrans Scenic Highway Program. Therefore, the proposed Project does not have the potential to damage scenic resources from designated scenic highways, and no mitigation is required.

The County General Plan includes a Scenic Highway Master Plan that designates certain local highways as scenic routes. With this designation, specific guidelines are given for enhancing the scenic amenities of these facilities. According to the Circulation Element (2008) of the City's General Plan, arterials in the City subject to the County's Scenic Highway Master Plan include Santiago Canyon Road and El Toro Road between Santa Margarita Parkway and Live Oak Canyon Road. These designated local arterials are located approximately 2.2 mi[3] east of the Project site. The Project site is not visible from either of these designated local arterials. Therefore, the proposed Project does not have the potential to

[1] The Scenic Preservation Easement was originally dedicated to the County before the land was incorporated into the City. The Scenic Preservation Easement was conveyed to the City upon its incorporation.

[2] California Scenic Highway Mapping System, Orange County. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm, accessed March 20, 2015.

[3] Distance between the Project site and the intersection of El Toro Road and Portola Parkway/Santa Margarita Parkway.

damage scenic resources from designated scenic arterial roadways, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

b) Spill light occurs when lighting fixtures such as streetlights, parking lot lighting, exterior building lighting, and landscape lighting are not properly aimed or shielded to direct light to the desired location and light escapes and partially illuminates a surrounding location. Sensitive uses (e.g., open space, residential uses) surrounding the Project site could be impacted by the light from development within the boundaries of the Project site.

Construction activities would occur during daylight hours. Any construction-related illumination during evening and nighttime hours would consist of the minimum lighting required for safety and security purposes only and would occur only for the duration required for the temporary construction process. Due to its limited scope and short duration, light resulting from construction activities would not substantially impact sensitive uses, substantially alter the character of off-site areas surrounding the construction area, or interfere with the performance of an off-site activity. Therefore, construction of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and light impacts associated with construction would be less than significant. No mitigation would be required.

In the existing condition, there are light fixtures that surround a gravel parking lot. These light fixtures would be removed during project implementation.
The proposed Project would introduce nighttime lighting to portions of the Project site that are not currently illuminated. After Project implementation, site lighting would consist of street lighting (approximately 14 ft in height), low-level bollard lighting (less than 4 ft in height), and wall lighting (less than 7 ft in height). The Project site would be illuminated from sunset to sunrise (generally 6:00 p.m. to 6:00 a.m., depending on the time of year). Therefore, the proposed Project could result in a substantial amount of new nighttime light, and mitigation is required.

LFMC Section 9.56.080, Site Development Standards for the R2 Multifamily Dwellings District, states that all lights shall be designed and located so that direct light rays are confined to the premises. In addition, LFMC Section 9.56.080 requires that all Project lighting be hooded or shielded to focus the light downward and prevent light spillage onto adjacent properties. Mitigation Measure A-1 requires the Project Applicant to prepare a comprehensive lighting plan and a photometric survey prior to construction in order to demonstrate compliance with the City's Municipal Code. This measure is intended to minimize the impacts of new sources of light and glare to adjacent land uses, limit nighttime lighting to that necessary for security, and ensure that lighting is shielded to reduce spill lighting and night glow effects. Implementation of this mitigation measure would reduce potential impacts related to new lighting to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

A-1: **Comprehensive Lighting Plan.** Prior to issuance of a precise grading permit for the Encanto Residential Project (proposed Project), the Project Applicant shall prepare a comprehensive lighting plan for review and approval by the City of Lake Forest (City) Director of Development Services or designee. The lighting plan shall be prepared by a qualified engineer and shall comply with applicable standards of the City Municipal Code. The lighting plan shall address all aspects of lighting, including, but not limited to, infrastructure and safety. The lighting plan shall include the following in conjunction with other measures as determined necessary by the illumination engineer:

a. All Project lighting shall be hooded or shielded to focus the light downward and prevent light spillage onto adjacent properties.

b. All lights shall be designed and located so that direct light rays are confined to the premises.

c. Parking area lighting shall be Illuminating Engineering Society "Full Cut Off" designated or "fully shielded" fixtures so that no light is emitted above the lowest light-emitting part of the fixture.

d. Light levels at the property line shall not exceed 0.1 footcandle (fc) adjacent to business properties.

e. Light standards shall not exceed 20 feet in height.

The Lighting Plan shall also include a photometric survey. The photometric survey shall demonstrate that lighting values do not exceed 0.1 fc adjacent to business properties and that no direct rays shine onto public streets or adjacent sites.

Significance Determination After Mitigation: Less than Significant Impact.

c) Glare is the result of improperly aimed or blocked lighting sources that are visible against a dark background such as the night sky. Glare may also refer to the sensation experienced looking into an excessively bright light source that causes a reduction in the ability to see or causes discomfort. Glare generally does not result in illumination of off-site locations but results in a visible source of light viewable from a distance.

Glare could occur from building materials of the new structures, including glass, concrete, stucco, wood, and other materials. The anticipated building materials and proposed uses described in the Encanto Project are typical of those found in the surrounding areas and are not anticipated to create unusual or isolated glare effects. In addition, the use of extensive landscaping along Project boundaries, the substantial grade separation between the Project site and surrounding roadways, and light shielding required by LFMC Section 9.56.080

would prevent direct views of light sources and reduce the potential for glare. Impacts would be less than significant and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) i) The Project site was previously rough graded and is currently undeveloped. A small concrete driveway, a gravel parking lot with cement curbs and light fixtures, and a sidewalk surrounding a dirt pad are currently on the Project site. There is also a small trash enclosure located near the existing Project entry. The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached residential units. Development of the Project would convert predominantly urban vacant land to residential uses, substantially changing the aesthetic nature of the Project site.

The Project site currently has a zoning designation of Pacific Commercentre Planned Community (PC-6) – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a PD District as the combining district. The PD District is used in conjunction with the base district (R2 Multifamily Dwellings District) to indicate the additional permitted uses and development standards associated with the planned development. According the City's 2008–2014 Housing Element, the purpose of the PD District is to produce planned development projects that take advantage of modern site planning techniques providing for better use of common areas and open space. The planned development results in flexibility by allowing development standards (including lot coverage, setbacks, and building sizes) to be determined through the approval of a site development permit.

The proposed Project would be developed in accordance with LFMC Section 9.56, R2 Multi-Family Dwelling District, and Section 9.124, PD Planned Development District. The elevations of the largest proposed floor plan are shown on Figures 4.1.1a, 4.1.1b, and 4.1.1c. The maximum building height allowed in the R2 Multi-Family Dwelling District is 35 ft. The maximum building height proposed is 35 ft. The following setbacks are required in the R2 Multi-Family Dwelling District:

- Front building setback: 20 ft
- Side building setback: 5 ft
- Rear building setback: 25 ft

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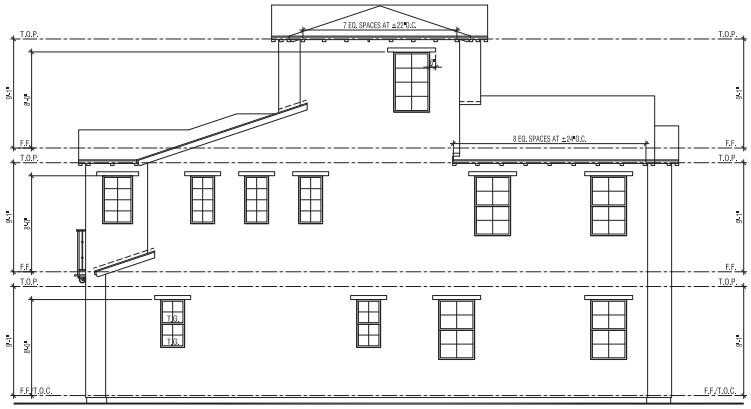

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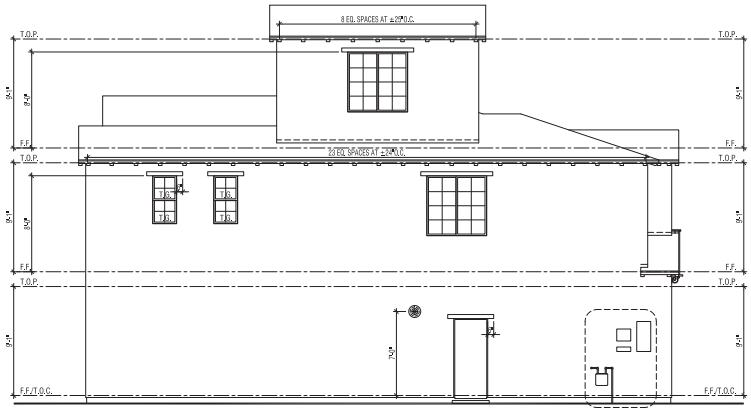

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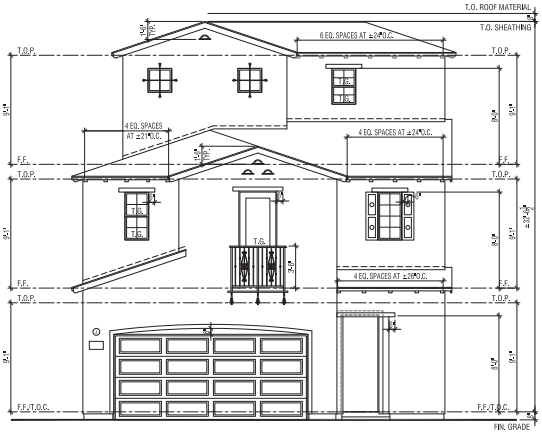

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FIGURE 4.1.1a

Encanto Residential Project

Floor Plan 3X-A - Spanish Elevations

SOURCE: William Hezmalhalch Architects Inc.

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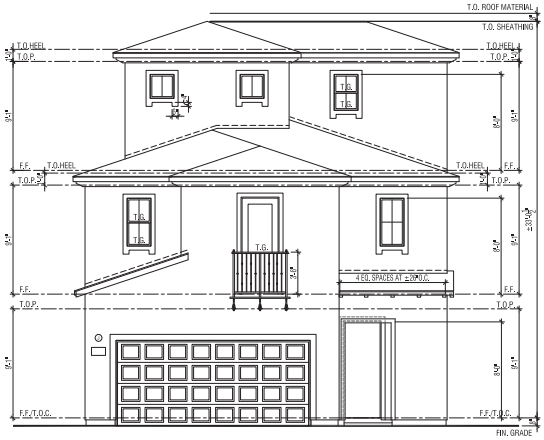
RIGHT

LEFT

REAR



FRONT

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FIGURE 4.1.1b

Encanto Residential Project

Floor Plan 3X-B - Mediterranean Elevations

SOURCE: William Hezmalhalch Architects Inc.

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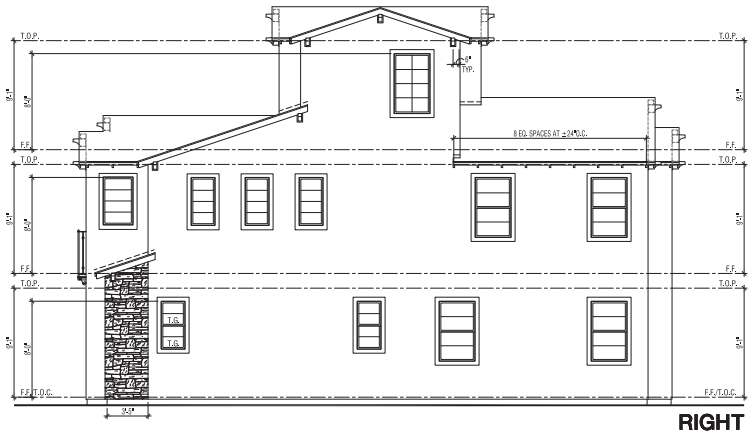

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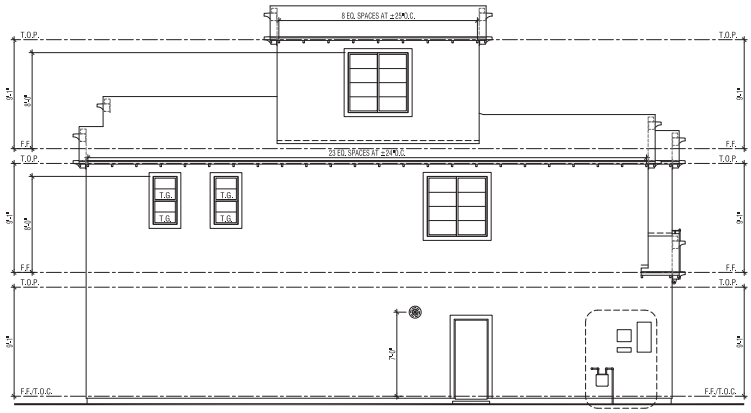

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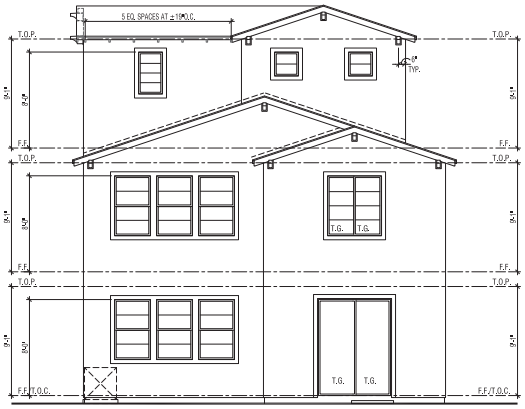

REAR

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FIGURE 4.1.1c

Encanto Residential Project

Floor Plan 3X-C - Tuscan Elevations

SOURCE: William Hezmalhalch Architects Inc.

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Notwithstanding, LFMC Section 9.124.060(E) stipulates that buildings on sites with a PD District designation need not comply with the base district setback regulations and that setbacks shall be determined by the approved use permit. Pursuant to this provision, the applicant is proposing the following alternative minimum setbacks:

- Front building setback: 4 ft
- Side building setback: 4 ft
- Rear building setback: 10 ft

The proposed Project would comply with the required setbacks in the R2 Multi-Family Dwelling District and the PD District. The proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings by exceeding the allowed height or bulk regulations, or by exceeding the prevailing height and bulk of existing structures. Therefore, impacts to the allowed height or bulk regulations would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) ii) The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached homes. Development of the Project would convert predominantly urban vacant land to residential uses, substantially changing the aesthetic nature of the Project site.

The architectural style and building design of the proposed Project would be consistent with the adjacent residential development (Baker Ranch Community). The proposed Project would be designed following the Tuscan, Mediterranean, and Spanish design influences, in a manner consistent with the architecture used in the Baker Ranch Community. Additionally, the spacing and density of the landscaping along Commercentre Drive would be designed to match the landscaping in place for the Baker Ranch Community on the east side of Commercentre Drive. Because the architectural design and landscaping of the proposed Project would be similar to that of the Baker Ranch Community, the two projects would appear to be more cohesive and the transition between these two projects would be less noticeable. Overall, the architectural features and landscaping for the proposed Project are intended to provide a visually appealing residential development that attracts future residents.

Industrial development in the area is largely modern in style and/or recently constructed, with heights varying from one to two stories (approximately 35 ft) and minimal architectural detail and substantial setbacks. The proposed Project would include the construction of 52 residential structures two to three stories in height, with a maximum height of 35 ft. As such, the scale[1] of the new residential structures would be similar to the adjacent one- and two-story industrial buildings.

[1] Refers to the general intensity of development consisting of the height and set-back of buildings.

Figure 4.1.2 depicts cross-sections of the proposed Project and illustrates the setbacks (which vary from 26 ft to 58 ft) between the Project site and surrounding land uses. In addition, the adjacent light industrial uses to the south would be approximately 16 ft above the proposed finished grade of the Project site. As shown on Figure 4.1.2, Sections A-A and B-B, depending on the location of the viewer, the three-story houses on the Project site may be perceived as being smaller/shorter than the adjacent light industrial building to the south because of the grade difference between the two sites. From Commercentre Drive, the existing industrial building would appear to be approximately 16 ft taller than the proposed residential structures because of the grade separation even though both would be a maximum height of 35 ft from their respective finished grades. However, the grade separation would also create a visual break between the two sites that would reduce the contrast between the industrial uses to the south and the proposed residential uses. Overall, the grade separation and substantial setbacks, would reduce the visual relationship between the Project site and the adjacent industrial uses.

In summary, the Tuscan, Mediterranean, and Spanish design influences would contrast with the modern façades of the industrial buildings; however, the Project would not be visually incompatible with the adjacent industrial uses because: (1) the Project would provide visual interest; (2) the Project site would be located across the street from existing residential uses (Baker Ranch Community) and the architectural design and landscaping of the proposed Project would be similar to that of the Baker Ranch Community; (3) substantial landscaping would screen the Project site from passing motorists; and (4) substantial setbacks and grade separations between the Project site and surrounding land uses would reduce the Project's contrast with the architectural style or theme of the surrounding industrial uses.

Therefore, the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings, and would not be in vivid contrast to an adjacent development where that development had been constructed adhering to a common architectural style or theme. Therefore, impacts to a common architectural style or theme would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) iii) Development surrounding the Project site includes residential and light industrial uses on the east, light industrial uses on the south, open space on the west, and the Lake Forest/Irvine City limit with open space beyond on the north.

The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached homes. Development of the Project would convert predominantly urban vacant land to residential uses, substantially changing the aesthetic nature of the Project site.

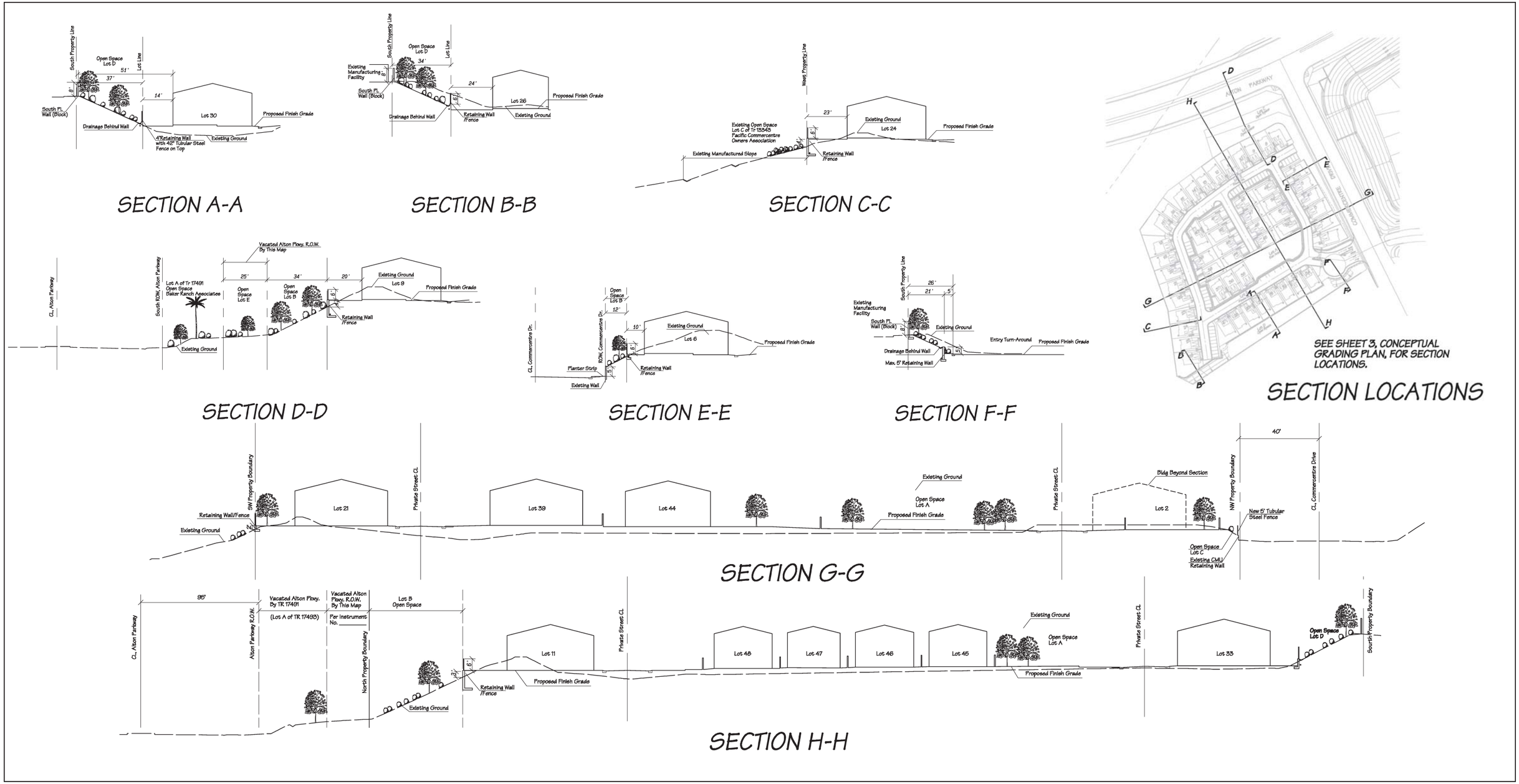

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FIGURE 4.1.2

Encanto Residential Project

Proposed Cross Sections

SOURCE: RBF

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There are and would continue to be substantial grade separations between the Project site and the surrounding land uses that could give the Project site some visual prominence. Alton Parkway would be approximately 32 ft below the proposed finished grade of the Project site. Commercentre would be approximately 17 ft below the proposed finished grade of the Project site. The adjacent light industrial uses to the south would be approximately 16 ft above the proposed finished grade of the Project site. The dirt road to the west would be approximately 15 ft below the proposed finished grade of the Project site.

The architectural style and building design of the proposed Project would be consistent with the adjacent residential development (Baker Ranch Community). The proposed Project would be designed following the Tuscan, Mediterranean, and Spanish design influences, in a manner consistent with the architecture used in the Baker Ranch Community. Additionally, the spacing and density of the landscaping along Commercentre Drive would be designed to match the landscaping in place for the Baker Ranch Community on the east side of Commercentre Drive. The proposed Project would not exceed the height limitations imposed by the LFMC and signage would be limited to a community identification monument with a maximum height of 6 ft at the Project entry, as well as directional signage on-site and address signage on the residential units. Overall, the architectural features and landscaping designed for the Project are intended to provide a visually appealing residential development that attracts future residents. The proposed Project would contribute to or create greater unity between the Project site and the Baker Ranch Community to the east.

Industrial development in the area is largely modern in style and/or recently constructed, with heights varying from one to two stories (with a maximum height of 35 ft) with minimal architectural detail and substantial setbacks. The proposed Project would include the construction of 52 residential structures that are two to three stories in height, with a maximum height of 35 ft. As such, the scale of the new residential structures would be similar to the adjacent one- and two-story industrial buildings. In addition, the adjacent light industrial uses to the south would be approximately 16 ft above the proposed finished grade of the Project site, which would reduce the visual prominence of the Project site in comparison to the adjacent industrial uses. The height, bulk, architecture, and signage of the Project site would not degrade the visual unity of the industrial area because of its location on the “fringe” of the industrial area (i.e., there are industrial uses to the south and southeast only) and due to the grade separation between the adjacent industrial uses and the Project site.

Therefore, the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings, and would not be in vivid contrast to the surrounding development or environment or degrade the visual unity of the area. Therefore, impacts to the visual unity of the area would be less than significant, and no mitigation is required**.**

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) iv) Manufactured landscape slopes and fences of various materials (i.e., wrought-iron, tubular steel, and chain-link fences) surround the site. Built as part of the Alton Parkway road improvements, a 2 to 5 ft tall block retaining wall is currently located along Commercentre Drive and would remain after Project implementation. The proposed Project would include the development of a 6 ft tall perimeter wall along the western and northern boundaries of the Project site. The 6 ft tall perimeter wall would be designed using a combination of block and glass materials. Along the southern boundary of the proposed Project, an 8 ft tall solid perimeter wall is proposed to provide privacy and buffer potential noise from the existing light industrial use. As described in detail in Section 2.2, Building and Site Design, enhanced landscaping is also proposed along the southern slope and wall for screening.

The proposed Project would also include screening walls and landscaping within the gated residential community. A 6 ft tall wood fence is proposed along the property lines of each unit. Additionally, a low hedge around the neighborhood park would be included to provide privacy for the homes with yards adjacent to the park. Retaining walls would vary in height throughout the gated residential community but would be 4 ft or lower along the Project boundaries facing public streets. The proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings by including unscreened outdoor uses or materials. Therefore, unscreened outdoor use impacts would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) v) Development surrounding the Project site includes residential and light industrial uses on the east, light industrial uses on the south, open space on the west, and the Lake Forest/Irvine City limit with open space beyond on the north.

The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached homes. Development of the Project would convert predominantly urban vacant land to residential uses, substantially changing the aesthetic nature of the Project site.

The architectural style and building design of the proposed Project would be consistent with the adjacent residential development (Baker Ranch Community). The proposed Project would be designed following the Tuscan, Mediterranean, and Spanish design influences, in a manner consistent with the architecture used in the Baker Ranch Community. Additionally, the spacing and density of the landscaping along Commercentre Drive would be designed to match the landscaping in place for the Baker Ranch Community on the east side of Commercentre Drive. Because the architectural design and landscaping of the proposed Project would be similar to that of the Baker Ranch Community, the two projects would appear to be more cohesive and the transition between these two projects would be less noticeable. In addition, the Baker Ranch Community's density ranges from low-density (2 to 7 units per net acre) to medium-density (up to 25 units per net acre). The residential units located across Commercentre Drive from the Project site are designated Low-Medium-

Density Residential in the City's General Plan, which allows 7 to 15 du/ac. The proposed Project would have a net density of 10.9 du/ac. Therefore, while the proposed Project would result in densification of the site, the mass and scale of the proposed Project would not conflict with the density of the adjacent Baker Ranch Community and, overall, the proposed Project would be consistent with the existing character of the Baker Ranch Community.

The proposed Project would introduce residential uses adjacent to an existing industrial use. Industrial development in the area is largely modern in style and/or recently constructed, with heights varying from one to two stories (with a maximum height of 35 ft) with minimal architectural detail and substantial setbacks. The proposed Project would include the construction of 52 residential structures that are two to three stories in height, with a maximum height of 35 ft. As such, the scale of the new residential structures would be similar to the adjacent one- and two-story industrial buildings.

Figure 4.1.2 depicts cross-sections of the proposed Project and illustrates the setbacks (which vary from 26 ft to 58 ft) between the Project site and surrounding land uses. In addition, the adjacent light industrial uses to the south would be approximately 16 ft above the proposed finished grade of the Project site. As shown on Figure 4.1.2, Sections A-A and B-B, depending on the location of the viewer, the three-story houses on the Project site may be perceived as being smaller/shorter than the adjacent light industrial building to the south because of the grade difference between the two sites. From Commercentre Drive, the existing industrial building would appear to be approximately 16 ft taller than the proposed residential structures because of the grade separation even though both would be a maximum height of 35 ft from their respective finished grades. However, the grade separation would also create a visual break between the two sites that would reduce the contrast between the industrial uses to the south and the proposed residential uses. Overall, the grade separation and substantial setbacks would reduce the visual relationship of the Project site to the adjacent industrial uses.

In summary, while the Tuscan, Mediterranean, and Spanish design influences in the architecture could contrast with the modern architecture of the industrial buildings, the contrast would not be significant because: (1) the Project would provide visual interest; (2) the Project site would be located across the street from existing residential uses (Baker Ranch Community) and, overall, would be consistent with the existing character of the Baker Ranch Community; (3) substantial landscaping would screen the Project site from passing motorists; and (4) substantial grade separations between the Project site and surrounding land uses would reduce the Project's contrast with the architectural style or theme of the surrounding industrial uses.

Therefore, the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings by introducing an architectural feature or building mass that would conflict with the character of the surrounding development. Therefore, impacts to the character of the surrounding development would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

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4.2 AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☐	☒

Impact Analysis:

a) The Project site is not used for agricultural production and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.[1] The surrounding area is characterized by open space, light industrial, and residential uses. The proposed Project would not convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or any other type of farmland to a non-agricultural use. Therefore, no impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

b) The Project site is currently zoned Pacific Commercentre Planned Community – High Technology and is not used for agricultural production, not zoned for agricultural use, and not protected by, or eligible for, a Williamson Act contract.[2] Therefore, no impacts to agricultural use or a Williamson Act contract would occur, and no mitigation is required.

[1] California Department of Conservation, http://maps.conservation.ca.gov/ciff/ciff.html, accessed March 19, 2015.

[2] County of Orange General Plan, Resources Element, http://ocplanning.net/civicax/filebank/blobdload.aspx?BlobID=8633, accessed March 19, 2015.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

c) The Project site is not used for timberland production, is not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, no impacts to forest land or timberland would occur, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

d) The proposed Project was previously rough graded and is currently undeveloped. The proposed Project would not convert forest land to a non-forest use. Likewise, the Project site would not contribute to environmental changes that could result in conversion of forest land to non-forest use. Therefore, no impacts to forest land would occur, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

e) The Project site is currently zoned Pacific Commercentre Planned Community – High Technology and is not used for agricultural production or designated or zoned for agricultural uses. The proposed Project would not convert farmland to a non-agricultural use. Likewise, the proposed Project site would not contribute to environmental changes that could result in conversion of farmland to non-agricultural use. Therefore, no impacts to farmland or forest land would occur, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

4.3 AIR QUALITY

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐
(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?	☐	☐	☒	☐
	A project will be considered to result in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) where the incremental effect of the project emissions, considered together with past, present, and reasonably anticipated further project emissions, increase the level of any criteria	☐	☐	☒	☐

Impact Analysis:

a) The Project site is located within the City of Lake Forest, which is part of the South Coast Air Basin (Basin). The Basin includes all of Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality within the Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD and the Southern California Association of Governments (SCAG) adopted an Air Quality Management Plan (AQMP). The main purpose of an AQMP is to describe air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area in order to bring the area into compliance with federal and State air quality standards. A nonattainment area is considered to have air quality worse than the National Ambient Air Quality Standards (National AAQS) as defined in the federal Clean Air Act. The Basin is in nonattainment for the federal and State standards for ozone (O_3), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). In addition, the Basin is in nonattainment for the State particulate matter less than 10 microns in diameter (PM_{10}) standard, and in attainment/ maintenance for the federal PM_{10}, carbon monoxide (CO), and nitrogen dioxide (NO_2) standards.

Consistency with the 2012 AQMP for the Basin (2012 AQMP) means that a Project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. Per the SCAQMD *CEQA Air Quality Handbook* (April 1993), there are two main indicators of a project's consistency with the applicable

AQMP: (1) whether the project would increase the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the 2012 AQMP; and (2) whether the project would exceed the 2012 AQMP's assumptions for 2030 or yearly increments based on the year of project build out and phasing. For the proposed Project to be consistent with the AQMP adopted by the SCAQMD, the pollutants emitted from the Project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the Project must already have been included in the AQMP projections. Additionally, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP. As discussed in Responses 4.3.b, 4.3.c, 4.3.d, and 4.3.e, below, the proposed Project's emissions would be below the emissions thresholds established in the SCAQMD's *CEQA Air Quality Handbook*. Therefore, the proposed Project would not conflict with the AQMP and would not result in significant impacts related to implementation of the AQMP. No mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

b) Specific criteria for determining whether the potential air quality impacts of a Project are significant are set forth in SCAQMD's *CEQA Air Quality Handbook* and the City of Lake Forest's *CEQA Significance Thresholds Guide* dated November 20, 2001 (revised March 2009). The criteria include emission thresholds and compliance with State and national air quality standards. A summary of the specific criteria contained in the SCAQMD's *CEQA Air Quality Handbook* is presented below.

Thresholds for Construction Emissions. The following significance thresholds for construction emissions have been established by the SCAQMD:

- 75 pounds per day (lbs/day) of reactive organic gases (ROG)
- 100 lbs/day of nitrogen oxides (NO_X)
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of sulfur oxides (SO_X)

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds above are considered significant by the SCAQMD.

Thresholds for Operational Emissions. The following significance thresholds for operational emissions have been established by the SCAQMD:

- 55 lbs/day of ROG
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the Basin with operation-related emissions that exceed any of the emission thresholds above are considered significant by the SCAQMD.

Localized Significance Thresholds. Localized significance thresholds (LSTs) represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. For the proposed Project, LSTs are only applicable to the following criteria pollutants: NOx, CO, $PM_{10,}$ and $PM_{2.5}$. The following significance thresholds for LSTs have been established by the SCAQMD:

- 148 lbs/day of NO_X
- 1,519 lbs/day of CO
- 24 lbs/day of PM_{10}
- 8 lbs/day of $PM_{2.5}$

Projects in the Basin with emissions that exceed any of the LSTs above are considered significant by the SCAQMD.

Short-Term (Construction) Emissions. Air quality impacts could occur during construction of the proposed Project from soil disturbance and equipment exhaust. Major sources of emissions during grading and site preparation include: (1) exhaust emissions from construction vehicles; (2) equipment and fugitive dust generated by construction vehicles and equipment traveling over exposed surfaces; and (3) soil disturbances from grading and backfilling. The following summarizes construction emissions and associated impacts of the proposed Project.

Equipment Exhaust and Related Construction Activities. Construction of the proposed Project would include the following tasks: site prep, grading, construction, paving, and architectural coating. Even though construction activities would not be occurring simultaneously, the construction emissions estimated below in Table 4.3.A assume that construction, paving, and painting activities would overlap in order to represent a worst-case scenario. Table 4.3.A summarizes the worst-case daily

construction emissions. This table shows that construction equipment/vehicle emissions during construction periods would not exceed any of the SCAQMD established daily emissions thresholds. Because construction operations on the Project site must comply with dust control and other measures prescribed in SCAQMD Rules 402 and 403 to ensure that short-term construction impacts are minimized, compliance with these rules is assumed in Table 4.3.A in the "Mitigated Construction Activities" line. By complying with the SCAQMD's standard control measures (SCAQMD Rules 402 and 403), construction equipment/vehicle emissions during construction periods would be reduced. Therefore, the proposed Project would not cause any short-term (construction) air quality impacts, and no mitigation is required.

Table 4.3.A: Peak Daily Construction Emissions (lbs/day)[1]

Maximum Construction Emissions	ROG	NO_X	CO	SO_2	PM_{10}[2]	$PM_{2.5}$[2]
Unmitigated Construction Activities	42.2	74.9	50.2	0.1	21.2	12.7
Mitigated Construction Activities	42.2	74.9	50.2	0.1	11.3	7.2
SCAQMD Construction Emissions Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Exceed Significance?	**No**	**No**	**No**	**No**	**No**	**No**

Source: *The Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015).

[1] It is assumed that construction, paving, and painting activities would overlap in order to represent a worst-case scenario.

[2] The only "mitigation" assumed in this analysis is compliance with fugitive dust control measures (SCAQMD Rules 402 and 403) mandated by SCAQMD.

lbs/day = pounds per day
ROG = reactive organic gases
NO_x = nitrogen oxides
CO = carbon monoxide
SO_2 = sulfur dioxide
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SCAQMD = South Coast Air Quality Management District

Fugitive Dust. Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill operations. Dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions. Fugitive dust would also be generated as construction equipment or trucks travel on unpaved areas of the construction site. The PM_{10} and $PM_{2.5}$ fugitive dust emissions are included in Table 4.3.A. Because construction operations on the Project site must comply with dust control and other measures prescribed in SCAQMD Rules 402 and 403 to ensure that short-term construction impacts are minimized, compliance with these rules is assumed in Table 4.3.A in the "Mitigated Construction Activities" line. As shown in Table 4.3.A, the proposed Project would not exceed the SCAQMD emissions thresholds for PM_{10} and $PM_{2.5}$. By complying with the SCAQMD's standard control measures (SCAQMD Rules 402 and 403), the PM_{10} and $PM_{2.5}$ emissions during construction periods would be reduced. Therefore, the proposed Project would not cause any short-term (construction) air quality impacts, and no mitigation is required.

Long-Term (Operational) Emissions. Long-term air emission impacts are associated with any change in permanent use of the Project site by on-site stationary and off-site mobile

sources that substantially increase emissions. Stationary-source emissions include emissions associated with electricity consumption and natural gas usage. Mobile-source emissions usually result from vehicle trips associated with a project. Mobile- and area-source emissions associated with the proposed Project were calculated using the California Emission Estimator Model (CalEEMod) and are included in Table 4.3.B. As shown in Table 4.3.B, the proposed Project would not exceed any operational emissions thresholds established by the SCAQMD. Therefore, the proposed Project would not cause any long-term (operational) air quality impacts, and no mitigation is required.

Table 4.3.B: Daily Operational Emissions

Source	Pollutants (lbs/day)						
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**$CO_2(e)$[1]**
Area-Source Emissions	2.3	0.1	4.3	0.0	0.1	0.1	1,004.9
Energy-Source Emissions	0.0	0.4	0.2	0.0	0.0	0.0	487.1
Mobile-Source Emissions	1.5	3.7	18.0	0.0	3.6	1.0	4,191.6
Total Emissions	**3.8**	**4.2**	**22.5**	**0.0**	**3.7**	**1.1**	**5,683.6**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**	**–**
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**NA**

Source: *The Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015).
[1] $CO_2e = CO_2$ that has been adjusted for global warming potential.
CO = carbon monoxide
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_x = nitrogen oxides
ROG = reactive organic gases
SO_2 = sulfur dioxide
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SCAQMD = South Coast Air Quality Management District

Localized Significance. For the proposed Project, the primary source of possible LST impacts would be construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours, such as a residence, hospital, or convalescent facility. The closest sensitive receptors to the various construction phases are considered to be the future single-family residential Baker Ranch Community located approximately 180 feet away from the Project site, across Commercentre Drive. Therefore, a 50-meter source-receptor distance was chosen.

Table 4.3.C shows the construction-related emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ from off-road construction equipment that would operate on the Project site. Even though construction activities would not be occurring simultaneously, the construction emissions estimated below in Table 4.3.C assume that construction, paving, and painting activities would overlap in order to represent a worst-case scenario.

Because construction activities on the Project site must comply with dust control and other measures prescribed in SCAQMD Rules 402 and 403 to ensure that short-term construction impacts are minimized, compliance with these rules is assumed in Table 4.3.C in the “Mitigated Construction Activities” line. As shown in Table 4.3.C, the calculated emissions rates for the proposed construction activities are below the LSTs for CO, NO_X, PM_{10}, and $PM_{2.5}$ for both the unmitigated and mitigated construction activity scenarios. Therefore, the proposed Project would not cause any short-term LST significant air quality impacts, and no mitigation is required.

Table 4.3.C: LST Thresholds and Construction Emissions

Construction, Paving, and Painting Overlap	Emission Rates (lbs/day)			
	CO	NO_X	PM_{10}[1]	$PM_{2.5}$[1]
Unmitigated Construction Activities	36	50	3	3
Mitigated Construction Activities	36	50	3	3
Localized Significance Threshold (at 50 m)	**1,519**	**148**	**24**	**8**
Exceed Significance?	**No**	**No**	**No**	**No**

Source: *The Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015).
[1] The only "mitigation" assumed in this analysis is compliance with fugitive dust control measures (SCAQMD Rules 402 and 403) mandated by SCAQMD.
lbs/day = pounds per day
m = meters
CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

c) The Basin is in nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the Basin is in nonattainment for the State PM_{10} standard, and attainment/ maintenance for the federal PM_{10}, CO, and NO_2 standards. As discussed in Response 4.3.b above, no exceedance of the SCAQMD's criteria pollutant emission thresholds would be anticipated for the proposed Project. In addition, by complying with the SCAQMD's dust control regulations (Rules 402 and 403), the proposed Project's criteria pollution emissions would be reduced.[1] The projected emissions of criteria pollutants as a result of the proposed Project are expected to be below the emissions thresholds established for the region. Cumulative emissions are part of the emission inventory included in the AQMP for the Project area. Therefore, there would be no cumulatively considerable net increase of criteria pollutant emissions that are in nonattainment status in the Basin, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) As described in Response 4.3.b, the proposed Project would not significantly increase short-term (construction) emissions, LST emissions, or long-term (operational) emissions within the Project area. Construction of the proposed Project may expose surrounding sensitive

[1] Modeling of projected emissions of criteria pollutants using CalEEMod assumed that only the requirements of Rules 402 and 403 would be implemented.

receptors to airborne particulates as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions prescribed in SCAQMD's standard construction practices (Rules 402 and 403). Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Some of the applicable dust suppression techniques from Rule 403 are summarized below.

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 ft of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).

Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during construction, and potential short-term impacts are considered less than significant. No mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

e) The SCAQMD *CEQA Handbook* identifies various secondary significance criteria related to odorous air contaminants. *The Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015; Appendix A) states that except for the diesel exhaust generated by heavy construction equipment and project-related diesel truck traffic, there are limited secondary impact indicators associated with Project construction or operations. Some objectionable odors may emanate from the operation of diesel-powered construction equipment during construction of the proposed Project. These odors, however, would be limited to the Project site only during the construction period, would disperse quickly, and therefore would not be considered a significant impact. The proposed Project is a residential development, which does not typically produce objectionable odors. Therefore, no significant impacts related to objectionable odors would result from the proposed Project, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

f) As discussed in Response 4.3.c, the Basin is in nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the Basin is in nonattainment for the State PM_{10}

standard and attainment/maintenance for the federal PM_{10}, CO, and NO_2 standards. As discussed in Response 4.3.b above, no exceedance of the SCAQMD's criteria pollutant emission thresholds would be anticipated for the proposed Project. In addition, by complying with the SCAQMD's dust control regulations (Rules 402 and 403), the proposed Project's criteria pollution emissions would be reduced.[1] The projected emissions of criteria pollutants as a result of the proposed Project are expected to be below the emissions thresholds established for the region. Cumulative emissions are part of the emission inventory included in the AQMP for the Project area. Therefore, there would be no cumulatively considerable net increase of the criteria pollutant emissions, considered together with past, present, and reasonably anticipated further Project emissions, that are in nonattainment status in the Basin, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

[1] Modeling of projected emissions of criteria pollutants using CalEEMod assumed only the requirements of Rules 402 and 403 would be implemented.

4.4 BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐
(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?	☐	☐	☒	☐

Impact Analysis:

a) The Project site was previously rough graded and is currently undeveloped. A gravel parking lot with cement curbs, light fixtures, and a sidewalk surrounding a dirt pad where a temporary office trailer was previously located are currently on the Project site. There is also a small trash enclosure located near the existing Project entry. The Project site has been maintained and compacted in its rough-graded condition, leaving the soil and vegetation within it highly disturbed. According to the *Biological Technical Report for the Encanto Residential Project* (Glenn Lukos Associates, Inc., May 2014; Appendix B), the entire Project site is categorized as "disturbed/developed." The disturbed and maintained condition of the Project site is generally not suitable to support special-status species, and no known candidate, sensitive, or special status-species were observed inhabiting the Project site during the general survey and habitat assessment. There is a low potential[1] for certain reptiles and birds to be observed on the Project site. Due to the small area of impact and the higher quality of habitat available in the adjacent open space, impacts to candidate, sensitive, or special-status species would be less than significant. No mitigation is required.

[1] The species has a low potential to occur on-site based on suitable habitat; however, its presence/absence could not be confirmed.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

b) The Project site has been maintained and compacted in its rough-graded condition, leaving the soil and vegetation within it highly disturbed. According to the *Biological Technical Report for the Encanto Residential Project* (Glenn Lukos Associates, Inc. May 2014; Appendix B), the Project site is not located within any United States Fish and Wildlife Service (USFWS) designated critical habitat areas. The closest area located within a USFWS designated critical habitat area is located approximately 1 mi northwest of the Project site. Therefore, no significant impacts related to riparian habitat or other sensitive natural communities identified in local or regional plans would result from Project implementation, and no mitigation is required.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

c) The Project site has been maintained and compacted in its rough-graded condition; therefore, no jurisdictional features occur on-site. In addition, no natural hydrologic features or federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) occur onsite. Therefore, no direct removal, filling, or hydrological interruption of a wetland area would occur with development of the Project site. No impact would occur, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

d) The Project site was previously rough graded and is currently undeveloped. No portion of the Project site or the immediately surrounding areas contains an open body of water that serves as natural habitat in which fish could exist. Likewise, due to the disturbed and maintained condition of the Project site, the site provides limited suitable habitat for ground-nesting migratory birds. If vegetation is allowed to persist within the Project site, the proposed Project may have the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to September 15). In addition, the vegetated corridor that runs parallel to the western and northern boundaries of the Project site consists of mulefat thickets and southern willow scrub, and has the potential to support nesting birds, including special-status species. If construction (including fuel modification) or grading activities are conducted within 300 ft of the vegetated corridor between February 1 and September 15, the proposed Project may have the potential to impact nesting birds, including special-status species.

Therefore, implementation of the proposed project would be subject to the provisions of the Migratory Bird Treaty Act (MBTA), which prohibits disturbing or destroying active nests. In addition, nests and eggs are protected under Fish and Game Code Section 3503. Project implementation must be accomplished in a manner that avoids impacts to active nests during the breeding season. Therefore, if Project construction (including fuel modification) occurs between February 1 and September 15, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to ground- and/or vegetation-disturbing activities to confirm the absence of nesting birds. As documented in Mitigation Measure B-1, avoidance of impacts can be accomplished through a variety of means, including establishing suitable buffers around any active nests.

With implementation of Mitigation Measure B-1, potentially significant impacts to nesting birds would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measure:

B-1 **Compliance with the Migratory Bird Treaty Act.** In the event that Project construction or grading activities (including fuel modification) should occur between February 1 and September 15, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to commencement of construction activities to confirm the absence of nesting birds. If active nesting of birds is observed within 100 feet (ft) of the designated construction area prior to construction, the biologist shall establish suitable buffers around the active nests (e.g., as much as 500 ft for raptors and 300 ft for non-raptors [subject to the recommendations of the qualified biologist]), and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Prior to commencement of grading activities and issuance of any building permits, the Director of the City of Lake Forest Development Services, or designee, shall verify that all Project grading and construction plans include specific documentation regarding the requirements of the Migratory Bird Treaty Act (MBTA), that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field with orange snow fencing.

<u>In addition, during the Least Bell's vireo (vireo) breeding season (March 15 through August 31), construction noise levels shall be restricted to below 60 dBA Leq at 100 feet from areas occupied by the vireo. Twice weekly surveys for the vireo shall be conducted by the biological monitor in areas of suitable habitat within 500 feet of proposed construction activities to determine the presence of vireo nest building activities, egg incubation activities, or brood rearing activities. If vireo are present, noise monitoring shall be conducted weekly by a qualified noise specialist with at least 10 hours of field noise monitoring training. The instrument used for measuring noise shall meet ANSI S1.4-1983 and ANSI S1.4N-1985 standards for a Type 1 or Type 2 meter and shall have a calibration certificate less than one year old. The noise monitoring shall demonstrate that construction noise levels are less than 60 dBA Leq</u>

at specified monitoring locations, no less than 100 feet from the active nest(s), as determined by the biological monitor. Weekly survey reports shall be prepared during the nesting season and sent electronically to the Carlsbad Fish and Wildlife Office (CFWO) each week that vireo are detected. The biological monitor(s) shall be a trained ornithologist with at least 40 hours of supervised experience locating vireo and mapping their locations in the field. At least 7 days prior to initiation of surveys, the names and resumes of all biologists that will be employed to survey for the vireo shall be submitted to the CFWO in writing. Proposed surveys and construction activities shall not begin until a biological monitor has been approved by the CFWO.

Significance Determination After Mitigation: Less Than Significant Impact.

e) The Project site has been maintained and compacted in its rough-graded condition, leaving the soil and vegetation within it highly disturbed. Under Chapter 6.20.025 of the LFMC, the City requires a permit to prune and/or transport eucalyptus trees on public property from April 1 through October 31. The Project site does not contain any eucalyptus trees and the proposed Project would not prune and/or transport eucalyptus trees on public property. The proposed Project would not conflict with the City's Eucalyptus Tree Ordinance.

The City's General Plan Recreation and Resources Element (2010) includes the following policy related to the protection of biological resources.

> **Policy 2.1:** Conserve and protect important natural plant and animal communities, such as areas supporting rare and endangered species, riparian areas, wildlife movement corridors, wetlands, and significant tree stands through appropriate site planning and grading techniques, re-vegetation and soil management practices, and other resource management techniques.

As discussed in Responses, 4.4.a, 4.4.b, and 4.4.c, the proposed Project would not impact special-status species, riparian areas, wildlife movement corridors, or wetlands. The proposed Project would not result in a significant impact related to local policies or ordinances protecting biological resources, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

f) The City is a participant in the Orange County Central and Coastal Natural Communities Conservation Program/Habitat Conservation Plan (NCCP/HCP). According to the *Biological Technical Report for the Encanto Residential Project* (Glenn Lukos Associates, Inc., April 2015; Appendix B), the Project site is located within the Orange County Central and Coastal NCCP/HCP planning area but outside the boundaries of the NCCP/HCP Reserve System. The Reserve System boundary is located approximately 125 ft northwest of the proposed Project site; however, the Project site is in an area identified in the NCCP/HCP as urbanized and is located in an area designated for development. Development of the proposed Project would

not result in the removal of any sensitive habitat species identified in the Orange County Central and Coastal NCCP/HCP. The proposed Project would not conflict with local ordinances or the adopted HCP, NCCP, or other approved local, regional, or State HCP. Therefore, the proposed Project would result in a less than significant impact related to local ordinances and the adopted NCCP/HCP, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

4.5 CULTURAL RESOURCES

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐
(e)	Affect a tribal cultural resource?	☐	☒	☐	☐

Impact Analysis:

a) CEQA defines a "historical resource" as a resource that meets one or more of the following criteria: (1) is listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register); (2) is listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k); (3) is identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) is determined to be a historical resource by a project's Lead Agency (PRC Section 21084.1 and *State CEQA Guidelines* Section 15064.5(a)). Implementation of the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the *State CEQA Guidelines.* The archival research conducted for the *Cultural and Paleontology Resources Inventory Report* (ICF International, August 2015; Appendix C) determined that the buildings, structures, roads, and infrastructure in the Project area are less than 50 years old. In addition, there are no structures on the Project site that are eligible for listing in the California Register, listed in a local register of historic places, or identified as or determined to be a historic resource by the City. Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

b) A record search (Appendix C) encompassing a 0.5 mi radius around the Project site was conducted at the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton. The search included a review of all recorded archaeological sites and a review of cultural resources reports on file. The California Historical Resources Information System (CHRIS), National Register of Historic Places (National Register), California Register, California Historic Resources Inventory (HRI), California Historical Landmarks (CHL), and local historical maps were also reviewed. The findings of the record search indicated that a total of 25 cultural resource studies have been conducted in, or within a 0.5 mi radius of, the Project site. Of these cultural resource studies, eight included a survey within the Project site. The eight surveys within the Project site observed no prehistoric or

historic archaeological resources or isolated artifacts. Therefore, no cultural resources have been previously recorded within the boundaries of the Project site.

The remaining 17 studies conducted within the 0.5 mi buffer area concluded that there was a potential for cultural resources. According to the *Cultural and Paleontology Resources Inventory Report*, there are 13 prehistoric cultural resources recorded within a 0.5 mi radius of the Project site. However, no archaeological resources in the record search area are listed on the Archaeological Determination of Eligibility (DOE) list.

According to the *Cultural and Paleontology Resources Inventory Report*, the likelihood of encountering archaeological resources in the Project site is considered low because the Project site has been extensively altered by previous ground disturbance. The entire Project area was previously mass graded, which uncovered some areas of previously placed undocumented fill. The undocumented fill soil, unsaturated alluvium, and unconsolidated soils were then removed to expose bedrock or saturated alluvium. Depths of fill across the parcel range from 2 ft near the south corner of the parcel to 60 ft in the north and west portions of the parcel. The conceptual grading plan for the proposed Project (Appendix L of this IS/MND), proposes completed elevations ranging from 590 to 592 ft above mean sea level (amsl). The only portion of the Project area where native soils may be uncovered is in the southwest corner of the cut area of the site, where approximately 2 ft of fill (between elevations of 590 and 592 ft) was previously placed. Native soils are expected to exist at and below 590 ft amsl in this area. Additionally, trenches for infrastructure work are expected to reach a maximum of 10 ft in depth in the southwest portion of the parcel and are expected to disturb native soils in this area. The proposed grades in this area range from 595.0 to 597.2 ft, which means that there is between 5 and 7.2 ft of fill above native soils. Therefore, the majority of the Project area has been cut and filled, and only the southwest portion of the Project area contains native soils that may be disturbed by Project construction activities. There is a potential to encounter buried, previously unrecorded cultural resources during Project construction activities that disturb native soils. To mitigate this potential impact to archaeological resources, an archaeological monitor would be required to be present onsite during grubbing, earthmoving, or trenching activities that extend into native soils, and would do spot-check monitoring for grubbing, earthmoving, or trenching activities that extend into non-native soils.

Mitigation Measure C-1 requires that an archaeologist be onsite during all grubbing, earthmoving, and trenching activities and other significant ground-disturbing activities that extend into native soils. Similarly, Mitigation Measure C-1 requires that an archaeologist do spot-check on-site monitoring of non-native soils during all grubbing, earthmoving, and trenching activities and other significant ground-disturbing activities. The professional archaeologist shall be selected from the roll of qualified archaeologists maintained by the County. Specific procedures that may be used to protect these resources are outlined in Mitigation Measure C-1. Mitigation Measure C-1 also requires the presence of a Native American monitor during grubbing, earthmoving, and trenching activities that extend into native soils, as requested during the consultation processes conducted for the Project. Implementation of Mitigation Measure C-1 would reduce any potential impacts to previously undiscovered cultural resources to a less than significant level. Therefore, with

implementation of Mitigation Measure C-1, potential impacts related to unknown buried archaeological resources would be reduced below a level of significance.

Significance Determination: Potentially Significant Impact.

Mitigation Measure:

C-1 **Archeological Resource Mitigation Procedures.** Prior to issuance of grading permits, the Applicant shall submit a grading plan set prepared by the engineer of record for review and approval by the City Engineer and Director of Development Services. The grading plan set shall include an exhibit with cross-sections that maps the depths of native soils for the entire Project site and identifies areas of the site where grading and/or other ground disturbance has the potential to disturb native soils.

a. **Grading Native Soils.** Prior to the issuance of the first preliminary or precise grading permit, a qualified archaeologist and Native American monitor shall be retained by the Applicant for that grading permit to provide professional archaeologist and Native American monitoring services for any construction activities that may disturb native soils. The archaeologist shall be selected from the roll of qualified archaeologists maintained by the County of Orange (County). The Native American monitor shall be selected by the Applicant. The archaeologist and Native American monitor shall be present at the pre-grading conference to establish procedures for archaeological resource surveillance. Those procedures shall include provisions for temporarily halting or redirecting work to permit sampling, identification, and evaluation of resources deemed by the archaeologist to potentially be historical resources or unique archaeological resources, or by the Native American monitor to be tribal cultural resources under the California Environmental Quality Act (CEQA). These procedures shall be reviewed and approved by the Director of Development Services prior to issuance of the grading permit and prior to any surface disturbance on the Project site. Should any cultural or tribal cultural resources be discovered, no further grading shall occur in the area of the discovery until the Director of Development Services, or designee, is satisfied that the following treatment of the resource has occurred. In the event that a unique archeological resource or tribal cultural resource is discovered, and in accordance with Public Resources Code Section 21083.2(b)(1), (2), and (4), the resource shall be moved and buried in an open space area of the Project site, such as slope areas, which will not be subject to further grading activity, erosion, flooding, or any other ground disturbance that has the potential to expose the resource. The on-site area to which the resource is moved shall be protected in perpetuity as permanent open space. No identification of the resource shall be made on-site; however, the Applicant shall plot the new location of the resource on a map showing latitudinal and longitudinal coordinates and provide that map to the Native American Heritage Commission (NAHC) for inclusion in the Sacred Lands File (SLF). Disposition of the resources shall be at the discretion of the City of Lake Forest, but in accordance with the foregoing.

b. **Grading Non-Native Soils.** Prior to the issuance of the first preliminary or precise grading permit, a qualified archaeologist shall be retained by the Applicant for that grading permit to provide spot-check professional archaeologist monitoring services for any construction activities that may disturb non-native soils. (This archaeologist can be the same person hired under subdivision (a) above.) The spot-check professional archaeologist shall be on-site for a maximum of 2 hours per week during these activities; however, during the first week of grading, the archaeologist shall be on-site for a minimum of 3 hours to perform an overall site walkover. In the event the scope of grading work changes, or in the event of a delay in grading caused by discovery of a resource, the number of hours and duration of monitoring outlined previously shall be adjusted accordingly. In the event a unique archeological resource or tribal cultural resource is discovered, and in accordance with PRC Section 21083.2(b)(1), (2), and (4), the resource shall be moved and buried in an open space area of the Project site, such as slope areas, which will not be subject to further grading activity, erosion, flooding, or any other ground disturbance that has the potential to expose the resource. The on-site area to which the resource is moved shall be protected in perpetuity as permanent open space. No identification of the resource shall be made on-site; however, the Applicant shall plot the new location of the resource on a map showing latitudinal and longitudinal coordinates and provide that map to the NAHC for inclusion in the SLF. Disposition of the resources shall be at the discretion of the City of Lake Forest, but in accordance with the foregoing.

Significance Determination After Mitigation: Less Than Significant Impact.

c) A locality search of the paleontological records maintained at the Natural History Museum of Los Angeles County (LACM) was conducted in October 2014 (Appendix C of this IS/MND). The record search reported that within the lower-lying portions of most of the Project area, the surface sediments are composed of younger Quaternary Alluvium. These types of deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers. However, these types of deposits may be underlain by older sedimentary deposits. The *Cultural and Paleontology Resources Inventory Report* determined that older deposits are exposed in the layers located immediately to the northwest of the Project area. In addition, the elevated terrain in the Project area contains exposures of the marine late Miocene Capistrano Formation.

Although the record search concluded that no fossil vertebrate localities have been identified within the Project site, the *Cultural and Paleontology Resources Inventory Report* identified fossil vertebrate localities nearby from the same sedimentary deposits found in the Project site. The closest identified vertebrate fossil locality from the older Quaternary Alluvium deposits is west-southwest of the Project site on the western side of State Route 133 (SR-133), at the southern end of the interchange with Interstate 405 (I-405). The closest vertebrate fossil localities of the marine late Miocene Capistrano Formation are situated east-northeast of the Project area on the eastern side of the ridge.

Any grading or shallow excavations related to construction of the proposed Project in the lower-lying portions of the Project area are unlikely to uncover significant fossil vertebrate remains. However, any excavations in the Project area that extend down into older sedimentary deposits, as well as any excavations in the exposures of the marine late Miocene Capistrano Formation, have the potential to encounter significant vertebrate fossils. To mitigate this potential impact to paleontological resources, a paleontological monitor would be required to be present onsite during any excavations that extend into older sedimentary deposits, as well as any excavations in the exposures of the marine late Miocene Capistrano Formation. Mitigation Measure C-2 requires that an Orange County Certified Paleontologist be retained and that a Paleontological Resources Impact Mitigation Program (PRIMP) be developed to mitigate adverse impacts to unknown buried paleontological resources that may exist on-site. The PRIMP should follow guidelines developed by the Society for Vertebrate Paleontology (SVP; 1995) and should include, but not be limited to, monitoring of earthmoving activities during any excavation in sediments that are likely to contain paleontological resources, specimen recovery, and screen washing; preparation of any collected specimens to the point of identification; identification and curation of any collected specimens into a museum repository with permanent, retrievable storage; and preparation of a final compliance report that would provide details of monitoring, fossil identification, cataloging, and repository arrangements. Implementation of Mitigation Measure C-2 would ensure that impacts to paleontological resources are reduced below a level of significance.

Significance Determination: Potentially Significant Impact.

Mitigation Measure:

C-2 **Paleontological Resources Impact Mitigation Program.** Prior to the issuance of the first preliminary or precise grading permit, and for any subsequent permit involving excavation into older sedimentary deposits, as well as any excavations in the exposures of the marine late Miocene Capistrano Formation, the Applicant/ Developer shall provide a letter to the Director of the City of Lake Forest Development Services Department, or designee, from a paleontologist. The letter shall state that the Applicant/Developer has retained this individual; that the paleontologist shall monitor ground-disturbing activities in older sedimentary deposits, as well as any excavations in the exposures of the marine late Miocene Capistrano Formation; and that the paleontologist shall provide on-call services in the event resources are discovered at shallower depths. The consultant shall be selected from the roll of qualified paleontologists maintained by the County. The paleontologist shall meet with Development Services staff and shall develop a Paleontological Resources Impact Mitigation Program (PRIMP) in order to mitigate adverse impacts to paleontological resources that may exist on-site in on-site sediments. The PRIMP shall follow guidelines developed by the Society for Vertebrate Paleontology (SVP; 1995) and shall include, but not be limited to, monitoring of earthmoving activities during Project excavation in sediments that are likely to contain paleontological resources, specimen recovery, and screen washing; preparation of any collected specimens to the point of identification; identification and curation of any collected specimens into a museum repository with permanent,

retrievable storage; and preparation of a final compliance report that would provide details of monitoring, fossil identification, cataloging, and repository arrangements.

Significance Determination After Mitigation: Less Than Significant Impact.

d) According to the *Cultural and Paleontology Resources Inventory Report*, no known human remains are present on the Project site, and there are no facts or evidence to support the idea that Native Americans or people of European descent are buried on the Project site. However, as described above, buried and undiscovered archaeological remains, including human remains, may be present below the ground surface. Disturbing human remains could violate the State's Health and Safety Code, as well as destroy the resource. In the unlikely event that human remains are encountered during Project grading, the proper authorities would be notified, and standard procedures for the respectful handling of human remains during the earthmoving activities would be adhered to. Construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097, and Section 7050.5 of the State's Health and Safety Code. To ensure proper treatment of burials, in the event of an unanticipated discovery of a burial, human bone, or suspected human bone, the law requires that all excavation or grading in the vicinity of the find halt immediately, the area of the find be protected, and the Developer immediately notify the County Coroner of the find. The Developer and the County Coroner are required to comply with the provisions of CCR Section 15064.5(e), PRC Section 5097.98, and Section 7050.5 of the State's Health and Safety Code. Compliance with these provisions would ensure that this impact remains less than significant by ensuring appropriate examination, treatment, and protection of human remains as required by State law.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

e) Chapter 532, Statutes of 2014 (i.e., Assembly Bill [AB] 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include "[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register of Historical resources or included in a local register of historical resources." AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a "tribal cultural resource."

Also per AB 52 (specifically PRC 21080.3.1), Native American consultation is required upon request by a California Native American tribe that has previously requested that the City provide it with notice of such projects.

A search of the Sacred Lands File (SLF) was requested for the Project by the Native American Heritage Commission (NAHC) on March 23, 2015. In a response dated April 8, 2015, the NAHC stated that the SLF failed to indicate the presence of Native American cultural resources within the immediate Project area. However, the NAHC provided the

names of nine Native American contacts representing the Gabrielino Tongva and Gabrielino groups who may have information regarding cultural resources that could be impacted by the Project. Letters detailing the Project and requesting information were sent to the Native American contacts on April 15, 2015.[1] Five responses were received either in response to the initial letter or upon follow-up. Because the Project site is located in an area known to have cultural resources, one Native American contact requested Phase 2 archaeological testing, three requested Native American monitoring during ground-disturbing activities, and one requested both Native American and professional archaeological monitoring during ground-disturbing activities. None of the Native American contacts stated that tribal cultural resources were known to exist on the Project site.

In addition to the above, a letter was sent to a Native American tribe, the Soboba Band of Luiseno Indians, requesting consultation for all proposed projects for which the City will serve as the Lead Agency. The Soboba Band requested a formal consultation process with the City. The City and that tribe commenced consultation by meeting to discuss the Project on August 26, 2015. The City and the Soboba Band's representative discussed mitigation measures for tribal cultural resources. The consultation process will conclude when the parties reach agreement on the appropriate recommendations to make to the City Council concerning "tribal cultural resources" and the Project, or when one of the parties, acting in good faith, concludes that mutual agreement cannot be reached. After this, the City may then certify or adopt the appropriate environmental document.

As detailed in Section 4.5(b), there are 13 prehistoric cultural resources recorded within a 0.5 mi radius of the Project site; however, no archaeological resources in the record search area are listed on the Archaeological DOE list and no cultural resources have been previously recorded within the boundaries of the Project site. According to the *Cultural and Paleontology Resources Inventory Report,* the likelihood of encountering archaeological resources in the Project site is considered low because the Project site has been extensively altered by previous ground disturbance.

Mitigation Measure C-1 requires that an archaeologist be onsite during all grubbing, earthmoving, and trenching activities and other significant ground-disturbing activities that extend into native soils. Similarly, Mitigation Measure C-1 requires that an archaeologist do spot-check on-site monitoring of non-native soils during all grubbing, earthmoving, and trenching activities and other significant ground-disturbing activities. The professional archaeologist shall be selected from the roll of qualified archaeologists maintained by the County. Specific procedures that may be used to protect these resources are outlined in Mitigation Measure C-1. Mitigation Measure C-1 also requires the presence of a Native American monitor during grubbing, earthmoving, and trenching activities that extend into native soils, as requested during the consultation processes conducted for the Project. Implementation of Mitigation Measure C-1 would reduce any potential impacts to previously undiscovered cultural resources to a less than significant level. Therefore, on this basis and as a result of the City's consultation with the Soboba, the City has concluded that, with

[1] One individual was contacted via email as that is his stated preference, but all others were contacted via United States Postal Service Certified Mail.

implementation of Mitigation Measure C-1, potential impacts related to unknown buried tribal cultural resources would also be reduced below a level of significance.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure C-1.

Level of Significance After Mitigation: Less than Significant Impact.

4.6 GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐
(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 wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Impact Analysis:

a) i) As with all of Southern California, the Project site is subject to strong ground motion resulting from earthquakes on nearby faults. There are, however, no known active faults crossing the Project site. In addition, the Project site does not lie within the boundaries of an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. Therefore, the proposed Project would not result in impacts related to rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

a) ii) The Project site, like all of Southern California, is located in an active seismic region. Ground shaking resulting from earthquakes associated with both nearby and more distant faults is likely to occur. The nearest fault zone to the Project site is the Newport-Inglewood Fault Zone, which is located approximately 11.6 mi to the west of the Project site. In addition, the Project site is located approximately 3 mi northeast of the San Joaquin Hills blind thrust fault. During the life of this Project, seismic activity associated with active faults in the area may generate moderate to strong shaking at the Project site.

Ground shaking generated by the fault movement is considered a potentially significant impact that may affect the proposed Project. Mitigation Measure G-1 requires the Project Applicant/Developer to comply with the recommendations of the Project *Geotechnical Engineering Documents* (*Geotechnical Documents*) (GeoTek, Inc., June 24, 2015) (included in Appendix D of this IS/MND) and the most current California Building Code (CBC), which stipulates appropriate seismic design provisions that shall be implemented with Project design and construction. With implementation of Mitigation Measure G-1, potential Project impacts related to seismic ground shaking would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

G-1: Incorporation of and Compliance with the Recommendations in the Geotechnical Study. All grading operations and construction shall be conducted in conformance with the recommendations included in the geotechnical documents prepared by GeoTek, Inc. (included in Appendix D of this Initial Study/Mitigated Negative Declaration [IS/MND]). The recommendations are found in Document C: GeoTek Response to City Review Checklist dated May 15, 2015. The specific requirements in the geotechnical documents address or include, but are not limited to, the following:

1. Earthwork, including site preparation for areas to receive engineered fill, grading activities, and temporary excavations;
2. Foundations, including shallow foundation design criteria, post-tensioned slab design recommendations, and foundation setbacks;
3. Retaining and garden wall design and construction criteria, including cantilevered walls and retaining wall backfill and drainage;
4. Soil corrosion;
5. Imported soils;
6. Concrete flatwork, including exterior concrete slabs, sidewalks, driveways, and concrete performance;
7. Pavement design; and
8. Post-construction considerations, including landscape maintenance, and planting and drainage.

Additional site grading, specifications, and foundation plans shall be reviewed by the Project geotechnical consultant prior to construction to check for conformance with the recommendations of this report. The Project geotechnical consultant shall be present during site grading and foundation construction to observe and document proper implementation of the geotechnical recommendations. The Project Applicant/ Developer shall require the Project geotechnical consultant to perform at least the following duties during construction:

a. Observe site clearing and grubbing operations for the proper removal of unsuitable materials.

b. Observe and test the bottom of removals prior to fill placement.

c. Evaluate the suitability of on-site and import materials for fill placement, and collect soil samples from laboratory testing where necessary.

d. Observe the fill for uniformity during placement, including utility trench backfill, and perform field density testing of the fill materials.

e. Observe and probe foundation excavations to confirm the suitability of bearing materials.

Grading plan review shall also be conducted by the City of Lake Forest City Engineer, or designee, prior to the start of grading to verify that requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be performed in accordance with the requirements of the City Building Code and the California Building Code (CBC) applicable at the time of grading, as well as the recommendations of the Project geotechnical consultant as summarized in a final report subject to review by the City Engineer, or designee, prior to the start of grading activities.

Significance Determination After Mitigation: Less Than Significant Impact.

a) iii) Liquefaction commonly occurs when three conditions are present simultaneously: (1) high groundwater; (2) relatively loose, cohesionless (sandy) soil; and (3) earthquake-generated seismic waves. The presence of these conditions may cause a loss of shear strength and, in many cases, ground settlement.

The liquefaction susceptibility of the on-site subsurface soils was evaluated as part of the *Geotechnical Documents* prepared for the proposed Project. According to the *Geotechnical Documents*, the Project site is not located within an area identified as being susceptible to liquefaction on the California Geologic Survey (CGS) Seismic Hazard Zone Map (El Toro Quadrangle). However, due to the presence of alluvial settlements combined with groundwater encountered within 50 ft below the ground surface, there is a potential for liquefaction to occur due to a seismic event. Liquefiable layers are present under the Project site but are relatively thin and discontinuous. As stated in the *Geotechnical Documents,* liquefaction would be negligible below the building pad and a tolerable 1 to 2 inches beneath the toe of the slope area along the northwest portion of the Project site. In addition, according to the Safety and Noise Element of the City's General Plan, the potential for liquefaction from seismic activity is low within the City and its planning area. Therefore, the potential for impacts related to liquefaction is less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

a) iv) Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes in areas with significant ground slopes. According to the *Geotechnical Documents*, the Project site is located within a "zone of required investigation" for landsliding on the CGS Seismic Hazard Zone Map (El Toro Quadrangle). The Project site was evaluated for the potential for earthquake-induced landslide susceptibility of the fill slope along the northwest portion of the Project site in the *Geotechnical Documents*. The Project site and northwestern slope are composed primarily of sandy fill soil and alluvium materials, which are stable under static conditions. However, the potential for a landslide exists due to the weakening of the soil during a seismic event. Based on the evaluation and investigation in the *Geotechnical Documents*, the potential for landsliding to occur from a seismic event is low to very low. Therefore, the potential for impacts related to seismically induced landsliding is less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

b) During construction activities, soil would be exposed and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. The increased erosion potential could result in short-term water quality impacts as identified in Section 4.9, Hydrology and Water Quality. Under the Construction General Permit, the proposed Project would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement construction BMPs detailed in the SWPPP during construction activities. Mitigation Measure WQ-1 requires the preparation of a SWPPP and implementation of construction BMPs to reduce impacts to water quality during construction, including those impacts associated with soil erosion. With incorporation of construction BMPs, impacts related to erosion during construction would be reduced to less than significant levels.

The proposed Project would increase impervious surface area on the Project site by approximately 3.71 ac. An increase in impervious surface area would increase the volume and velocity of runoff from the Project site. The proposed Project would implement LID BMPs, which include one ~~four~~ underground detention ~~infiltration~~ chamber~~s~~ to reduce the volume and velocity of runoff from the Project site, thereby decreasing the potential for soil erosion, as required by Mitigation Measure WQ-2. Mitigation Measure WQ-2 requires the preparation of a final WQMP that specifies LID and Source Control BMPs to be incorporated into the design of the proposed Project to reduce impacts to water quality during operation, including those impacts associated with soil erosion. With incorporation of operational BMPs, impacts related to erosion during construction would be reduced to less than significant levels.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures WQ-1 and WQ-2.

Significance Determination After Mitigation: Less Than Significant Impact.

c) As described in Response 4.6.a.iv above, the Project site and the northwestern slope consist primarily of sandy fill soil and alluvium materials, which are stable under static conditions; however, there is a low to very low potential for landsliding to occur from a seismic event. As also stated above in Response 4.6.a.iii, due to the presence of alluvial settlements combined with groundwater encountered within 50 ft below the ground surface, there is a low to very low potential for liquefaction to occur due to a seismic event. Liquefaction would be negligible below the building pad and a tolerable 1 to 2 inches beneath the toe of the slope area along the northwest portion of the Project site. Although liquefaction of the underlying sandier materials may occur during an earthquake event, settlements and lateral slope movements would be within the acceptable range for the Project slope and planned residential and commercial development of the proposed Project. For these reasons, impacts related to unstable soils would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) Expansive soils contain types of clay minerals that occupy considerably more volume when they are wet or hydrated than when they are dry or dehydrated. Volume changes associated with changes in the moisture content of near-surface expansive soils can cause uplift or heave of the ground when they become wet or, less commonly, cause settlement when they dry out. Based on the laboratory testing in the *Geotechnical Documents*, the soils near the subgrade were classified as having a "very low" expansion potential. However, the design recommendations outlined in the *Geotechnical Documents* and the CBC shall be implemented during Project design and construction, as specified in Mitigation G-1, with regard to potentially expansive soils. With implementation of Mitigation Measure G-1, potential Project impacts related to expansive soils would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure G-1.

Significance Determination After Mitigation: Less Than Significant Impact.

e) The proposed Project does not include construction of or connections to septic tanks or alternative wastewater disposal systems. Therefore, the proposed Project would not result in impacts related to the soil's capability to adequately support the use of septic tanks or alternative wastewater disposal systems, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

4.7 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐

Technical Background:

"Greenhouse gases" (GHGs) (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These GHGs contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include, but are not limited to, CO_2, (CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding GHGs. California's major initiative for reducing GHG emissions is outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006. Major components of AB 32 include:

- Requiring the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requiring immediate "early action" control programs on the most readily controlled GHG sources.
- Mandating that by 2020, California's GHG emissions be reduced to 1990 levels.
- Forcing an overall reduction of GHG gases in California by 25 to 40 percent, from business as usual, to be achieved by 2020.
- Stating that these actions must complement efforts to achieve and maintain federal and State ambient air quality standards and to reduce toxic air contaminants.

To assist public agencies in the mitigation of GHG emissions or analysis of the effects of GHGs under CEQA, including the effects associated with transportation and energy consumption, SB 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop *State CEQA Guidelines* on how to minimize and mitigate a project's GHG emissions. The new CEQA

guidelines became State laws as part of Title 14 of the California Code of Regulations in March, 2010.

The *State CEQA Guidelines* encourage Lead Agencies to consider many factors in conducting a CEQA analysis, but preserve the discretion granted by CEQA to Lead Agencies in making their determinations. Section 15064.4 of the *State CEQA Guidelines* specifies how thresholds of significance for GHG emissions are to be evaluated. *State CEQA Guidelines* Section 15064.4 states:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
> (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
>
> (2) Rely on a qualitative analysis or performance based standards.
>
> (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
>
> (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

State CEQA Guidelines Section 15064(b) provides that, "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

As such, currently neither the CEQA statutes, the OPR guidelines, nor the *State CEQA Guidelines* prescribe specific quantitative thresholds of significance or a particular methodology for performing an impact analysis. As with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency.

On December 5, 2008, the SCAQMD Governing Board adopted an Interim Quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the Lead Agency (e.g., stationary-source permit projects, rules, plans) of 10,000 metric tons (MT) of CO_2 equivalent (CO_2e) per year. In September 2010, the Working Group released revisions that recommended a threshold of 3,500 MT of CO_2e per year for residential projects. This 3,500 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, Project-related GHG emissions in excess of the guideline level (3,500 MT/year) are presumed to trigger a requirement for enhanced GHG reduction at the Project level.

For the purpose of this technical analysis, the concept of CO_2e is used to describe how much global warming a given type and amount of GHG may cause, using the functionally equivalent amount or concentration of CO_2 as the reference. Individual GHGs have varying global warming potentials and atmospheric lifetimes. CO_2e is a consistent methodology for comparing GHG emissions since it normalizes various GHGs to the same metric. The GHG emissions estimates were calculated using CalEEMod (Version 2013.2.2). CalEEMod stands for "California Emissions Estimator Model" and is an air quality modeling program that estimates air pollution emissions in lbs/day or tons per year for various land uses, area sources, construction projects, and project operations. Mitigation measures can also be specified to analyze the effects of mitigation on project emissions.

Impact Analysis:

a) **Construction GHG Emissions.** Construction and operation of the proposed Project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the Project's operation (as opposed to its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent is consumed during construction.[1]

GHG emissions associated with the proposed Project would occur over the short term (approximately less than 2 years) from construction activities and would consist primarily of emissions from equipment exhaust. The estimate presented below includes construction emissions in terms of annual CO_2e GHG emissions from increased energy consumption, water usage, and solid waste disposal, as well as estimated GHG emissions from vehicular traffic that would result from implementation of the proposed Project.
Construction activities produce combustion emissions from various sources, such as site grading, utility engines, heavy-duty construction vehicles on-site, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Appendix A includes *The Air Quality and GHG Impact*

[1] United Nations Environment Programme (UNEP), 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*, Paris, France.

Analyses (Giroux & Associates, April 2015), which includes the CalEEMod calculations for GHG emissions.

The GHG emission estimates presented in Table 4.7.A show the emissions associated with construction of the proposed Project.

Table 4.7.A: Project Construction Greenhouse Gas Emissions

Year	CO_2e Emissions (metric tons/year)
2016	418.6
2017	134.4
Total Annual Emissions	**552.9**
Amortized	**18.4**

Source: *Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015).
CO_2e = carbon dioxide equivalent

The SCAQMD's GHG emissions policy for construction is to amortize emissions over a 30-year time period.[1] Construction of the proposed Project would result in average emissions of 18.4 MT of CO_2e per year over the course of 30 years. The estimated construction emissions would be below the SCAQMD's threshold criteria of 3,500 MT of CO_2e per year. Therefore, Project construction would be considered to have a less than significant impact related to GHG emissions and would not, directly or indirectly, have a significant impact on the environment. Therefore, no mitigation is required.

Notwithstanding the foregoing, the Project would be required to implement construction exhaust control measures consistent with SCAQMD Rules 402 and 403 for other air quality topics discussed above, including minimization of construction equipment idling and implementation of proper engine tuning and exhaust controls. Both of these measures would reduce GHG emissions during the construction period.

Operational GHG Emissions. Long-term operation of the proposed Project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Mobile-source emissions of GHGs would include Project-generated vehicle trips associated with on-site residences. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed Project.

[1] AQMD. GHG Threshold Working Group Meeting No. 13 Minutes from August 26, 2009. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf .

The GHG emission estimates presented in Table 4.7.B show the emissions associated with the level of development at build out. Appendix A includes *The Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015), which includes the CalEEMod calculations for GHG emissions.

Table 4.7.B: Project Operational Greenhouse Gas Emissions

Emission Source	CO_2e Emissions (metric tons/year)
Area Sources[1]	12.2
Energy Consumption	186.5
Mobile Sources	661.8
Solid Waste Generation	27.8
Water Consumption	23.7
Annualized Construction	18.4
Total Annual Emissions	**930.4**
Threshold of Significance	**3,500.0**

Source: *Air Quality and GHG Impact Analyses* (Giroux & Associates, April 2015).
[1] Natural gas hearths
CO_2e = carbon dioxide equivalent

Operation of the proposed Project would result in average emissions of 930.4 MT of CO_2e per year. The estimated operational emissions would be below the SCAQMD's threshold criteria of 3,500 MT of CO_2e per year. Therefore, Project operation would be considered to have a less than significant impact related to GHG emissions and would not, directly or indirectly, have a significant impact on the environment. No mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

b) The City currently does not have an adopted climate action plan to reduce GHG emissions within its jurisdictional boundaries, and no other regional GHG reduction plans have been adopted. The City has an adopted *CEQA Significance Thresholds Guide* (March 2009) but does not currently have any plans, policies, regulations, or laws addressing climate change. Absent an adopted climate action plan, the City's General Plan goals and policies related to climate change were used to respond to this threshold. The City's General Plan contains a few policies that are directed at managing the GHG emissions from projects located in the City. A discussion of these policies is provided below in Table 4.7.C. As shown in this table, the proposed Project is consistent with the applicable policies in the City's General Plan, and no mitigation is required.

Table 4.7.C: Project Consistency with General Plan Policies Related to Greenhouse Gas Emissions

General Plan Policy Summary	Project Consistency
Housing Element	
Policy 1.6: Encourage the development of new housing units in close proximity to public transportation and community services.	**Consistent.** The Project site is located approximately 0.3 mi from two OCTA bus routes (Route 206-Intracounty Express route, and Route 408-Stationlink route). Parks, emergency services, and other community services are located within a 2 mi radius of the Project site. In addition, the proposed Project includes the development of a private neighborhood park. Therefore, the proposed Project is considered consistent with the General Plan, Housing Element Policy 1.6.
Recreation and Resources Element	
Policy 7.7: Promote energy conservation and recycling by the public and private sector in Lake Forest.	**Consistent.** As described in Section 2.0, Project Description, the proposed Project would be consistent with California's Title 24 energy efficiency code and would incorporate sustainability features intended to result in energy conservation. For example, the proposed Project would reduce operational emissions associated with energy consumption by installing Energy Star dishwashers and utilizing high-efficiency HVAC systems. Therefore, the proposed Project is considered consistent with the General Plan, Recreation and Resources Element Policy 7.7.

AQMP = Air Quality Management Plan
City = City of Lake Forest
ft = foot/feet
HVAC = heating, ventilation, and air conditioning
mi = mile/miles
OCTA = Orange County Transportation Authority

While the SCAQMD does not have an adopted threshold for assessing the significance of GHG emissions, the draft screening value for residential use is 3,500 MT of CO_2e per year. As discussed in Threshold 4.7.a, the proposed Project would result in operational and amortized construction GHG emissions that are significantly below the suggested 3,500 MT of CO_2e per year metric. As a result, the proposed Project is consistent with SCAQMD's adopted plans and policies, which were determined by SCAQMD to be consistent with California's State-level plans, policies, and regulations related to GHG. Therefore, the proposed Project is also consistent with State-level plans, based on its consistency with the 3,500 MT of CO_2e per year threshold, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 reasonable 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 which is included on a list of hazardous materials sites complied 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?	☐	☐	☐	☒
(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?	☐	☐	☒	☐

Impact Analysis:

a) Hazardous materials are chemicals that could potentially cause harm during an accidental release or mishap, and are defined as being toxic, corrosive, flammable, reactive, an irritant, or strong sensitizer. Hazardous substances include all chemicals regulated under the United States Department of Transportation "hazardous materials" regulations and the United States Environmental Protection Agency (EPA) "hazardous waste" regulations. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. The probable frequency and severity of consequences from the routine transport, use, or disposal of hazardous materials is affected by the type of substance, the quantity used or managed, and the nature of the activities and operations.

Construction activities associated with the proposed Project would use a limited amount of hazardous and flammable substances/oils during heavy equipment operation for site grading and construction. The amount of hazardous chemicals present during construction is limited and would be in compliance with existing government regulations. The potential for the release of hazardous materials during Project construction is low, and even if a release would

occur, it would not result in a significant hazard to the public, surrounding land uses, or environment due to the small quantities of these materials associated with construction vehicles. Therefore, no mitigation is required.

The Project proposes to construct 52 single-family residential homes. Residential uses typically do not present a hazard associated with the accidental release of hazardous substances into the environment because residents are not anticipated to use, store, dispose, or transport large volumes of hazardous materials. Hazardous substances associated with residential uses are typically limited in both amount and use such that they can be contained without impacting the environment. Project operation would involve the use of potentially hazardous materials (e.g., solvents, cleaning agents, paints, fertilizers, pesticides) typical of residential uses that, when used correctly and in compliance with existing laws and regulations, would not result in a significant hazard to residents or workers in the vicinity of the proposed Project.

The Orange County Fire Authority (OCFA) is the administering agency for the chemical inventory and business emergency plan regulations for the City. The OCFA's disclosure activities are coordinated with the Orange County Health Care Agency (HCA). The HCA is the Certified Unified Program Agency (CUPA) for local implementation of the disclosure program and several other hazardous materials and hazardous waste programs. The OCFA's Hazardous Materials Services Section (HMSS) is staffed with technical and administrative personnel who are assigned implementation and management of the disclosure program. All facilities are encouraged to work closely with the OCFA in order to eliminate any unnecessary efforts or costs in complying with the disclosure program. The Orange County Waste and Recycling Department manages four hazardous material and hazardous waste collection centers designed to prevent damage to the environment and reduce the risk of accidental poisoning by removing household hazardous materials and medicines from the home. Because these resources are available to anyone in Orange County, it is reasonable to conclude that the residences would utilize such programs to properly dispose of household hazardous waste. Therefore, impacts associated with the disposal of hazardous materials and/or the potential release of hazardous materials that could occur with the implementation of the proposed Project are considered less than significant, and no mitigation is required.

No manufacturing, industrial, or other uses utilizing large amounts of hazardous materials would occur within the Project site. Typical use of household hazardous materials (e.g., pesticides, fertilizer, solvents, cleaning products, and paints) would not generally result in the transport, disposal, or release of hazardous materials of an amount that would create a significant hazard to the public or environment. Impacts are considered less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

b) Refer to the discussion under Threshold 2.8.a. The proposed Project would result in a less than significant impact associated with hazards to the public or the environment through a

reasonably foreseeable upset or accident condition related to the release of hazardous materials during construction and operation.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

c) The proposed residential Project would not produce hazardous emissions or handle acutely hazardous materials, substances, or waste. The Project site is not located within 0.25 mi of an existing or proposed school. Therefore, no impacts related to hazardous emissions or the handling of hazardous materials, substances, or waste within 0.25 mi of an existing or proposed school would occur, and no mitigation is required.[1]

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

d) A *Phase 1 Environmental Site Assessment* (GeoTek, Inc., March 2014; Appendix E) was prepared for the proposed Project. The Project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

e) The proposed Project is not located within an airport land use plan or within 2 mi of a public airport or public use airport. The nearest public use airport is John Wayne Airport, located in the City of Santa Ana, approximately 12 mi west of the Project site. As a result, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts are anticipated, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

f) The proposed Project is not located in the vicinity of a private airstrip. As a result, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts are anticipated, and no mitigation is required.

[1] According to the Saddleback Unified School District website, the closest school is Foothill Ranch Elementary School, which is located approximately 2.7 mi northeast of the Project site.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

g) The proposed Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. The Project would be developed in accordance with the City emergency access standards.

The City provides emergency services through a contract with the OCFA. Emergency response services include fire protection and suppression, inspection services, paramedic emergency medical aid, hazardous materials protection and response, and a variety of public services. The OCFA has a comprehensive Emergency Command Center, which includes the necessary elements to respond quickly and effectively to all types of emergencies and disasters. The OCFA has also adopted and implements the *Orange County Fire Authority Strategic Plan 2010-2015,* which outlines guiding principles, strategic goals, and objectives to enhance public safety and meet the needs of its member agencies through education, prevention, and emergency response. The *Strategic Plan* establishes the emergency organization, tasks, and general procedures, and provides for coordination of planning efforts of the various emergency staff and resources.

The proposed Project consists of residential uses and would not impair or physically interfere with an adopted emergency response plan. Roads that are used as response corridors/evacuation routes usually follow the most direct path to or from various parts of the community. For the Project site, the main corridors would be Alton Parkway, Bake Parkway, Commercentre Drive, and SR-241. Access to and from the Project site would be from Commercentre Drive on the east side of the Project site.

During short-term construction activities, the proposed Project is not anticipated to result in any substantial traffic queuing along Commercentre Drive and would not allow any construction vehicles or equipment to park or remain stationary within the roadway. The Project does not include any characteristics (e.g., permanent road closures, long-term blocking of road access) that would physically impair or otherwise interfere with emergency response or evacuation in the Project vicinity. All large construction vehicles entering and exiting the site would be guided by the use of personnel using signs and flags to direct traffic. It is not anticipated that construction of the proposed Project would impede any pass-through emergency vehicles or impair any emergency evacuation plans. Therefore, impacts to emergency response and evacuation plans associated with construction of the proposed Project would be less than significant, and no mitigation is required.

During the operational phase of the proposed Project, onsite access would be required to comply with standards established by the City and OCFA. The size and location of fire suppression facilities (e.g., hydrants) and fire access routes would be required to conform to OCFA standards. As discussed in Section 2, the proposed Project includes eight new fire hydrants along the private road, as well as sufficient space per OCFA's requirements for the turning radius of fire trucks. As required of all development in the City, the operation of the residential portion of the proposed Project would conform to applicable Uniform Fire Code

standards. In addition, emergency vehicles would be able to enter and exit the Project site via the one gated-access driveway off Commercentre Drive. The gate control would be operable by a Knox emergency override key switch. In addition, a remote gate-opening device would be installed on the electronically operated gate. The remote opening systems currently available from OCFA are either optical or radio-controlled. Optical systems work the same as the traffic signal preemption system by using the emergency vehicle's strobe light to open the gate. A radio-controlled system would open the gate when the emergency responder clicks the receiver on an 800 MHz radio. Therefore, implementation of the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

h) The Project site is not located in a VHFHSZ, as adopted by the City of Lake Forest. However, the open space adjacent to the west and north of the Project site is considered a VHFHSZ. The project's OCFA-approved fuel modification plan employs three fuel modification zones. Fuel modification zones are landscaping areas in which existing combustible vegetation is removed from strips of land and replaced with spaced and irrigated fire-resistant plants and further adjoining strips of land in which vegetation is partially removed. The zones provide an integral level of protection for structures from wildfires by slowing the speed and reducing the intensity of the fire.[1]

As shown on Figure 2.7, the three fuel modification zones include Zone A, Zone B, and a special maintenance area. It should be noted that Zone A and the special maintenance area are included in the Project site boundary, but Zone B is outside the Project site boundary. Zone A would be located on the flat area behind the residential units on the west side of the Project site and would include non-combustible construction. Each individual private homeowner would be responsible for maintaining Zone A. The special maintenance area would be located on the landscaped areas fronting Alton Parkway, Commercentre Drive, and the south side of the Project site, and would include maintenance requirements to reduce the chance of ignition from wildfires. Refer to Figure 2.6 for more detailed information regarding the conceptual landscape plan. The HOA would inspect the special maintenance area twice per year to ensure that the special maintenance areas retain their original design. Zone B (wet zone) would be located outside the Project site boundary, on the existing manufactured landscape slope on the west side of the Project site, and would include the removal of 100 percent of native shrubs. The HOA would be responsible for maintaining Zone B, although the land would remain under the ownership of the Pacific Commercentre Association. The duty to perform fire prevention maintenance for all fuel modification zones will be an express obligation in the recorded CC&Rs for the development.

[1] OCFA. Vegetation Management Guidelines (January 2014), http://www.ocfa.org/_uploads/pdf/guidec05.pdf, accessed March 18, 2015.

With implementation of the fuel modification plan, the proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Impacts related to wildland fires would be less than significant, and no mitigation measures are required.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

4.9 HYDROLOGY AND WATER QUALITY

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 a 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 above pre-development condition 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 storm water drainage systems?	☐	☐	☒	☐
(f)	Substantially degrade groundwater quality?	☐	☐	☒	☐
(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)	Cause inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
(k)	Cause a significant alteration of receiving water quality during or following construction?	☐	☒	☐	☐
(l)	Deposit sediment and debris materials within existing channels obstructing flows?	☐	☒	☐	☐
(m)	Exceed the capacity of a channel and cause overflow during design storm conditions?	☐	☐	☒	☐
(n)	Adversely change the rate, direction, or flow of groundwater	☐	☐	☒	☐
(o)	Have an impact on groundwater that is inconsistent with a groundwater management plan prepared by the water agencies with the responsibility for groundwater management	☐	☐	☐	☒
(p)	Create or contribute runoff water which would generate substantial additional sources of polluted runoff?	☐	☒	☐	☐
(q)	Substantially degrade water quality by discharge which affects the beneficial uses (i.e. swimming, fishing, etc.) of the receiving or downstream waters?	☐	☒	☐	☐
(r)	Increase in any pollutant for which the receiving water body is already impaired as listed on the Clean Water Act Section 303(d) list?	☐	☒	☐	☐

Impact Analysis:

a) Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into receiving waters.

During construction, the total disturbed soil area would be approximately 5.75 ac. Because construction of the proposed Project would disturb greater than 1 ac of soil, the Project is subject to the requirements of the SWRCB's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit).

As specified in Mitigation Measure WQ-1, coverage under the Construction General Permit would have to be obtained for the proposed Project. Under the Construction General Permit, the Project would be required to prepare a SWPPP and implement construction BMPs detailed in the SWPPP during construction activities. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on-site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

During operation, expected pollutants associated with the proposed development include suspended solids/sediments, nutrients, heavy metals, pathogens (bacteria/viruses), pesticides, oil and grease, toxic organic compounds, and trash and debris. In the existing condition, the Project site consists entirely of pervious surfaces. The proposed Project would add 3.71 ac of impervious surface to the Project site.

A *Preliminary Water Quality Management Plan* (PWQMP) (Appendix F) has been prepared for the proposed Project that details Source Control and LID BMPs that would be implemented to reduce impacts to water quality during operation of the proposed Project. Proposed LID BMPs include two Modular Wetlands Model MWS-C-8-16 biofiltration boxes (or equivalent) and one Contech 72" Corrugated Metal Pipe (CMP) underground detention chamber (or equivalent). ~~four underground infiltration chambers (StormTech MC-3500 Underground Infiltration Chambers).~~ Proposed non-structural Source Control BMPs include education for property owners, tenants, and occupants; activity restrictions; common area landscape management; BMP maintenance; common area litter control; employee training; common area catch basin inspection; and street sweeping. Proposed structural Source Control BMPs include storm drain stenciling and signage, efficient irrigation systems and landscape design, water conservation, smart controllers, and hillside landscaping.

An HOA would be responsible for inspection and maintenance of all BMPs. As specified in Mitigation Measure WQ-3, the HOA would verify BMP implementation and ongoing maintenance through inspection, self-certification, survey, or other effective measures. As specified in Mitigation Measure WQ-4, should the maintenance responsibility be transferred (for example, to a different HOA), a formal notice of transfer would be provided to the City.

With incorporation of construction and post-construction BMPs that would target pollutants of concern, as specified in Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4, the proposed Project would not violate any water quality standards or Waste Discharge Requirements (WDRs). Therefore, with implementation of Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4, impacts related to WDRs and water quality standards would be less than significant.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

WQ-1: **Construction General Permit.** Prior to issuance of a grading permit, the Project Applicant shall obtain coverage under the State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, NPDES No. CAS000002) (Construction General Permit). The Project Applicant shall provide the Waste Discharge Identification Number (WDID) to the City of Lake Forest (City) to demonstrate proof of coverage under the Construction General Permit. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction Best Management Practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities.

WQ-2: **Final Water Quality Management Plan.** Prior to the issuance of any grading or building permits, the Project Applicant shall prepare a Final Water Quality Management Plan (WQMP). The Final WQMP shall be prepared consistent with the Orange County Municipal Separate Storm Sewer System (MS4) Permit, Drainage Area Management Plan, Model WQMP, and Technical Guidance Document. The Final WQMP shall specify BMPs to be incorporated into the design of the Project. The Project Applicant shall provide the Final WQMP to the City for review and approval.

WQ-3: **Best Management Practices.** During operation, the Homeowner's Association (HOA) shall verify BMP implementation and maintenance through inspection, self-certification, survey, or other equally effective measure. The certification shall verify, at a minimum, the inspection and maintenance of all structural BMPs, including inspection and required maintenance in the late summer/early fall (prior to the start of the rainy season). The HOA shall retain, and make available to the City

upon request, operations, inspections, and maintenance records of the BMPs for at least 5 years after the recorded inspection date. In addition, the HOA shall ensure that long-term funding for BMP maintenance is available.

WQ-4: Transfer of Responsibility for Best Management Practices. Prior to recordation of the Final Covenants, Conditions, and Restrictions (CC&Rs) for the development, the City Director of Development Services, or designee, shall confirm that the duty to operate and perform maintenance on BMPs on the property is stated as an express obligation of the homeowner's association (HOA) in the document. The CC&Rs shall further state that the HOA's Board of Directors shall submit a formal notice of transfer to the City at any time responsibility for operation and maintenance of the BMPs is transferred (e.g., from Meritage Homes Corporation to the HOA).

Significance Determination After Mitigation: Less Than Significant Impact.

b) The Project site is not in a designated groundwater recharge area. Due to the depth to groundwater (approximately 30 feet below the ground surface [bgs]), groundwater is not anticipated to be encountered during construction; therefore, groundwater dewatering during construction would not be required. The proposed Project would increase impervious surface areas on-site, which would decrease infiltration. However, this decrease in infiltration would be minimal because, in the existing condition, on-site soils have limited infiltration capacity ~~substantially offset by implementation of the underground chambers~~. In addition, operation of the proposed Project would not require groundwater extraction. Therefore, impacts related to depletion of groundwater supplies or interference with groundwater recharge would be less than significant and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

Significance Determination After Mitigation: Less Than Significant Impact.

c) During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As discussed above in Response 2.9.a and specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed Project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. With implementation of the construction BMPs as specified in Mitigation Measure WQ-1, construction impacts related to on- or off-site erosion or siltation would be less than significant.

According to the *Hydrology and Hydraulics Report* (Appendix F) prepared for the Project, the proposed development consists of a substantial amount of grading, which would alter the flow paths of runoff on the Project site. Figure 4.9.1 depicts the existing onsite drainage patterns. Runoff from Node 100 flows along the existing concrete slab at the eastern portion of the site until it reaches Node 101 and then flows through natural ditches to Node 103. Runoff from Node 102, at the center of the sloped area, is conveyed westerly to Node 103. Node 103 represents a discharge location to the new ~~existing~~ onsite 24-inch storm drain pipe, which conveys flow to the existing off-site 60-inch reinforced concrete storm drain pipe located in Alton Parkway (Node 425).

Figure 4.9.2 depicts the proposed onsite drainage patterns. Runoff from Node 100 (located between residential units 26 and 27 in the lower western portion of the proposed development) would flow northerly via curb and gutter to Node 101. Runoff from Node 102 (located near residential unit 27 in the lower western portion of the proposed development) would flow easterly to Node 103 via curb and gutter. Runoff from Node 101 would be conveyed via an underground storm drain pipe to Node 104, a proposed curb inlet located near units 9 and 49. Runoff from approximately 3.1 ac of the Project site would drain to Node 104. Runoff from Node 104 would continue easterly to Node 105 within the proposed 24-inch underground storm drain pipe. Runoff from Node 103 would also be conveyed to Node 105 via surface flow along the proposed street. Runoff from approximately 2.6 ac of the Project site would drain to Node 105 from Node 103. Runoff from Node 105 would be conveyed easterly within the proposed 24-inch underground storm drain pipe to Node 421.4, where it is discharged off-site to the existing storm drain in Commercentre Drive.

In the existing condition, the entire Project site consists of pervious surface areas, which are prone to erosion and siltation. In the proposed condition, 3.71 ac of the site would be impervious surface areas and not prone to erosion or siltation. The remaining portion of the site would primarily be landscaping, which would minimize erosion and siltation. The Project would develop a mostly vacant site with impervious surface areas and landscaping, which would decrease on-site erosion and siltation compared to existing conditions.

As shown in Tables 4.9.A and 4.9.B, the increase in impervious surface areas resulting from the proposed Project would increase storm water runoff from the Project site during the 2-year, 10-year, 25-year, and 100-year storm events. Runoff from a 2-year storm event would be captured and detained ~~infiltrated~~, while all runoff above the 2-year event would bypass the underground chamber~~s~~ and discharge directly to the existing storm drain line that travels northwest on Commercentre Drive. The underground detention ~~infiltration~~ chambers would ~~substantially~~ reduce the peak flow rate so that it does not exceed existing conditions. Because the Project would not increase offsite runoff and the downstream storm drains are concrete-lined, the proposed Project would not contribute to downstream erosion or siltation. Finally, the proposed Project would not alter the course of a stream or river. As such, operational impacts related to on-site or offsite erosion or siltation would be less than significant. Therefore, with implementation of Mitigation Measure WQ-1, construction and operational impacts related to alteration of the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on or offsite would be reduced to a less than significant level.

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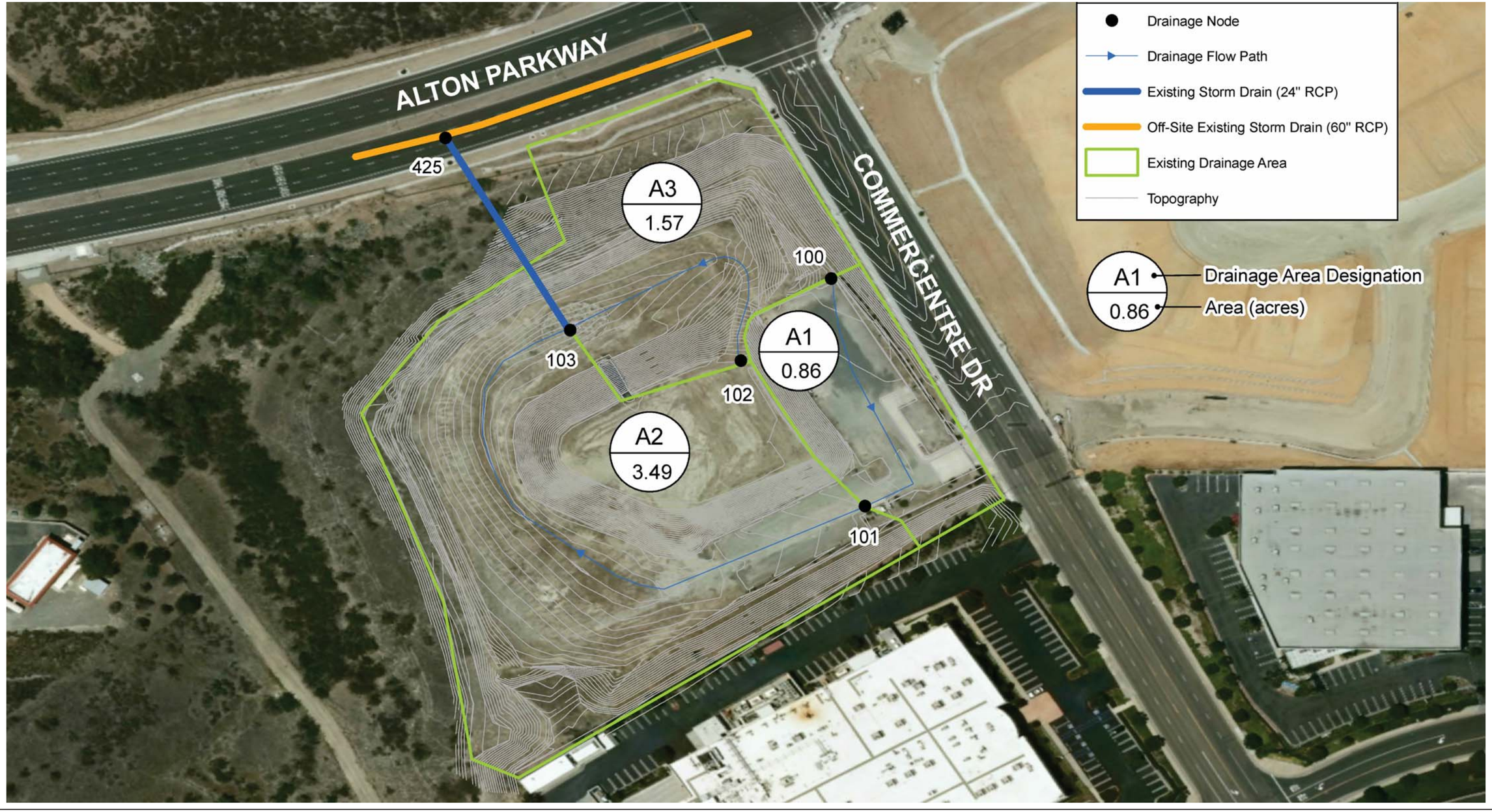

LSA

FIGURE 4.9.1

N

0 50 100
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SOURCE: RBF

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Encanto Residential Project

Existing On-Site Drainage

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LSA

FIGURE 4.9.2

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SOURCE: RBF

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Encanto Residential Project

Proposed On-Site Drainage

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Table 4.9.A: Existing Storm Water Runoff Flow Rate (cfs)

	2-Year Storm Event	10-Year Storm Event	25-Year Storm Event	100-Year Storm Event
Node 103	4.09	8.80	11.00	14.63
Node 421.4	63.98	118.86	143.44	185.81
Node 425	281.18	341.58	413.39	538.13

cfs = cubic feet per second

Table 4.9.B: Proposed Storm Water Runoff Flow Rate (cfs)

	2-Year Storm Event	10-Year Storm Event	25-Year Storm Event	100-Year Storm Event
Node 105	6.99	13.06	15.75	20.34
Node 421.4	70.66	131.34	158.55	205.52
Node 425	281.81	343.07	415.09	540.22

cfs = cubic feet per second

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure WQ-1 above.

Significance Determination After Mitigation: Less Than Significant Impact.

d) As discussed above in Response 2.9.c, the proposed Project would alter the existing onsite drainage patterns and result in an increase in impervious surface area compared to existing conditions. As discussed above, the proposed Project would result in an increase in flow rate of runoff for the 2-year, 10-year, 25-year, and 100-year storm events. However, the additional runoff would be captured and detained ~~infiltrated~~, which would ~~substantially~~ reduce the peak flow rate so that it does not exceed existing conditions. Therefore, the Project would not exceed the capacity of the downstream storm drain lines or result in offsite flooding. In addition, the BMPs and onsite storm drain facilities would be sized to accommodate storm water runoff from the Project site so that on-site flooding would not occur. Therefore, impacts related to alteration of the existing drainage patterns in a manner that would substantially increase the rate or amount of surface runoff or result in flooding on or offsite would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

e) As discussed above in Response 2.9.c, the proposed Project would increase the impervious surface area compared to existing conditions. In addition, the Project would result in an increase in the flow rate of runoff for the 2-year, 10-year, 25-year, and 100-year storm events. However, the additional runoff would be captured and detained ~~infiltrated~~, which would ~~substantially~~ reduce the peak flow rate so that it does not exceed existing conditions. Therefore, the Project would not exceed the capacity of the downstream storm drain lines. In addition, the onsite storm drain facilities would be sized to accommodate storm water runoff from the Project site. Therefore, impacts related to creation or contribution of runoff water that would exceed the capacity of existing or planned storm water drainage systems would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

f) Runoff from a 2-year storm event would be captured and detained ~~infiltrated~~, while all runoff above the 2-year event would bypass the underground chamber~~s~~ and discharge directly to the existing storm drain line that travels northwest on Commercentre Drive. In addition, as discussed previously onsite soils have limited infiltration capacity. ~~Pollutants in the infiltrated runoff would be filtered out through the soil. Infiltration has a high removal effectiveness for sediment, nutrients, trash, metals, bacteria, oil and grease, and organics.~~ Because onsite infiltration is limited, stormwater runoff would primarily be discharged to the storm drain system and not infiltrated to groundwater. Therefore, ~~pollutants would be filtered out by the soil~~, impacts related to degradation of groundwater quality would be less than significant and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

g) According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the Project site is not located within a 100-year floodplain. The Project site is mapped as Zone X, which is defined as the area determined to be outside the 0.2 percent annual change floodplain (500-year floodplain) (Map No. 06059C0315J; December 3, 2009). Therefore, the Project would not place housing within a 100-year flood hazard area, and no impacts would occur. No mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

h) As discussed in Response 2.9.g above, the Project site is not located within a 100-year flood hazard area. Therefore, the proposed Project would not place structures within a 100-year flood hazard area that would impede or redirect flood flows, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

i) The closest unenclosed water retention facilities to the Project site include Upper Oso Reservoir, Lake Mission Viejo, and Irvine Lake, which are all located more than 2 mi from the Project site. In addition, the Project site is not located within the inundation areas of these reservoirs. Therefore, the proposed Project would not expose people or structures to loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. No mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

Significance Determination After Mitigation: No Impact.

j) Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities such as reservoirs and water tanks. Such waves can cause retention structures to fail and flood downstream properties. There are no water retention facilities that are not enclosed in close proximity to the Project site. The closest unenclosed water retention facilities include Upper Oso Reservoir, Lake Mission Viejo, and Irvine Lake, which are all located more than 2 mi from the Project site. The risk associated with possible seiche waves is, therefore, not considered to be a potentially significant impact of the Project, and no mitigation is necessary.

Tsunamis are generated ocean wave trains generally caused by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rockfalls, and exploding volcanic islands. The proposed Project is located approximately 10 mi from the ocean shoreline and is not in a tsunami inundation area (Tsunami Inundation Map for Emergency Planning, Orange County, March 15, 2009; California Emergency Management Agency, California Geological Survey, and University of Southern California). The risk associated with tsunamis is, therefore, not considered a potential hazard or a potentially significant impact, and no mitigation is required.

Mudslides and slumps are described as a shallower type of slope failure usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. The Project site is relatively flat, and no existing landslides are present on the property. The risk associated with possible mudflows and mudslides is, therefore, not considered a potential constraint or a potentially significant impact of the Project, and no mitigation is necessary.

Significance Determination: No Impact.

Significance Determination After Mitigation: No Impact.

k) As discussed above in Response 2.9.a, construction of the proposed Project has the potential to introduce pollutants to the storm drain system from erosion, siltation, and accidental spills. However, as specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented during construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills. In addition, operation of the Project has the potential to introduce pollutants to the storm drain system from the onsite residential uses. However, as specified in Mitigation Measures WQ-2 through WQ-4, permanent BMPs that target pollutants of concern would be implemented and maintained to detain ~~infiltrate~~ and treat storm water runoff. Mitigation Measures WQ-1 through WQ-4 would prevent substantial impacts to water quality through implementation of construction and post-construction BMPs to target pollutants of concern in runoff from the Project site. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to alteration of receiving water quality during or following construction would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4 above.

Significance Determination After Mitigation: Less Than Significant Impact.

l) As discussed above in Response 2.9.a, construction of the proposed Project has the potential to introduce pollutants to the storm drain system from erosion, siltation, and accidental spills (including debris). However, as specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented during construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills (including debris). In addition, operation of the Project has the potential to introduce pollutants to the storm drain system from the onsite residential uses. However, as specified in Mitigation Measures WQ-2 through WQ-4, permanent BMPs that target pollutants of concern would be implemented and maintained to detain ~~infiltrate~~ and treat storm water runoff. Mitigation Measures WQ-1 through WQ-4 would prevent substantial impacts to water quality through implementation of construction and post-construction BMPs to target pollutants of concern in runoff from the Project site, including sediment and debris. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to deposition of sediment and debris materials within existing downstream channels resulting in obstructed flows would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4 above.

Significance Determination After Mitigation: Less Than Significant Impact.

m) As discussed above in Response 2.9.c, the proposed Project would increase the impervious surface area compared to existing conditions. In addition, the Project would result in an increase in flow rate of runoff for the 2-year, 10-year, 25-year, and 100-year storm events. However, according to the PWQMP, the additional runoff would be captured and detained ~~infiltrated~~, which would ~~substantially~~ reduce the peak flow rate so that it does not exceed existing conditions. Therefore, runoff from the Project would not exceed the capacity of the downstream storm drain lines. In addition, the onsite storm drain facilities would be sized to accommodate storm water runoff from the Project site. Therefore, impacts related to exceedance of the capacity of a channel (or storm drain) or channel overflow during design storm conditions would be less than significant and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation required.

n) As discussed above in Response 2.9.b, groundwater is not anticipated to be encountered during construction; therefore, groundwater dewatering during construction would not be required. The proposed Project would increase impervious surface areas onsite, which would decrease infiltration. However, this decrease in infiltration would be minimal because, in the existing condition, on-site soils have limited infiltration capacity ~~substantially offset by implementation of the underground infiltration chambers~~. In addition, operation of the proposed Project would not require groundwater extraction. Therefore, impacts related to change the rate, direction, or flow of groundwater would be less than significant and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation required.

o) As discussed in Response 2.9.b, groundwater is not anticipated to be encountered during construction; therefore, groundwater dewatering during construction would not be required. The proposed Project would increase impervious surface areas on the site, which would decrease infiltration. However, this decrease in infiltration would be minimal because, in the existing condition, on-site soils have limited infiltration capacity ~~substantially offset by implementation of the underground infiltration chambers~~. In addition, operation of the proposed Project would not require groundwater extraction. Therefore, the proposed Project would not result in groundwater extraction during construction or operation and would therefore not be inconsistent with any groundwater management plans.

Significance Determination: No impact.

Mitigation Measures: No mitigation is required.

p) As discussed above in Response 2.9.a, construction of the proposed Project has the potential to introduce pollutants to the storm drain system from erosion, siltation, and accidental spills. However, as specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented during construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills. In addition, operation of the Project has the potential to introduce pollutants to the storm drain system from the on-site residential uses. However, as specified in Mitigation Measures WQ-2 through WQ-4, permanent BMPs that target pollutants of concern would be implemented and maintained to detain ~~infiltrate~~ and treat storm water runoff. In addition, with implementation of the underground detention ~~infiltration~~ chamber~~s~~, the flow rate of runoff from the Project site would not exceed existing conditions. Mitigation Measures WQ-1 through WQ-4 would prevent substantial impacts to water quality through implementation of construction and post-construction BMPs to target pollutants of concern in runoff from the Project site. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to creation or contribution of runoff water, which would generate substantial additional sources of polluted runoff, would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4 above.

Significance Determination After Mitigation: Less Than Significant Impact.

q) Beneficial uses of receiving waters for the Project site are listed in Table 4.9.C. As discussed above in Response 2.9.a, construction of the proposed Project has the potential to introduce pollutants to the storm drain system from erosion, siltation, and accidental spills. However, as specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented during construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills. In addition, operation of the Project has the potential to introduce pollutants to the storm drain system from the on-site residential uses. However, as specified in Mitigation Measures WQ-2 through WQ-4, permanent BMPs that target pollutants of concern would be implemented and maintained to detain ~~infiltrate~~ and treat storm water runoff. Mitigation Measures WQ-1 through and WQ-4 would prevent substantial impacts to water quality through implementation of construction and post-construction BMPs to target pollutants of concern in runoff from the Project site. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to degradation of water quality by discharge that affects the beneficial uses of the receiving or downstream waters would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4 above.

Significance Determination After Mitigation: Less Than Significant Impact.

Table 4.9.C: Receiving Water Beneficial Uses

	Municipal and Domestic Supply (MUN)	Groundwater Recharge (GWR)	Navigation (NAV)	Water Contact Recreation (REC1)	Non-Contact Water Recreation (REC2)	Commercial and Sportfishing (COMM)	Warm Freshwater Habitat (WARM)	Preservation of Biological Habitats of Special Significance (BIOL)	Wildlife Habitat (WILD)	Rate, Threatened, or Endangered Species (RARE)	Spawning, Reproduction, and Development (SPWN)	Marine Habitat (MAR)	Shellfish Harvesting (SHEL)	Estuarine Habitat (EST)
Borrego Creek	+	I		I	I		I		I					
San Diego Creek Reach 1	+			X[1]	X		X		X					
San Diego Creek Reach 2	+	I		I	I		I		I					
Upper Newport Bay	+			X	X	X	X	X	X	X	X	X	X	X
Lower Newport Bay	+		X	X	X	X				X	X	X	X	

Source: *Water Quality Control Plan – Santa Ana River Basin,* 1995 (updated February 2008).
[1] Access prohibited in all or part by the Orange County Resources Development and Management Division (RDMD)
X = Present or Potential Beneficial Use
I = Intermittent Beneficial Use
+ = Excepted from MUN

r) After entering the storm drain system, runoff from the Project site eventually flows to Borrego Creek, San Diego Creek, Newport Bay, and the Pacific Ocean. According to the 2010 303(d) list of impaired water bodies, Borrego Creek is impaired for ammonia and indicator bacteria. San Diego Creek Reach 1 (below Jeffrey Road) is listed as impaired for fecal coliform, nutrients, pesticides, sedimentation/siltation, selenium, and toxaphene. San Diego Creek Reach 2 (above Jeffrey Road to the Headwaters) is impaired for indicator bacteria, nutrients, sedimentation/siltation, and unknown toxicity. Upper Newport Bay is listed as impaired for chlordane, copper, dichlorodiphenyltrichloroethane (DDT), indicator bacteria, metals, nutrients, polychlorinated biphenyls (PCBs), pesticides, sedimentation/siltation, and sediment toxicity. Lower Newport Bay is impaired for chlordane, copper, DDT, indicator bacteria, nutrients, PCBs, pesticides, and sediment toxicity.

As discussed above in Response 2.9.a, Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4 are required to prevent substantial impacts to water quality through implementation of

construction and post-construction BMPs to target pollutants of concern, including the constituents contributing to the downstream water quality impairments, in runoff from the Project site. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on-site, as well as Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Post-construction BMPs include a combination of LID BMPs and Source Control BMPs to target pollutants of concern during operation of the proposed Project. Proposed LID BMPs include two Modular Wetlands Model MWS-C-8-16 (or equivalent) biofiltration boxes and one Contech 72" CMP (or equivalent) underground detention chamber on the Project site (refer to Figure 2.8). ~~four underground infiltration chambers (StormTech MC-3500 Underground Infiltration Chambers). As discussed in Response 2.9.f, the proposed underground infiltration chambers have a high removal effectiveness for sediment, nutrients, trash, metals, bacteria, oil and grease, and organics.~~ The biofiltration boxes have a high removal effectiveness for total suspended solids and hydrocarbons and moderate removal effectiveness for phosphorus, nitrogen, zinc, and copper. Proposed non-structural Source Control BMPs include education for property owners, tenants, and occupants; activity restrictions; common area landscape management; BMP maintenance; common area litter control; employee training; common area catch basin inspection; and street sweeping. Proposed structural Source Control BMPs include storm drain stenciling and signage; efficient irrigation systems and landscape design, water conservation, smart controllers; and hillside landscaping. In combination, the proposed BMPs would target pollutants of concern in runoff from the Project site, including those contributing to the downstream water quality impairments. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to an increase in pollutants for which the receiving water body is already impaired as listed on the CWA Section 303(d) list would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures WQ-1, WQ-2, WQ-3, and WQ-4 above.

Significance Determination After Mitigation: Less Than Significant Impact.

4.10 LAND USE/PLANNING

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Physically divide an established community?	☐	☐	☐	☒
(b)	Substantially conflict with existing on-site or adjacent land use due to project-related significant unavoidable indirect effects (i.e. noise, aesthetics, etc.) that preclude use of the land as it was intended by the General Plan?	☐	☐	☒	☐
(c)	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, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
(d)	Conflict with the Central and Coastal Natural Communities Conservation Program/Habitat Conservation Plan (NCCP/HCP) of which the City of Lake Forest is a participant?	☐	☐	☒	☐

Impact Analysis:

a) The Project site is surrounded by residential and light industrial uses on the east, light industrial uses on the south, open space protected by a Scenic Preservation Easement on the west, and the Lake Forest/Irvine City limit with open space beyond on the north. The Project site is bound on two sides by roadways (Alton Parkway and Commercentre Drive), and the proposed development would not divide or separate any existing land uses or neighborhoods. Implementation of the proposed Project would not change the existing parcel configuration within the Project site or within the local areas, nor would it change the existing street layout. Vehicular access to the proposed Project would be provided in the southeastern portion of the Project site and would line up with the existing vehicular access to the Baker Ranch Community on the east side of Commercentre Drive. Therefore, implementation of the proposed Project would not result in the physical division of any established community, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

b) The Project site was previously rough graded and is currently undeveloped. Development of the Project would convert urban vacant land to residential uses. Development surrounding the Project site includes residential and light industrial uses on the east, light industrial uses on the south, open space on the west, and the Lake Forest/Irvine City limit with open space beyond on the north. As shown on Figure 4.10.1, the Project site is designated for Light Industrial uses and areas to the southeast and south are designated for Light Industrial uses.

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LSA

FIGURE 4.10.1

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SOURCE: City of Lake Forest

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Encanto Residential Project

General Plan Land Use

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The proposed Project would conflict with the existing Light Industrial General Plan land use designation for the site. The Project proposes to change the General Plan land use designation of the Project site from Light Industrial to Low-Medium-Density Residential (7 to 15 du/ac). The proposed Project would be consistent with the amended General Plan designation.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

c) The main guiding documents guiding development and regulating land uses in the City of Lake Forest are the City's General Plan and Zoning Ordinance. The Project site is designated Light Industrial in the City's General Plan. As shown on Figure 4.10.2, the Project site is zoned Pacific Commercentre Planned Community – High Technology on the City's Zoning Map.

General Plan. The Lake Forest General Plan (2010) is the City's most fundamental planning document. The General Plan is a comprehensive plan intended to guide the physical development of the City and serves as a blueprint for future growth and development. As a blueprint for the future, the plan contains policies and programs designed to provide decision makers with a solid basis for decisions related to land use and development.

As noted above, the proposed Project includes a General Plan Amendment request to modify the land use designation of the Project site from Light Industrial with Business Development Overlay to Low-Medium-Density Residential (7 to 15 du/ac). Low-Medium-Density Residential is the land use designation intended to allow the development of a wide range of living accommodations, including single-family dwelling units and multiple-family dwelling units, such as townhomes, condominiums, and apartments. The Project site currently has no residential units. Following Project implementation, the Project site would have a net density of 10.9 du/ac, which is within the range allowed by the City's General Plan Low-Medium-Density Residential land use designation. The Business Development Overlay applies to areas designated for Commercial, Professional Office, Business Park, and Light Industrial land uses. The General Plan Amendment would remove the Business Development Overlay from the Project site.

Table 4.10.A provides a consistency analysis of the goals and policies from the City's General Plan that are relevant to the proposed Project. In order to eliminate repetitive policies and focus on key issues, policies that are not relevant to the proposed Project are not included in Table 4.10.A. As stated in Table 4.10.A, the proposed Project would be consistent with applicable General Plan policies, and no mitigation is required.

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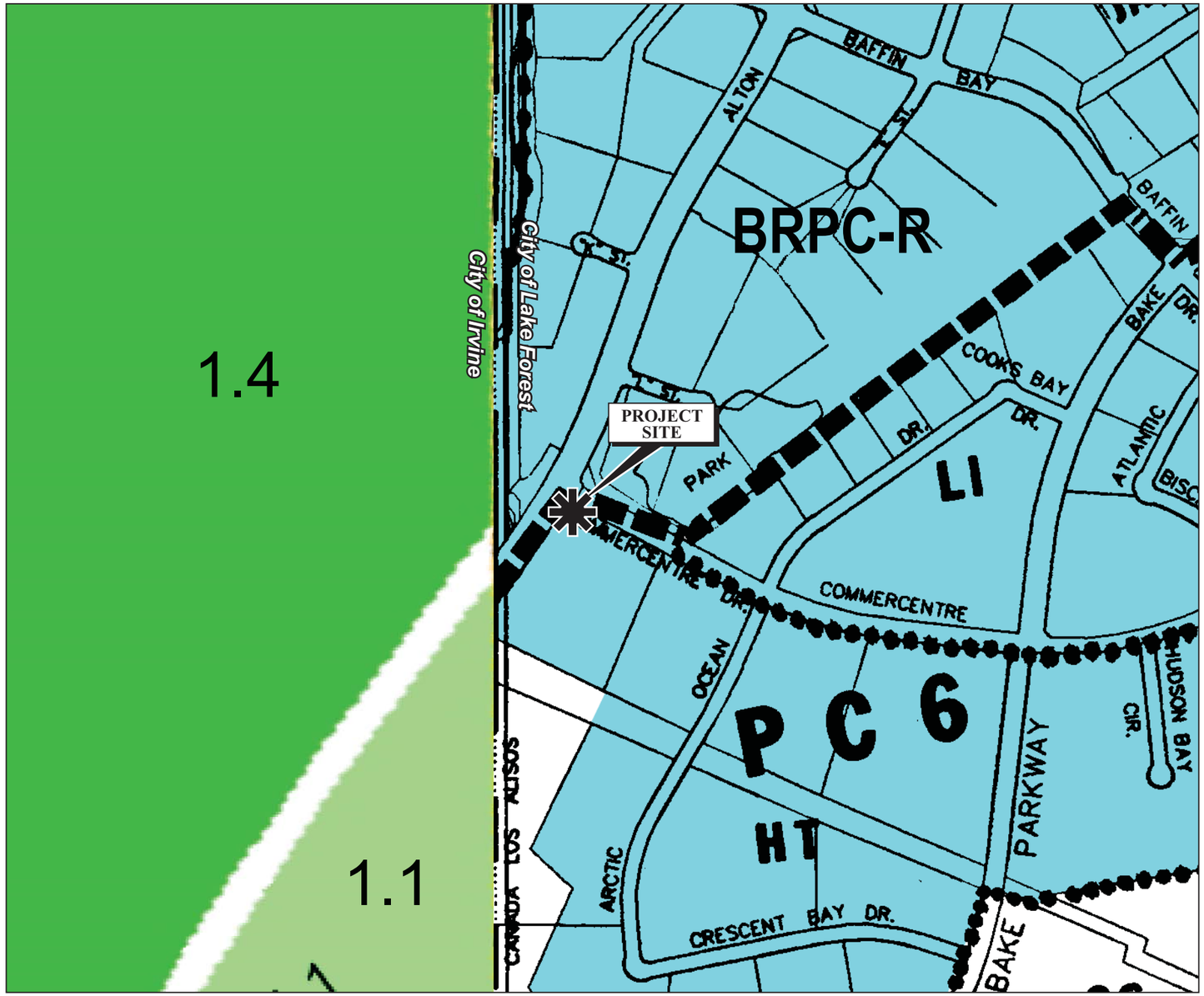
CITY OF IRVINE

Zoning Designations

- 1.1 Exclusive Agriculture
- 1.4 Preservation



CITY OF LAKE FOREST

Zoning Designations

- Industrial
- Planned Community Boundary
- District Boundary
- HT High Technology
- I Industrial
- OS Open Space
- PC 6 Pacific Commercentre Planned Community
- BRPC-R Baker Ranch Planned Community - Residential

LSA

FIGURE 4.10.2

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SOURCE: City of Lake Forest

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Encanto Residential Project

Zoning Designations

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Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
Circulation Element	
Goal 5.0: Convenient and suitable parking facilities for motorized and non-motorized vehicles.	**Consistent.** As described in Section 2.0, Project Description, the proposed Project would be required to provide 160 parking spaces. The proposed Project would provide 104 garage parking spaces, 46 open spaces, 11 guest spaces, for a total of 161 parking spaces. Open and guest parking spaces would be located throughout the residential community to meet the City's parking requirement that one additional parking space be located within 200 ft of a dwelling with a garage setback less than 17 ft. Therefore, the proposed Project would provide convenient and suitable parking facilities and is considered consistent with General Plan, Circulation Element Goal 5.0.
Housing Element	
Goal 1.0: Adequate housing to meet the existing and future needs of Lake Forest residents.	**Consistent.** The proposed Project includes the development of a gated residential community consisting of 52 two-story single-family detached residential units at a net density of 10.9 du/ac. The proposed Project would diversify housing opportunities available in the City. Therefore, the proposed Project would contribute to the supply of housing meeting the needs of Lake Forest residents and is considered consistent with the General Plan, Housing Element Goal 1.0.
Policy 1.1: Ensure the provision of a variety of housing opportunities (ownership and rental) in Lake Forest including low-density single-family homes, moderate-density townhomes, higher-density apartments and condominiums, and mobile homes to fulfill regional housing needs.	**Consistent.** The proposed Project includes the development of a gated residential community consisting of 52 two-story single-family detached residential units at a net density of 10.9 du/ac. The proposed Project would diversify housing opportunities available in the City. In addition, the Project Applicant/Developer would pay in-lieu fees to the Lake Forest Housing Authority to develop new or preserve existing affordable housing. Therefore, the proposed Project would provide housing opportunities to fulfill regional housing needs and is considered consistent with the General Plan, Housing Element Policy 1.1.
Policy 1.4: Ensure that the design of new residential development is compatible with that of existing residences.	**Consistent.** The Project site is bounded on the east by Commercentre Drive, with the Baker Ranch Community beyond. The proposed Project is designed to be compatible with the existing Baker Ranch Community. Vehicular access to the proposed Project would be located in the southeastern portion of the Project site and would line up with the existing vehicular access to the Baker Ranch Community. In addition, the density of the proposed Project would be similar to that of portions of the Baker Ranch Community. The proposed landscaping along Commercentre Drive would match the spacing and density of the landscaping in place for the Baker Ranch community. Therefore, the proposed Project would be designed to be compatible with existing residences and is considered consistent with the General Plan, Housing Element Policy 1.4.

Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
Policy 1.6: Encourage the development of new housing units in close proximity to public transportation and community services.	**Consistent.** The Project site is located approximately 0.3 mi from two bus OCTA routes (Route 206-Intracounty Express route, and Route 408-Stationlink route). Parks, emergency services, and other community services are located within a 2 mi radius of the Project site. Therefore, the proposed Project is considered consistent with the General Plan, Housing Element Policy 1.6.
Goal 3.0: Increased opportunities for home ownership.	**Consistent.** The proposed Project includes the development of a gated residential community consisting of 52 two-story single-family detached residential units. According to Section 4.13, Population and Housing, the proposed Project would introduce 155 persons into the Project area. Therefore, the proposed Project would increase the opportunities for home ownership and is considered consistent with the General Plan, Housing Element Goal 3.0.
Land Use Element	
Policy 2.2: Promote high quality in the design of all public and private development Projects.	**Consistent.** The proposed Project is designed following the Tuscan, Mediterranean, and Spanish design influences. It includes quality building materials and architectural treatments, such as: concrete tile roofing, stucco stone veneer accents (on Tuscan units), decorative garage doors, shutters, window trim, split-pane windows, shelving, and wrought iron; varied roof lines; wall projections and recesses; decorative brick paving at the site entry; an on-site open space/recreation area with play equipment, shade structures and other amenities; masonry, stone, glass, and vinyl fencing; and approximately 124 on-site trees. Moreover, the Project is consistent with the City's design and development standards. Therefore, the proposed Project represents high-quality design and is consistent with the General Plan, Land Use Element Policy 2.2.
Goal 3.0: New development that is compatible with the community.	**Consistent.** As demonstrated in Section 4.10, Land Use/Planning; Section 4.1, Air Quality; Section 4.11, Noise; and Section 4.16, Circulation and Parking, the Project is designed to be compatible with current and future surrounding land uses, including any future adjacent light industrial uses and the Baker Ranch Community development across the street. Therefore, the proposed Project would be compatible with the adjacent community and is considered consistent with the General Plan, Land Use Element Goal 3.0.
Policy 3.1: Ensure that new development fits within the existing setting and is compatible with the physical characteristics of available land, surrounding land uses, and public infrastructure availability.	**Consistent.** As demonstrated in Section 4.10, Land Use/Planning; Section 4.1, Air Quality; Section 4.11, Noise; and Section 4.16, Circulation and Parking, the Project is designed to be compatible with current and future surrounding land uses, including any future adjacent light industrial uses and the Baker Ranch Community development across the street. The Project would make use of existing infrastructure to minimize the need for additional public investment.

Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
Policy 3.3: Ensure that the affected public agencies can provide necessary facilities and services to support the impact and intensity of development in Lake Forest and in areas adjacent to the City.	**Consistent.** As discussed further in Sections 4.14, Public Services, and 4.17, Utilities/Service Systems, the affected public agencies were contacted during preparation of this IS/MND to determine potential Project-related impacts to affected public agencies. Project impacts to utilities and other public services would be less than significant. Therefore, the proposed Project is considered consistent with the General Plan, Land Use Element Policy 3.3.
Policy 3.4: Blend residential and nonresidential development with landscaping and architectural design techniques to achieve visual compatibility.	**Consistent.** Figure 2.6 depicts the Conceptual Landscape Plan for the proposed Project. The proposed Project would be designed following the Tuscan, Mediterranean, and Spanish design influences, in a manner consistent with the architecture used in the Baker Ranch Community. The proposed Project would incorporate landscaping to achieve visual compatibility with surrounding land uses as well as to provide privacy for residents. Therefore, the proposed Project would use landscaping and architectural design to blend residential and non-residential development and is considered consistent with the General Plan, Land Use Element Policy 3.4.
Policy 4.2: Ensure that all proposed amendments to approved planned community development plans and agreements will not create unacceptable impacts to surrounding existing and planned development, the natural characteristics of the sites, fiscal stability of the City, and the public facilities and services that support development.	**Consistent.** The Project site currently has a zoning designation of Pacific Commercentre Planned Community – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a Planned Development District (PD District) as the combining district. The proposed Project would not create unacceptable impacts to surrounding existing and planned development, the natural characteristics of the site, the fiscal stability of the City, or the public services that support development. As discussed further in Section 4.4, Biological Resources, the project site is categorized as "disturbed/developed," and the proposed Project would result in a less than significant impact to biological resources. As discussed in Section 4.14, Public Services, the proposed Project would not result in substantial adverse physical impacts associated with the provision of or need for new or physically altered public facilities, including those related to police and fire protection services. Finally, the proposed Project includes a Development Agreement intended to ensure that the proposed Project would not negatively affect the fiscal stability of the City. Therefore, the proposed Project is considered consistent with the General Plan, Land Use Element Policy 4.2.
Policy 5.7: Preserve the fiscal well-being of the community by ensuring that land use designation changes for land within the Business Development Overlay will not result in a loss of future net revenue for the City.	A Fiscal Impact Assessment (FIA) (Appendix J) prepared by the Applicant, compares the estimated net revenue to the City resulting from implementation of the proposed Project with the estimated new revenue resulting from a hypothetical development scenario based upon the current Light Industrial (LI) General Plan designation. According to the study, the proposed Project would generate $5,800 more in first year revenue to the City. Therefore, the proposed Project is

Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
	consistent with General Plan, Land Use element Policy 5.7.
Recreation and Resources Element	
Goal 7.0: Improvement of air quality.	**Consistent.** As described further in Section 4.3, Air Quality, the proposed Project would have a less than significant impact related to air quality. Therefore, the proposed Project is considered consistent with the General Plan, Recreation and Resources Element Goal 7.0.
Policy 7.1: Cooperate with the South Coast Air Quality Management District and Southern California Association of Governments in their efforts to implement the regional Air Quality Management Plan.	**Consistent.** The proposed Project would not conflict with the AQMP or result in any significant impacts related to implementation of the AQMP. Therefore, the proposed Project is considered consistent with the General Plan, Recreation and Resources Element Policy 7.1.
Policy 7.7: Promote energy conservation and recycling by the public and private sector in Lake Forest.	**Consistent.** As described in Section 2.0, Project Description, the proposed Project would be consistent with California's Title 24 energy efficiency code and would incorporate sustainability features intended to result in energy conservation. For example, the proposed Project would reduce operational emissions associated with energy consumption by installing Energy Star dishwashers and utilizing high-efficiency heating, ventilation, and air-conditioning (HVAC) systems. Therefore, the proposed Project is considered consistent with the General Plan, Recreation and Resources Element Policy 7.7.
Safety and Noise Element	
Policy 2.4: Reduce the risk to the community from fire.	**Consistent.** As described further in Section 2.0, Project Description, the Project site is not located in a VHFHSZ, as designated by the California Department of Fire and Forestry (CalFire). However, the open space adjacent to the west and north of the Project site is considered a VHFHSZ. As such, the proposed Project would include a conceptual fuel modification plan to employ three fuel modification zones. The three proposed zones would provide an integral level of protection for structures from wildfires by slowing the speed and reducing the intensity of the fire. Therefore, the proposed Project is considered consistent with the General Plan, Safety and Noise Element Policy 2.4.
Policy 5.2: Provide noise control measures such as berms, walls, and sound attenuating construction in areas of new construction or rehabilitation.	**Consistent.** As described further in Section 4.12, Noise, the Site Development Permit proposes an 8 ft block wall along the southern boundary of the Project site for noise attenuation. Therefore, the proposed Project is considered consistent with the General Plan, Safety and Noise Element Policy 5.2.

AQMP = Air Quality Management Plan
City = City of Lake Forest
du/ac = dwelling units per acre
ft = foot/feet
IS/MND = Initial Study/Mitigated Negative Declaration
mi = mile/miles
OCTA = Orange County Transportation Authority
VHFHSZ = Very High Fire Hazard Severity Zone

Zoning Ordinance. The City's Zoning Ordinance is the primary implementation tool for its General Plan Land Use Element and the goals and policies contained therein. For this reason, the Zoning Map must be consistent with the General Plan Land Use Map. The Land Use Map indicates the general location and extent of future land use in the City. The Zoning Ordinance, which includes the Zoning Map, contains more detailed information about permitted land uses, building intensities, and required development standards.

The Project site currently has a zoning designation of Pacific Commercentre Planned Community (PC-6) – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a PD District as the combining district. The PD District is used in conjunction with the base district (R2 Multifamily Dwellings District) to indicate the additional permitted uses and development standards associated with the planned development. According the City's 2008–2014 Housing Element, the purpose of the PD District is to produce planned development projects that take advantage of modern site planning techniques providing for better use of common areas and open space. The planned development results in flexibility by allowing development standards (including lot coverage, setbacks, and building sizes) to be determined through the approval of a use permit.

Table 4.10.B provides a list of applicable development standards and an evaluation of the Project's consistency with each standard. At stated in Table 4.10.B, the proposed Project would be consistent with applicable Zoning Code development standards, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) The City is a participant in the Orange County Central and Coastal Natural Communities Conservation Program/Habitat Conservation Plan (NCCP/HCP). According to the *Biological Technical Report for the Encanto Residential Project* (Glenn Lukos Associates, Inc., April 2015; Appendix B), the Project site is located within the Orange County Central and Coastal NCCP/HCP planning area but outside the boundaries of the NCCP/HCP Reserve System. The Reserve System boundary is located immediately to the northeast of the proposed Project site; however, the Project site is in an area identified in the NCCP/HCP as urbanized and is located in an area designated for development. As discussed in Section 4.4, Biological Resources, development of the proposed Project would not result in significant impacts to any sensitive habitat species identified in the Orange County NCCP/HCP. The proposed Project would not conflict with local ordinances or the adopted HCP, NCCP, or other approved local, regional, or State HCP. Therefore, the proposed Project would result in a less than significant impact related to any applicable HCP or NCCP, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

Table 4.10.B: Zoning Ordinance Development Standards Consistency Analysis

City of Lake Forest Zoning Standards Chapter 9.56: R2 Multi-Family Dwelling District Chapter 9.124: PD Planned Development District	Project Consistency Analysis
Minimum Building Site Area: As determined by the required use permit and the tract map for the project (LFMC Sec. 9.124.060(A).	The minimum building site area for the proposed Project would be 2,170 sf per the proposed tract map. Therefore, the proposed Project would be in compliance with the LFMC building site area standard.
Maximum Building Site Coverage: No maximum for individual sites; 40 percent maximum for project net area..	32.9 percent
Minimum Average Lot Area per Unit: No minimum land area per unit is required for any individual site. The project net area shall have an average land area per unit no less than the minimum area per unit required by the base district (LFMC Sec. 9.124.060(A) (1,000 sq. ft.) (LFMC Sec. 9.56.080(C)	The minimum average lot area per unit for the proposed Project would be 2,699 sf. Therefore, the proposed Project would be in compliance with the LFMC average lot area per unit standard.
Maximum Building Height: 35 ft maximum	The maximum height on the Project site would be 35 ft for the proposed three-story housing units. Therefore, the proposed Project would be in compliance with the LFMC building height standard.
Front Building Setback: 4 ft (per SDP)	The minimum front building setback for the proposed Project would be 4 ft. Therefore, the proposed Project would be in compliance with the SDP front building setback standard.
Side Building Setback: 4 ft (per SDP)	The minimum side building setback for the proposed Project would be 4 ft. Therefore, the proposed Project would be in compliance with the SDP side building setback standard.
Rear Building Setback: 10 ft (per SDP)	The minimum rear building setback for the proposed Project would be 10 ft. Therefore, the proposed Project would be in compliance with the SDP rear building setback standard.
Minimum Separation between Garage Doors: 30 ft	The minimum separation between garage doors for the proposed Project would be 38 ft. Therefore, the proposed Project would be in compliance with the LFMC minimum separation between garage doors standard.
Off-Street Parking: Attached or Detached Single-Family Dwellings require a minimum of two covered parking spaces for each dwelling and one additional parking space within two hundred feet of the dwelling for dwellings having less than a 17 ft. garage setback. Also, two-tenths (0.2) guest parking spaces per dwelling unit (rounded to the nearest whole number) shall be provided.	Per the site plan, the proposed Project would be required to provide 160 parking spaces. The proposed Project would provide 104 garage parking spaces, 46 open spaces, and 11 guest spaces, for a total of 161 parking spaces. Open and guest parking spaces would be located throughout the residential community to meet the City's parking requirement that one additional parking space be located within 200 ft of a dwelling. Therefore, the proposed Project would be in compliance with LFMC off-street parking standards.
Lights: All lights shall be designed and located so that direct light rays shall be confined to the premises	The proposed Project would include on-site lighting consisting of street lighting (approximately 14 ft in height), low-level bollard lighting(less than 4 ft in height), and wall lighting (less than 7 ft in height) in the gated residential community. Mitigation Measure A-1 requires the Project Applicant to prepare a

Table 4.10.B: Zoning Ordinance Development Standards Consistency Analysis

City of Lake Forest Zoning Standards Chapter 9.56: R2 Multi-Family Dwelling District Chapter 9.124: PD Planned Development District	Project Consistency Analysis
	comprehensive lighting plan and a photometric survey prior to construction to demonstrate compliance with the LFMC. As such, Project lighting would be hooded or shielded to focus the light downward and prevent light spillage onto adjacent properties. Therefore, the proposed Project would be in compliance with LFMC lighting standards.
Landscaping Standards. Per 9.144.060.2.	The proposed Project requires the approval of a Conceptual Landscape Plan (Figure 2.6). The Conceptual Landscape Plan states that all landscaping and related improvements shall be designed, installed, and maintained in accordance with the LFMC. The Conceptual Landscape Plan must be in accordance with the LFMC to be approved. Therefore, the proposed Project would be in compliance with LFMC landscaping standards.

ft = foot/feet
LFMC = Lake Forest Municipal Code
SDP = Site Development Permit
sf = square foot/feet

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4.11 MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☐	☒

Impact Analysis:

a) According to the Recreation and Resources Element (2010) of the City's General Plan, one area in the City, approximately 62 ac in size, is classified by the State Department of Conservation as an important Mineral Resource Zone (MRZ-2) for Portland cement concrete (PCC[1]) grade aggregate. This classification indicates that the area has significant mineral deposits or that a high likelihood of their presence exists. A Mineral Resource Overlay designation applies to areas classified as MRZ-2. The overlay allows the management and utilization of mineral resources on an interim basis. According to the City's Land Use Map (General Plan, Land Use Element 2010), the Mineral Resource Overlay is located in an area known as the El Toro Materials Company pit, approximately 2 mi northeast of the Project site. The Mineral Resource Overlay area is not located in close proximity to the Project site. Therefore, no significant impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the State would result from Project implementation, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

b) As stated above, no known valuable mineral resources exist on or near the Project site. In addition, the Project site is not identified on a local General Plan, Specific Plan, or other land use plan as the location of a locally important mineral resource. The proposed Project would not result in the loss of a locally important mineral resource. Therefore, no significant impacts related to mineral resources would result from Project implementation, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

[1] PCC is a material widely used in the construction industry.

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4.12 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) A proposed project would normally have a significant offsite traffic noise impact if both of the following criteria are met: i) Project traffic will cause a noise level increase of 3 dB or more on a roadway segment adjacent to a noise sensitive land use. Noise sensitive land uses include the following: residential (single-family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools. ii) The resulting "future with project" noise level exceeds the noise standard for sensitive land uses as identified in the City of Lake Forest General Plan.	☐	☒	☐	☐
(b) Exceed the stationary source noise criteria for the City of Lake Forest as specified by the Exterior noise standards set forth in the Noise Control Chapter of the Lake Forest Municipal Code.	☐	☒	☐	☐

Background:

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 decibels (dB) or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes (i.e., 3 dB or greater) in existing ambient or background noise levels are considered potentially significant.

A project would normally have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or conflict with the adopted environmental plans and goals of the community in which it is located. The City has not adopted any threshold for increases in ambient noise levels. However, in an outdoor environment, noise level changes that are less than the audible range of the human ear are not considered a substantial change. The City's General Plan (Safety and Noise Element) and Municipal Code (Chapter 11.16, Noise Control) establish noise standards for the City.

General Plan Safety and Noise Element. The City's General Plan, Safety and Noise Element, requires consideration of the sources and recipients of noise early in the land use planning process in order to develop an effective method of minimizing the impacts of noise on the community's population. Areas already impacted by noise can also have noise reduced through rehabilitative improvements. The standards shown in Table 4.12.A represent the maximum allowable noise level for the identified uses and are used by the City to determine noise impacts associated with implementation of projects.

Table 4.12.A: City of Lake Forest Interior and Exterior Noise Standards

Land Use	Noise Standards	
	Interior	Exterior
Residential – Single-family, multifamily, duplexes, mobile homes	CNEL 45 dBA	CNEL 65 dBA
Residential – Transient lodging hotels, motels, nursing homes, hospitals	CNEL 45 dBA	CNEL 65 dBA
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	L_{eq}(12) 45 dBA	–
Schools	L_{eq}(12) 45 dBA	CNEL 65 dBA
General offices, reception, clerical, etc.	L_{eq}(12) 50 dBA	–
Bank lobbies, retail stores, restaurants, typing pools, etc.	L_{eq}(12) 55 dBA	–
Manufacturing, kitchens, warehousing, etc.	L_{eq}(12) 65 dBA	–
Parks, playgrounds, etc.	–	CNEL 65 dBA
Golf courses, outdoor spectator sports facilities, amusement parks, etc.	–	CNEL 70 dBA

Source: City of Lake Forest General Plan (2011).
CNEL = Community Noise Equivalent Level L_{eq} = equivalent continuous noise level
dBA = A-weighted decibel(s)

Municipal Code. The Noise Control Chapter of the City's Municipal Code (Noise Ordinance) is designed to protect people from non-transportation (stationary) noise sources such as music, construction activity, machinery and pumps, and air conditioners. The Noise Ordinance sets limits on the level and the duration of time a stationary noise source may impact a residential use. The louder the level becomes, the shorter the time becomes that it is allowed to occur. Table 4.12.B lists the A-weighted decibel (dBA) noise level and the maximum cumulative period of time that the noise level may occur during a 1-hour period. The ordinance applies different criteria during different time periods. The noise criteria are much more stringent in late-night and early-morning hours and reflect a heightened sensitivity to noise during these time periods.

Table 4.12.B: City of Lake Forest Noise Ordinance Standards

Noise Level, dBA		Maximum Cumulative Duration
Daytime Ordinance (7:00 a.m.–10:00 p.m.)		
Exterior Noise	**Interior Noise**	
75	65	Not to be exceeded at any time
70	60	1 minute
65	55	5 minutes
60	—	15 minutes
55	—	30 minutes
Nighttime Ordinance (10:00 p.m.–7:00 a.m.)		
70	55	Not to be exceeded at any time
65	50	1 minute
60	45	5 minutes
55	—	15 minutes
50	—	30 minutes

Source: City of Lake Forest Municipal Code, Chapter 11.16.020.
dBA = A-weighted decibel(s)

The City's Noise Ordinance also governs the time of day that construction work can be conducted. The Noise Ordinance prohibits construction, repair, remodeling, and grading between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturdays, or at any time on Sunday or a federal holiday.

Baseline Noise Levels. Noise measurements were made to document existing baseline levels in the area. These help to serve as a basis to determine noise exposure from ambient noise activities on the proposed project. Long-term (24-hour) noise measurements were conducted July 17 and 18, 2014, at two on-site locations (one location near the northwest corner of the site and another along the southeast project boundary).

Long-term noise measurement locations were selected to document the daily trend in noise levels generated by Alton Parkway traffic along the northern project perimeter and existing light industrial/business park uses along the southern project boundary. The adjacent parcel south of the proposed project site was a high-technology manufacturing and distribution facility (Agilent Technologies) before its recent closure, after the environmental analysis began. Agilent Technologies was still in operation when noise measurements were conducted. While the future use of the adjacent industrial/business park site and possible associated noise levels are speculative, it is reasonably foreseeable that the site would be occupied by a similar use. Therefore, the noise levels measured while Agilent Technologies was in operation serve as the existing baseline because they are a reasonable prototype for the type of light industrial noise that might occur when the site is reoccupied, such as noise from vehicle and truck movement, loading/unloading activities, and manufacturing operations. Therefore, an analysis was performed using noise data obtained from short-term noise monitoring of the former industrial use.

The noise meters yielded noise levels of almost 58 dB Community Noise Equivalent Level (CNEL) along the northern edge at the proposed lots nearest to Alton Parkway) and 64 dB CNEL at the southern site perimeter. At the time of noise monitoring, construction activity on Alton Parkway diverted a portion of normal existing traffic such that the measured levels at noise meter 1 are not representative of existing conditions. Because construction activity slowed the Alton Parkway traffic, it is likely that traffic noise levels under normal operating conditions would be higher. As a result, this analysis of residential traffic noise exposure is based on future build-out volumes and not on existing conditions. Traffic noise exposures for homes nearest Alton Parkway are modeled based on vehicular volumes in the project's traffic report, as forecast using the Lake Forest Traffic Analysis Model (LFTAM) for the build-out year of 2030 to represent a worst-case and most conservative traffic noise condition.

Measured noise levels at the southern perimeter derive primarily from mechanical equipment such as compressors, condensers, fans, etc., used by the former tenant, Agilent Technologies, located at 25200 Commercentre Drive. The Agilent Technologies equipment operated 24 hours per day, with more intense operation by day and less at night. Although Agilent Technologies is no longer a tenant and the site is vacant, it is reasonably foreseeable that another noise-generating industrial use that operates 24 hours could occupy the site. Therefore, the measured noise levels were used as the baseline and not the existing vacant condition.

Impact Analysis:

a) i) **Short-Term Noise Impacts (Construction).** Two types of short-term noise impacts could occur during construction of the proposed Project. First, the construction crew commutes and the transport of construction equipment and materials to the site for the proposed Project would incrementally increase noise levels on access roads leading to the Project site. The *Noise Impact Analysis* (Giroux & Associates, June 2015; Appendix I) estimates that 72 construction-related trips would occur daily. These 72 daily trips would be made up of 20 workers arriving in the morning and departing during the evening (40 trips total), plus 16 truck trips throughout the day (8 round trips, for a total of 32 daily truck trips). This would not provide a noticeable increase to the traffic report estimate of 7,000 vehicles per day on Commercentre Drive and 20,000 vehicles per day on Alton Parkway in the existing time frame. Impacts associated with the construction crew committed and the transport of construction equipment and materials to the site would be less than significant, and no mitigation is required.

Long-Term Noise Impacts (Operation). Long-term noise impacts from the proposed Project would be primarily from Project-related traffic on roadways adjacent to the Project site. Table 4.12.C summarizes the calculated 24-hour CNEL at 50 ft from the roadway centerline along Alton Parkway, Commercentre Drive, Bake Parkway, and Arctic Ocean Drive. Two time frames were evaluated: (1) existing conditions with and without Project, and (2) build-out year 2030 with and without Project.

Table 4.12.C: 24-Hour CNEL Level in dBA at 50 Feet from Centerline

Roadway Segment	Existing Without Project	Existing With Project	2030 Without Project	2030 With Project
Alton Parkway/West of Commercentre Drive	73.2	73.2	77.1	77.1
Alton Parkway/East of Commercentre Drive	71.7	71.8	76.6	76.7
Commercentre Drive/Alton Parkway-Site Access	66.3	66.4	68.1	68.1
Commercentre Drive/Site Access-Arctic Ocean Drive	66.3	66.5	68.0	68.0
Commercentre Drive/Arctic Ocean Drive-Bake Parkway	66.4	66.5	67.7	67.8
Commercentre Drive/South of Bake Parkway	67.6	67.6	69.0	69.0
Bake Parkway/West of Commercentre Drive	74.7	74.7	75.5	75.5
Bake Parkway/East of Commercentre Drive	74.1	74.1	74.7	74.7
Arctic Ocean Drive/West of Commercentre Drive	59.3	59.3	65.2	65.2
Arctic Ocean Drive/East of Commercentre Drive	57.4	57.4	62.3	62.3

Source: *Noise Impact Analysis* (Giroux & Associates, June 2015).
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels

As shown in Table 4.12.D, the project itself would not cause any roadway segment to exceed the 3 dBA CNEL threshold. The largest Project-related noise increases from traffic would occur on Commercentre Drive between the Site Access point and Arctic Ocean Drive. This noise increase from traffic would cause a noise level increase of 0.2 dB between existing conditions with and without the proposed Project. As shown in Table 4.12.D, the proposed Project would not cause a noise level increase of 3 dB or more on any roadway segment adjacent to the Project site in the existing with Project condition or the 2030 with Project scenario. Therefore, project impacts would be less than significant and no mitigation is required.

Table 4.12.D: Project-Related Noise Impact (CNEL in dBA at 50 feet from Centerline)

Roadway Segment		Project Only Existing	Project Only 2030	Cumulative Impacts (2030 with Project – Existing)
Alton Pkwy/	W of Commercentre Dr.	0.0	0.0	3.9
Alton Pkwy/	E of Commercentre	0.0	0.1	5.0
Commercentre Dr/	Alton-Site Access	0.1	0.0	1.7
Commercentre Dr/	Site Access-Arctic	0.2	0.0	1.7
Commercentre Dr/	Artic-Bake	0.1	0.0	1.4
Commercentre Dr/	S of Bake	0.0	0.0	1.4
Bake Pkwy/	W of Commercentre	0.0	0.0	0.8
Bake Pkwy/	E of Commercentre	0.0	0.0	0.7
Arctic Ocean Dr/	W of Commercentre	0.0	0.0	5.9
Arctic Ocean Dr/	E of Commercentre	0.0	0.0	4.9

Source: *Noise Impact Analysis* (Giroux & Associates, June 2015).

a) ii) Exterior On-Site Noise Exposure.

Alton Parkway. The proposed Project would not cause any roadway segment to exceed the 3 dBA CNEL threshold; however, as shown in Table 4.12.C, roadway noise from Alton Parkway could be as high as 77 dBA CNEL at 50 ft from the roadway centerline by 2030. The proposed Project would include 5 ft ~~high~~ tall (minimum) Plexiglas noise/privacy walls[1] along the rear yards of all the residential lots, including those along Alton Parkway. The walls were evaluated to determine whether they would effectively reduce noise levels for recreational users in rear yards nearest the roadway to meet the 65 dBA CNEL exterior noise threshold. Lots 7–10 and 15 were modeled because they would be closest to the roadway and represent the worst-case scenario. As shown in Table 4.12.E, the *Noise Impact Analysis* (Giroux & Associates, June 2015; Appendix I) determined that the 5 ft noise/privacy walls at the rear property line along Alton Parkway (Lots 7–15) would ensure that recreational users in yards with a direct view of Alton Parkway would not experience noise levels exceeding 65 dBA CNEL, even at Project build out in 2030, and no mitigation is required.

[1] In the *Noise Impact Analysis* (Giroux & Associates; 2015), the noise/privacy wall is defined as a solid barrier with a minimum density of 3.5 lbs/sf, and as either a block wall or continuous glass or Plexiglas shield.

Table 4.12.E: Exterior Recreational Use at Rear Yards Noise Modeling Input and Results for Lots Backing Up to Alton Parkway

Lot	Relative to Alton Parkway Centerline			Resultant Noise Level with 5-Foot Wall (dB CNEL)
	Distance to Wall (feet)	Distance to Receiver (feet)	Elevation Change (feet)	
7	147	157	+24	65
8	152	162	+26	65
9	153	163	+29	65
10	156	166	+32	65
15	203	213	+43	64

Source: *Noise Impact Analysis* (Giroux & Associates, June 2015).
CNEL = Community Noise Equivalent Level
dB = decibel(s)

Commercentre Drive. The proposed Project would not cause any roadway segment to exceed the 3 dBA CNEL threshold; however, as shown in Table 4.12.C, roadway noise from Commercentre Drive could be as high as 68 dBA CNEL at 48 ft[1] from the roadway centerline by 2030. The proposed Project would include 5 ft tall (minimum) Plexiglas noise/privacy walls along the rear yards of all the residential lots, including those along Commercentre Drive. As shown in Table 4.12.F, the *Noise Impact Analysis* (Giroux & Associates, June 2015; Appendix I) determined that the 5 ft noise/privacy walls along the residential yards facing Commercentre Drive (Lots 1–7) would reduce noise by at least 5 dBA and would reduce noise to within the recommended guideline for any lots with a direct line-of-sight to Commercentre Drive. No mitigation would be required.

Table 4.12.F: Exterior Recreational Use at Rear Yards Noise Modeling Input and Results for Lots Backing Up to Commercentre Drive

Lot	Relative to Alton Parkway Centerline			Resultant Noise Level with 5-Foot Wall (dB CNEL)
	Distance to Wall (feet)	Distance to Receiver (feet)	Elevation Change (feet)	
1	48	58	+3.8	61.0
2	49	59	+6.5	60.2
3	51	61	+8.1	59.7
4	53	63	+9.7	59.3
5	55	65	+11.4	58.8
6	56	66	+13.0	58.4

CNEL = Community Noise Equivalent Level
dB = decibels

[1] The closest residential unit along Commercentre Drive would have a 48 ft setback from the roadway centerline.

Interior On-Site Noise Exposure.

Alton Parkway. The *Noise Impact Analysis* (Giroux & Associates, June 2015; Appendix I) conservatively assumed that all homes would be set back a minimum of 15 ft from the rear property line. Lot 7 was selected for modeling of noise loadings (i.e., noise acting upon a structure) because this lot is closest to the roadway and has the smallest elevation differential from the roadway, and is therefore considered the most impacted lot for homes near Alton Parkway. The proposed Project would include a minimum 5 ft tall noise/privacy wall along the rear yards of all the residential lots, including those along Alton Parkway. As shown in Table 4.12.G, ~~the~~ a 5 ft noise/privacy wall would reduce the Alton Parkway traffic noise loading at the first story to 64 dBA CNEL. However, the noise loading for second-story use (assumed to be 15 ft from ground level) is calculated to be as high as 72 dBA CNEL because the 5 ft noise/privacy wall would only provide shielding for the first story.

Table 4.12.G: Noise Loading at Façade of Lot 7

Lot	Relative to Alton Parkway Centerline			Exterior Noise Loading at First Story (dB CNEL)	Exterior Noise Loading at Second Story (dB CNEL)
	Distance to Wall at Rear Property Line (feet)	Distance to Façade (feet)	Elevation Change (feet)		
7	147	164	+24	64.2	71.8

Source: *Noise Impact Analysis* (Giroux & Associates, June 2015).
CNEL = Community Noise Equivalent Level
dB = decibel(s)

Use of dual-paned windows is required by the California Building Code (CBC) for energy conservation in new residential construction. In addition, the proposed Project would include windows with a Sound Transmission Class [STC] rating of 27 or higher. Interior standards would be met as long as residents with a line-of-sight to Alton Parkway close their windows. As required by the CBC, the proposed Project would install heating, ventilating, and air conditioning (HVAC) units in all residential units because window closure is a necessary condition to meet the interior noise exposure standard. In addition, 0.5-pound open cell polyurethane spray foam would be applied in walls and attics for all residential units to provide additional sound attenuation.

To ensure that these project features adequately reduce interior noise levels, the Project Applicant/Developer shall be required to provide a final acoustical analysis that demonstrates that adequate noise protection exists to meet the 45 dBA CNEL interior noise threshold for all for residences adjacent to any noise generating roadway (Lots 1 through 17). Mitigation Measure N-1 requires that a final acoustical study be prepared that demonstrates that the interior noise levels in habitable rooms shall not exceed 45 dBA CNEL, as defined by Title 24, Part 2, of the California Building Code. If necessary, the Project Applicant/Developer shall provide structural components with higher STC ratings to ensure that the 45 dB CNEL threshold is met.

Therefore, with implementation of Mitigation Measure N-1, the noise level would not exceed the noise standard for sensitive land uses as identified in the City of Lake Forest General Plan, and exterior and interior noise impacts would be less than significant.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

N-1: **Final Acoustical Report.** Prior to the issuance of any certificates of occupancy for residences adjacent to any noise generating roadway (Lots 1 through 17), the Project Applicant/ Developer shall submit a final acoustical report to the City of Lake Forest Director of Development Services, or designee, that demonstrates that the interior noise levels in habitable rooms shall not exceed 45 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL), as defined by Title 24, Part 2, of the California Building Code. If necessary, the Project Applicant/Developer shall provide structural components with higher STC ratings to ensure that the 45 dB CNEL threshold is met.

Significance Determination After Mitigation: Less than Significant Impact.

b) As discussed above, the City's Noise Ordinance is designed to protect people from non-transportation (stationary) noise. The Noise Ordinance for the City sets limits on the level and the duration of time a stationary noise source may impact a residential use. Ordinance limits generally apply to stationary sources such as mechanical equipment or vehicles operating on private property. The City's Noise Ordinance limits are stated in terms of a 30-minute limit with allowable deviations from this 50th percentile standard. The louder the noise, the shorter the time it is allowed to occur. The analysis in this threshold applies the noise restrictions listed in Table 4.12.B in considering the potential noise impacts of the proposed Project on the existing environment, as well as the impact of the adjacent light industrial uses on the proposed Project.

Short-Term Noise Impacts (Construction). As discussed above, there are two types of short-term noise impacts that could occur during construction of the proposed Project. First, the construction crew commutes and the transport of construction equipment and materials to the site for the proposed Project would incrementally increase noise levels on access roads leading to the Project site. This potential impact is discussed above under Threshold 4.12 a)i). The second type of short-term noise impact is related to noise generated during excavation, grading, and construction of the proposed Project. This is considered a stationary noise impact. The City's Noise Ordinance identifies specific activities that are exempt from the provisions of the noise restrictions listed in Table 4.12.B. Exempted activities include, but are not limited to, construction, repair, remodeling, and grading, provided that such activities take place between 7:00 a.m. and 8:00 p.m. on weekdays and on Saturdays. Construction is not permitted on any national holiday or on any Sunday.

Compliance with the City's Noise Ordinance would ensure that construction noise does not disturb residents during the times they are most likely to be home or during hours when ambient noise levels are likely to be lower (i.e., at night). As shown in Table 4.12.H, short-term construction noise would not exceed the City's daytime exterior noise standards outlined in the Noise Ordinance, with the exception of the 55 dBA noise standard if site preparation and grading activities would occur immediately along the eastern edge of the Project site for a cumulative period of more than 30 minutes in any hour.

Table 4.12.H: Construction Noise Impact

Phase Name	Equipment	Usage Factor	Hours of Operation	Reference Noise Level at 50 ft (dB)	Cumulative Level at 50 ft (dB)	Modeled Noise Level at Closest Receptor (dB)[1]
Grading	Excavator	38%	3.0	81	77	55
	Dozer	40%	3.2	82	77	55
	Grader	41%	3.3	85	81	59
	Scraper	48%	3.8	84	81	59
	Loader/Backhoe	37%	3.0	78	74	52
Construction	Crane	29%	2.3	81	73	51
	Forklift	20%	1.6	75	69	47
	Loader/Backhoe	37%	3.0	80	76	54
	Generator Set	41%	3.3	73	69	47
	Welder	46%	3.7	74	71	49
Paving	Paver	42%	3.4	77	74	52
	Roller	38%	3.0	80	73	51
	Paving Equipment	36%	2.9	77	73	51

Source: *Noise Impact Analysis* (Giroux & Associates, June 2015).
[1] 200 ft across Commercentre Drive
dB = decibel(s)
ft = foot/feet

A noise level of up to 59 dB could occur at the nearest residential uses (on Baker Ranch) when operating immediately along the site's eastern edge, as scrapers and graders pass by intermittently for a few minutes at a time. Scrapers and graders would only be used during site preparation and grading operations, which are expected to last 40 days. Only a small fraction of site preparation and grading activities would occur immediately along the eastern edge. The majority of construction activities would occur in the interior of the site and would generate noise of 55 dB or less at the nearest residential uses. In addition, Mitigation Measure N-2 would ensure that the loudest equipment capable of exceeding the 55 dB noise standard at the nearest residential use (scrapers and graders) would operate for less than 30 minutes in any hour. Therefore, with implementation of Mitigation Measure N-2, the proposed Project would not exceed the City's daytime exterior noise standards outlined in the Noise Ordinance, and construction noise impacts would be less than significant.

Noise Impacts of Adjacent Uses on the Proposed Project. The adjacent uses south of the Project site were previously a high-technology manufacturing and distribution facility

(Agilent Technologies) before its closure. Agilent Technologies was still in operation when the noise measurements for this study were conducted. While the future use of the adjacent parcel and associated noise levels are hypothetical, it is reasonably probable that the site would be occupied by a similar use. Therefore, the noise levels measured while Agilent Technologies was in operation serve as the existing baseline because they were existing at the time the environmental analysis was commenced and because they are a reasonable example of the type of light industrial noise that might occur when the site is reoccupied, such as noise from vehicle and truck movement, loading/unloading activities, and manufacturing operations.

The City's daytime noise standard is 55 dB equivalent continuous sound level (L_{eq}) (for the 30-minute criterion) and the nocturnal noise standard is 50 dB L_{eq} for the noise generated from the industrial uses along the southern Project boundary. A noise level of 68 dB (L_{50}) was used as a reference noise level measurement at the property line during Agilent's operations in order to provide a worst-case condition relative to any future site uses. The proposed Project would include an 8 ft high masonry wall[1] at the top of the slope along the Project site's southern boundary to serve as a noise barrier/privacy wall between residential units (Lots 26–34) and the adjacent industrial uses. The Project site's topography and construction of the 8 ft high wall at the top of the slope would reduce noise levels from 68 dB (L_{50}) to the following noise levels:

- Noise Level at First-Floor Façade: 44.8 dB
- Noise Level at Second-Floor Façade: 49.5 dB
- Noise Level at Rear Residential Lot Line: 44.5 dB[2]

Therefore, the Project site's topography and construction of the 8 ft high wall at the top of the slope would reduce noise levels from the industrial uses to a less than significant level, and no mitigation is required.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

N-2: **Operation of Graders and Scrapers.** Prior to issuance of a grading permit, the Director of the City of Lake Forest Development Services, or designee, shall verify that all Project grading and construction plans include specific notes prohibiting the operation of graders and scrapers for periods of 30 minutes or more in any hour when operating within 200 feet of the nearest residences to the east if those residences are built and occupied.

Significance Determination After Mitigation: Less than Significant Impact.

[1] In the *Noise Impact Analysis* (Giroux & Associates 2015), the noise/privacy wall is defined as an 8 ft block wall with a minimum density of 3.5 lbs/sf.

[2] The modeled noise level at the rear lot line is slightly lower than the noise level at the first-floor façade because of the adjacent hillside; the receptor is modeled behind the rear yard wall and is closer to the hillside, resulting in slightly lower noise levels at the rear property line.

4.13 POPULATION AND HOUSING.

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☐	☒

Impact Analysis:

a) The proposed Project includes the development of a gated residential community consisting of 52 single-family detached homes, which may slightly increase the residential population in the City. According to the California Department of Finance City/Population and Housing Estimates[1] (January 1, 2014), the average number of persons per dwelling unit in the City in 2013 was 2.98 persons. Based on the City's average occupancy rate of 2.98 persons per unit, the proposed Project would introduce 155[2] persons into the Project area. The addition of 155 new residents would be approximately 0.2 percent of the City's population of 77,264 in 2010,[3] 0.2 percent of the City's estimated population of 79,139 in 2014,[4] and 0.18 percent of the City's projected population of 88,100 in 2020.[5]

The Project proposes to change the General Plan land use designation of the Project site from Light Industrial to Low-Medium-Density Residential, which allows a maximum of 15 du/ac. The proposed Project would include approximately 10.9 du/net acres, which would be less than the maximum allowed. In addition, the increase in population resulting from the proposed Project is not considered significant because it only comprises a small portion (less than 1 percent) of the total population of the City and does not represent a substantial increase in population.

In addition, the Regional Housing Needs Assessment (RHNA) Allocation Plan, mandated by the California State Housing Element law as part of the process of updating local housing elements of the General Plan, has quantified a range of housing needs by income groups for

1 California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011–2014 with 2010 Census Benchmark City/County Population and Housing Estimates, May 2014.
2 52 du x 2.98 persons/du = 154.96.
3 United States Census Bureau, 2010 Census, Table DP-1.
4 California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011–2014 with 2010 Census Benchmark City/County Population and Housing Estimates, May 2014.
5 Southern California Association of Governments, Integrated Growth Forecast, Regional Transportation Plan 2012.

each jurisdiction during specific planning periods. The proposed Project would help to meet the housing needs of the City of Lake Forest.

Additionally, the proposed Project is surrounded on two sides by urban uses, including single-family residential and industrial development. The Project does not propose to expand surrounding utility infrastructure in the Project vicinity. Therefore, the proposed Project would not directly or indirectly induce population growth through the extension of roads or other infrastructure. Therefore, potential impacts related to substantial inducement of population growth, either directly or indirectly, would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

b) The Project site was previously rough graded and is currently undeveloped. No housing currently exists on the Project site, and housing displacement would not occur as a result of Project implementation. Therefore, the proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

c) The Project site was previously rough graded and is currently undeveloped. No housing currently exists on the Project site, and no people would be displaced as a result of Project implementation. Therefore, the proposed Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, and no mitigation is required.

Significance Determination: No Impact.

Mitigation Measures: No mitigation is required.

4.14 PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project result in substantial adverse physical impacts associated with the provision of or 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:				
i) Fire Protection?	☐	☒	☐	☐
ii) Police Protection?	☐	☐	☒	☐
iii) Schools?	☐	☒	☐	☐
iv) Parks?	☐	☒	☐	☐
v) Other public facilities?	☐	☐	☒	☐

Impact Analysis:

(a) i) The OCFA provides fire protection and emergency services throughout the City. The OCFA is a regional fire service agency that provides structure fire protection, emergency medical and rescue services, hazardous materials inspections and response, and public education activities to almost 1.7 million residents in 23 cities, and all unincorporated areas, in the County. The OCFA consists of 7 divisions, 9 battalions, 71 fire stations, 951 firefighters, 6 executive chiefs, and 248 professional staff members. In addition, the OCFA has 192 authorized reserve firefighters. Response times in the City vary based on the level of emergency; however, the response time goal is for the first unit to arrive on scene 7 minutes and 20 seconds from receipt of the call, 80 percent of the time.

There are three OCFA fire stations that provide service to the City. The Project site is located in the service area of Fire Station No. 54, which is located approximately 1.99 mi north of the Project site at 19811 Pauling Avenue, Lake Forest. In 2014, Fire Station No. 54 responded to 1,103 calls. This fire station is equipped with three captains, three engineers, and three firefighters. Equipment includes one paramedic assessment unit and one urban search and rescue unit.[1] Based on a letter received April 14, 2015 (Appendix H), the estimated response time, based on travel time from Station No. 54 to the Project site, is less than 5 minutes.

In order to meet OCFA standards and to comply with the California Fire Code (in effect at the time of the application for the building permit) the proposed Project would include, but not be limited to, the following safety measures:

- All buildings on the Project site would include automatic fire sprinkler systems (per LFMC Section 903.2.8, Group R).
- The proposed Project would include the installation of eight hydrants throughout the Project site.

[1] OCFA Fire Station 54. http://www.ocfa.org/menu/departments/Operations/PopUps/stn54.htm, accessed April 2, 2015.

- Emergency vehicles would be able to enter and exit the Project site via the one gated-access driveway off Commercentre Drive. The gated-access driveway shall be installed with emergency opening devices as approved by the OCFA.

Project compliance with requirements set forth in the Fire Code would provide fire protection for people and structures, as well as emergency medical services on-site. In addition, as discussed in Section 4.16, the proposed Project would not result in a significant traffic impact to any study area intersections. Therefore, the proposed Project would not impair emergency response vehicles, and average response times in the area would remain within acceptable response time limits.

The proposed Project includes an OCFA-approved fire master plan and fuel modification plan (refer to Appendix K of this IS/MND), which are required by OCFA prior to issuance of a building permit. The fire master plan identifies standard design features, including the design of fire department connections. The fuel modification plan identifies the approved fuel modification zones.

The proposed Project is a residential community, which would increase the number of on-site visitors and personnel. The addition of 52 residential units as a result of the proposed Project would result in a small increase in demand for fire protection services, but it would not trigger the need for new or altered facilities. No new facilities would be required to be constructed to accommodate the proposed Project. As stated above, the proposed Project would be designed to comply with all Fire Department access requirements and California Fire Code requirements, would not impair emergency response vehicles or increase response times, and would not substantially increase calls for service, thereby triggering the need for new or altered facilities.

The Project would, however, incrementally contribute to an increase in cumulative regional demand for fire and emergency medical services. To address the increase in cumulative regional demand for fire and emergency medical services, OCFA requires all developers to enter into a secured fire protection agreement with OCFA to ensure the availability of adequate fire protection services. The agreements specify a developer's pro-rata fair-share funding for capital improvements necessary to establish and maintain adequate fire protection facilities, equipment, and personnel. Mitigation Measure PS-1 stipulates that the developer must enter into the secured fire protection agreement prior to issuance of any building permits for the proposed Project. Implementation of Mitigation Measure PS-1 would reduce potential impacts related to the Project's incremental contribution to cumulative regional demand for fire protection services to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

PS-1 **Secured Fire Protection Agreement.** Prior to issuance of any grading permits for the Project, the designated site developer shall enter into a Secured Fire Protection Agreement with the Orange County Fire Authority (OCFA). The Secured Fire Protection Agreement shall specify the developer's pro-rata fair-share funding of capital improvements necessary to establish adequate fire protection facilities and

equipment, and/or personnel. Evidence of an OCFA-approved agreement shall be submitted to City of Lake Forest Director of Development Services, or designee.

Significance Determination After Mitigation: Less Than Significant Impact.

ii) The Orange County Sheriff's Department (OCSD) provides police protection services throughout the City. According to the OCSD's website,[1] the OCSD has approximately 4,000 sworn and professional staff members and over 800 reserve personnel. The Southwest Operations Division and Southeast Operations Division of the OCSD provide law enforcement services to an area encompassing the entire southern portion of the County. The Southeast Operations Division provides law enforcement services to the City. Between the Southwest and Southeast Operations Divisions, more than 140 patrol cars are deployed during each 24-hour period. This requires approximately 470 staff members, of whom 375 are Deputy Sheriffs.

The proposed Project is located within the service area of the recently established (2015) OCSD Southeast Operations Division substation (also known as the Saddleback Station) located at 20200 Windrow Drive, Lake Forest, approximately 2.25 mi east of the Project site. Response times to the Project site are dependent on various factors, including the location of patrol vehicles at the moment of a call. Emergency calls receive the quickest response, with alarm calls and non-emergency calls having longer response times. Based on a letter received March 19, 2015 (Appendix H), response times for the City of Lake Forest for both Priority 1 (i.e., red light/siren) and Priority 2 (i.e., urgent, no lights/siren) are less than 5 minutes and 7 minutes, respectively.

Management staff is also stationed at the Lake Forest City Hall to assist with crime prevention programs in the City. Management staff includes one lieutenant, one sergeant, one deputy, a crime prevention specialist, and an office specialist. Services provided through the City include direct and preventative patrol, a Special Enforcement Team, Traffic Enforcement (motorcycle and commercial), a deputy assigned to the regional Directed Enforcement Team, a School Resource Officer, a Homeless Liaison Officer, Bike Patrol, and Neighborhood and Business Watch programs, as well as emergency preparedness classes for the community. The Lake Forest City Hall is located 0.5 mi southeast of the Project site.

The OCSD does not use a standard officer-to-population or standard response time objective ratio to measure the adequacy of policing levels in the City. Instead, the OCSD analyzes demographics, service calls, population, crime trends, and other changing factors to determine the level of police protection services needed. The Federal Bureau of Investigation (FBI) indicates that 1.3 police officers per 1,000 residents is the average ratio for western region cities with populations under 100,000. Therefore, the current officer-to-resident ratio in the City is approximately 4.7[2] police officers per 1,000 residents. Based on the average

[1] OCSD, CA. Website: http://ocsd.org/about/, accessed March 30, 2015.

[2] 375 deputy sheriffs in the southern portion of the OCSD region. According to the California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011–2014 with 2010 Census Benchmark City/County Population and Housing Estimates, the City's population in 2014 was 79,139. Therefore, 375/79.139 = 4.7.

ratio for western regional cities of 1.3 police officers per 1,000 residents, the proposed Project's 155 residents would result in an increased demand of 0.2015 officer. This increase would be minimal compared to the number of officers currently employed by the Southwest Operations Division and Southeast Operations Division of the OCSD (470 staff members, of whom 375 are Deputy Sheriffs) and would not trigger the need for new or physically altered police facilities. In addition, based on a letter received March 19, 2015 (Appendix H), the OCSD maintains that existing staff levels are adequate to meet current demand for police protection within the City.

The Saddleback Station will be the center of the OCSD's activity for the region and will deploy 118 deputies, 12 sergeants, 13 investigators, and 11 Community Service Officers, as well as support staff and volunteers. To be conservative, the future officer-to-resident ratio of the Saddleback Station was calculated based on the City's projected population of 88,100 in 2020[1] plus the 155 residents that would be added to the City's population as a result of the proposed Project. The future officer-to-resident ratio in the City for the Saddleback Station would be approximately 1.3,[2] which is the average ratio for western region cities with populations under 100,000, according to the FBI. Therefore, the proposed Project would not trigger the need for new or altered facilities, potential impacts to the OCSD would be considered less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

iii) The proposed Project is located within the Saddleback Valley Unified School District (SVUSD). Foothill Ranch Elementary School, Serrano Intermediate School, and El Toro High School are the public schools that would serve the proposed Project. Foothill Ranch Elementary School is located approximately 2.7 mi northeast of the Project site at 1 Torino Drive, Lake Forest. Serrano Intermediate School is located approximately 3.5 mi south of the Project site at 24642 Jeronimo Road, Lake Forest. El Toro High School is located approximately 3.5 mi south of the Project site at 25255 Toledo Way, Lake Forest.

Based on SVUSD student generation rates for detached housing,[3] it is estimated that the proposed Project would generate approximately 12.1 elementary school students (grades K–6), 4.0 intermediate school students (grades 7–8), and 9.3 high school students (grades 9–12). The increase in students would incrementally increase the demand for school facilities.

Pursuant to California Education Code Section 17620(a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding the construction or reconstruction of school facilities. The Project Applicant would be required to pay such fees to reduce any impacts of new residential development on school services as identified in

[1] Southern California Association of Governments, Integrated Growth Forecast, Regional Transportation Plan, 2012.
[2] 88,100 + 155 = 88,255. 118 deputies deployed from the Saddleback Station. Therefore, 118/88.255 = 1.3.
[3] SVUSD. Residential Development School Fee Justification Study, June 26, 2014.

Mitigation Measure PS-2. Based on the *Agreement Between Saddleback Valley Unified School District and Meritage Homes of California, Inc.* (May 2015), the Project applicant would pay the District $8,950 per dwelling unit on a per unit basis no later than the issuance of a building permit for that unit. Pursuant to the provisions of Government Code Section 65995, a project's impact on school facilities is fully mitigated through payment of the requisite school facility development fees current at the time a building permit is issued. Therefore, with implementation of Mitigation Measure PS-2, potential impacts to school services and facilities associated with implementation of the proposed Project would be less than significant, and no mitigation is required.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

PS-2: **School Fees.** Prior to issuance of any building permits, the Project Applicant/Developer shall provide proof to the Development Services Director, or designee, that payment of fees to the Saddleback Valley Unified School District (SVUSD) have been made in accordance with the Development Agreement between the City of Lake Forest, a California Municipal Corporation, and Meritage Homes of California, Inc.

Significance Determination After Mitigation: Less Than Significant Impact.

iv) The Lake Forest Community Services Department coordinates and manages the planning and design of recreation and community facilities throughout the City. According to the Recreation and Resources Element (2010) of the City's General Plan, the City has 27 public parks covering approximately 200 ac of land. To ensure sufficient recreational opportunities, the City has established a parkland standard of 5 ac per 1,000 residents. The proposed Project includes the development of 52 single-family detached homes and would increase the City's population by approximately 155 people. The additional 155 residents would result in a demand for 0.8 ac of public parkland in the City, which is approximately 0.4 percent of the public parkland currently available in the City. The proposed Project includes development of a 0.2 ac neighborhood park that would be available only to residents of the proposed Project and their guests.

Section 7.38 of the LFMC was adopted to implement the provisions of the Quimby Act (State of California Planning and Zoning Law, Section 66477), which allows the legislative body of a city or county to require the dedication of land for park facilities and/or the payment of in-lieu fees for park and recreational purposes as a condition to the approval for a final tract map or parcel map for certain subdivisions. The proposed Project would increase the population in the City by approximately 155 people and would be subject to the dedication of land for park facilities and/or the payment of in-lieu fees for park and recreational purposes. LFMC Section 7.38.090, Payment of In Lieu Fees for Park and Recreation Purposes, states that for any subdivision containing more than 50 parcels, the Planning Commission may elect, at its sole discretion, to impose the condition of payment of in-lieu fees for park and recreation purposes instead of dedication of parkland if the subdivision is not conducive to the development of

parks and recreation facilities. Therefore, the City would require the Project Applicant/ Developer to pay such fees as identified in Mitigation Measure PS-3. The amount of in-lieu fees shall be equal to the value of the parkland that would have been dedicated and shall be set by City Council resolution. Although implementation of the proposed Project would cause an incremental increase in demand for parks, this increase would be reduced to a less than significant level by Mitigation Measure PS-3 and by the inclusion of the proposed 0.2 ac neighborhood park. Therefore, impacts to parks and parkland facilities would be less than significant, and no mitigation is required.

Significance Determination: Potentially Significant Impact.

Mitigation Measures:

PS-3: **Park Fees.** Prior to issuance of any ~~grading~~ building permits, the Project Applicant/ Developer shall provide proof to the Development Services Director, or designee, that payment of park fees to the City of Lake Forest have been made in accordance with the Development Agreement between the City of Lake Forest, a California Municipal Corporation, and Meritage Homes of California, Inc.

Significance Determination After Mitigation: Less Than Significant Impact.

v) **Public Library.** The Orange County Public Library (OCPL) has a network of 33 libraries throughout the County, and two of the OCPL branches are located in the City. The El Toro Library is located at 24672 Raymond Way, approximately 5.3 mi south of the Project site. The Foothill Ranch Library is located at 27002 Cabriole Way, approximately 2.5 mi northeast of the Project site. According to the Growth Management Element of the Orange County General Plan, the County's standards for library service are one 10,000 sf branch library facility per 50,000 residents, or if appropriate, one 15,000 sf regional library per 75,000 residents. The two libraries in the City total approximately 26,000 sf, while the City's estimated population in 2014 was 79,139. Therefore, the OCPL is currently meeting the County's standard for library size for the City.

The proposed Project would introduce approximately 155 persons into the Project area. At the County standard of one 15,000 sf regional library per 75,000 residents, the Project would not create an additional need for library service. Furthermore, authorized by Government Code Section 66001(e), the Orange County Board of Supervisors adopted resolution No. 13-062 with respect to the Development Fee program for Branch Libraries, stating that those facilities have been constructed and the fee program is no longer needed. Therefore, impacts to public libraries would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

4.15 RECREATION

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐

Impact Analysis:

a) The City maintains and operates 27 public parks, consisting of approximately 200 ac of parklands and recreational facilities. In addition, Limestone/Whiting Wilderness Park encompasses 1,101 ac of natural land in the City. Private parks are also distributed throughout the City in various Planned Communities. The additional 155 residents generated by development of the proposed Project could incrementally increase usage of City parks and recreational facilities. The City's Recreation and Resources Element (2010) established a parkland standard of 5 ac per 1,000 residents. The proposed Project's 155 residents would result in an increased demand for 0.8 ac of parkland in the City, which is approximately 0.4 percent of the parkland currently available in the City. The proposed Project includes development of a 0.2 ac neighborhood park that would only be available to residents and their guests.

Section 7.38 of the LFMC was adopted to implement the provisions of the Quimby Act (State of California Planning and Zoning Law, Section 66477), which allows the legislative body of a city or county to require the dedication of land for park facilities and/or the payment of in-lieu fees for park and recreational purposes as a condition to the approval for a final tract map or parcel map for certain subdivisions. The proposed Project would increase the City's population by approximately 155 people and would be subject to the dedication of land for park facilities and/or the payment of in-lieu fees for park and recreational purposes. LFMC Section 7.38.090, Payment of In Lieu Fees for Park and Recreation Purposes, states that for any subdivision containing more than 50 parcels, the Planning Commission may elect, at its sole discretion, to impose the condition of payment of in-lieu fees for park and recreation purposes instead of dedication of parkland if the subdivision is not conducive to the development of parks and recreation facilities. Therefore, the City would require the Project Applicant/Developer to pay such fees as identified in Mitigation Measure PS-3. The amount of in-lieu fees shall be equal to the value of the parkland that would have been dedicated and shall be set by City Council resolution. Although implementation of the proposed Project would cause an incremental increase in the use of parks, this increase would be reduced to a less than significant level by Mitigation Measure PS-3 and by the inclusion of the proposed 0.2 ac neighborhood park. Therefore, the proposed Project would not 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.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure PS-3.

Significance Determination After Mitigation: Less Than Significant Impact.

b) The proposed Project includes a 0.2 ac neighborhood park, which would be available only to residents and their guests. The proposed Project would not include any recreational facilities that would be open to the general public. The construction of the 0.2 ac neighborhood park is part of the proposed Project, and adverse physical effects associated with implementation of the proposed Project have been considered throughout the analysis of this IS/MND. For example, water use for irrigation of the neighborhood park was considered in Section 4.17, Utilities/Service Systems. Project impacts associated with an increase in water demand are considered less than significant, and no mitigation is required. Therefore, the proposed Project does not include recreational facilities that would have an adverse physical effect on the environment, and no mitigation is required.

The increase in population associated with the proposed 52 single-family detached units would total approximately 155 persons. Based on the City's parkland requirement of 5 ac per 1,000 residents, the proposed Project would increase the demand for parkland in the City by 0.8 ac. As previously mentioned, the City would require the Project Applicant/Developer to pay such fees (refer to Mitigation Measure PS-3). An appropriate evaluation of any potential impacts associated with future park facilities constructed with such fees would be undertaken by the City. The proposed Project does not involve the construction or expansion of recreational facilities beyond the 0.2 ac private park. Therefore, impacts related to construction or expansion of recreational facilities included in the proposed Project would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

4.16 CIRCULATION AND PARKING

The project would normally have a significant impact if the following criteria are met:		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	ICU (intersection capacity utilization) values at intersections, with the proposed project, exceed the City of Lake Forest performance criteria as specified in Table C-3 of the General Plan Circulation Element?	☐	☐	☒	☐
(b)	The proposed project includes design features or uses that may cause traffic hazards such as sharp curves, tight turning radii from streets, limited roadway visibility, short merging lanes, uneven road grades, or any other conditions determined by the City traffic engineer to be a hazard.	☐	☐	☒	☐
(c)	The project provides less parking than required, applying the standards found in the City of Lake Forest Municipal Code.	☐	☐	☒	☐

Impact Analysis:

a) Roadway performance is most often controlled by the performance of intersections, specifically during peak traffic periods. This is because traffic control at intersections interrupts traffic flow that would otherwise be relatively unimpeded except for the influences of on-street parking, access to adjacent land uses, or other factors resulting in interaction of vehicles between intersections. For this reason, traffic analyses for individual projects typically focus on peak-hour operating conditions for key intersections rather than roadway segments.

Signalized Intersections. The operational characteristics of an intersection are determined by calculating the intersection's level of service (LOS). The intersection as a whole and its individual turning movements can be described alphabetically with a range of LOS (A through F), with LOS A indicating free-flow traffic and LOS F indicating extreme congestion and long vehicle delays. At signalized intersections, LOS was calculated using the Intersection Capacity Utilization methodology. LOS at signalized intersections is measured based on the sum of the volume-to-capacity ratios of the critical movements. Table 4.16.A shows LOS criteria for signalized intersections.

Unsignalized intersections. LOS at unsignalized intersections is classified by two intersection types: all-way, stop-controlled and two-way, stop-controlled. All-way, stop-controlled intersection LOS are expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS are defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected in terms of its individual movements rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection are defined in terms of its individual movements. With this in mind, the total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 4.16.B shows LOS criteria for unsignalized intersections (both all-way and two-way, stop-controlled).

Table 4.16.A: Level of Service Criteria for Signalized Intersections (ICU Methodology)

LOS	ICU Value (v/c)	LOS Description
A	≤0.60	Free Flow
B	0.61–0.70	Stable Flow (slight delays)
C	0.71–0.80	Stable flow (acceptable delays)
D	0.81–0.90	Approaching unstable flow (tolerable delays)
E	0.91–1.00	Unstable flow (intolerable delays)
F	≥1.00	Forced flow (jammed)

Source: *Transportation Impact Analysis Encanto Residential* (Transpo Group, April 2015).
ICU = Intersection Capacity Utilization
LOS = level of service
v/c = volume-to-capacity ratio

Table 4.16.B: Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay (sec/veh)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

Source: *Transportation Impact Analysis Encanto Residential* (Transpo Group, April 2015).
LOS = level of service
sec/veh = seconds per vehicle

LOS D is the performance standard for the signalized intersections in the study area as adopted by the City and OCTA as part of the County's Congestion Management Program (CMP). Table 4.16.C provides the performance criteria specified in the City's General Plan Circulation Element (Table C-3 in the City's General Plan).

The study intersections include:

1. Commercentre Drive/Alton Parkway (signalized)
2. Commercentre Drive/Larkspur (Site Access) (unsignalized)
3. Commercentre Drive/Bake Parkway (signalized)

Table 4.16.C: City of Lake Forest Performance Criteria

Calculation Methodology

LOS to be based on peak-hour ICU values calculated using the following values:

- Saturation Flow Rate: 1,700 vehicles/hour/lane
- Clearance Interval: 0.05
- Right-Turn-on-Red Utilization Factor[1]: 0.75

Performance Standard

LOS D (peak-hour ICU less than or equal to 0.90) for all intersections except Critical Intersections where LOS E (peak-hour ICU less than or equal to 1.00) is acceptable with the requirement that regular monitoring take place.

Mitigation Requirement for Project Impacts

For ICU greater than the acceptable LOS, mitigation of the project's contribution is required to bring the intersection back to an acceptable LOS or to no project conditions if the project's contribution to the ICU is greater than 0.01.

Source: City of Lake Forest General Plan Circulation Element Table C-3 (July 2008).

[1] The "de-facto" right-turn lane is assumed in the ICU calculation if 19 feet from the edge to the outside of the through-lane exists and parking is prohibited during peak periods.

The study area includes those intersections most likely to be used by vehicles traveling to and from the Project and takes into account the trip generation of the Project. Beyond the selected study area intersections, the Project trips would add less than 1 percent to any critical movement at any intersection and would therefore not have a measureable effect beyond the selected study area.

Two Lake Forest arterials, El Toro Road and Trabuco Road west of El Toro Road, are components of the Orange County CMP system. Both arterials are beyond the selected study area for Project trips. No impacts are anticipated to CMP facilities.

The study intersections were analyzed for the following four study scenarios in addition to the construction period:

- Existing Conditions
- Forecast Existing Conditions Plus Project Conditions
- Forecast Year 2030 Without Project Conditions
- Forecast Year 2030 With Project Conditions

The vehicle trip generation for the Project was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation* (9th Edition, 2012) for Land Use #210 – Single-Family Detached Housing. The proposed Project (52 single-family homes) is anticipated to generate 39 trips during the AM peak hour, 52 trips during the PM peak hour, and 496 daily trips.

Construction. The Project would be constructed in four phases: Phase 1, Site Preparation; Phase 2, Grading; Phase 3, Construction and; Phase 4, Paving. Heavy construction equipment would be moved on-site at the beginning of each construction phase and would remain on-site throughout that phase. Construction trips that would be generated on a daily basis throughout each phase would consist mostly of construction workers and delivery of construction materials. The phase with the highest construction trip generation would be Phase 3, Construction. During this phase, there would be 72 passenger car equivalent (PCE) construction trips generated on a daily basis, with 24 trips occurring during the a.m. peak hour and 24 trips occurring during the p.m. peak hour.

Although construction activities would generate fewer overall peak-hour trips than operation of the proposed Project, the direction of the trips is different. During construction, most trips would be inbound during the AM peak hour and outbound during the PM peak hour. During Project operation, the opposite condition would occur, with most trips outbound during the AM peak hour and inbound during the PM peak hour. An intersection analysis was conducted to evaluate the existing (2015) weekday AM and PM peak-hour conditions without and with construction activities.

According to the *Transportation Impact Analysis* (Transpo Group, April 2015; Appendix G) prepared for the proposed Project, all study area intersections would continue to operate at LOS C or better during the weekday AM and PM peak hours in the existing (2015) weekday AM and PM peak-hour conditions without and with construction activities. Therefore, all study area intersections would meet the City's LOS D standard and no Project construction impacts are anticipated. No mitigation is required.

Operation. An intersection operations analysis was conducted in the study area to evaluate the existing (2015) and future (2030) weekday AM and PM peak-hour conditions with the Project. According to the *Transportation Impact Analysis* prepared for the proposed Project, all study area intersections would continue to operate at LOS C or better during the weekday AM and PM peak hours in both the existing (2015) and future (2030) conditions with Project operation. Therefore, all study area intersections would meet the City's LOS D standard and no Project operation impacts are anticipated. No mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

b) Circulation through the residential community would occur via a private access drive that would provide direct access to each residential unit's garage. Curb cuts, which would be limited due to the use of wedge curbs, would be constructed to City standards. Internal vehicle queuing and stacking would not impact ingress and egress to the site because driveway throat lengths are sufficient. In addition, the Project driveway is anticipated to operate at an acceptable LOS. There are no sharp curves or other roadway design elements that would create dangerous conditions. The proposed Project would also be required to submit plans to the City and the OCFA for review and approval prior to the issuance of

building permits. Therefore, the proposed Project would result in a less than significant impact related to hazards associated with a design feature, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

c) Based on the City's parking requirement (LFMC Section 9.168.040[1]), the proposed Project would be required to provide 160 parking spaces (2 garage spaces per unit, 1 open space per unit for units with garages setback less than 17 feet from the back of the curb or sidewalk, and 0.2 guest space per unit). The proposed Project would provide 104 garage parking spaces, 46 open spaces, 11 guest spaces, for a total of 161 parking spaces. Open and guest parking spaces would be located throughout the residential community to meet the City's parking requirement that one additional parking space be located within 200 ft of a dwelling. Therefore, the proposed Project would not result in a significant impact related to parking, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

[1] Section 9.168.040, Residential off-street parking requirements, requires 2 garage spaces per unit, 1 open space per unit for units with garages setback less than 17 feet from the back of the curb or sidewalk, and 0.2 guest space per unit.

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4.17 UTILITIES/SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 wastes.	☐	☐	☒	☐

Impact Analysis:

a) The proposed Project is not an industrial facility and is not subject to the wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB).

Local governments and water districts are responsible for complying with federal regulations, both for wastewater plant operation and the collection systems (e.g., sanitary sewers) that convey wastewater to the wastewater treatment facility. Proper operation and maintenance is critical for sewage collection and treatment as impacts from these processes can degrade water resources and affect human health. For these reasons, publicly owned treatment works (POTWs) receive WDRs to ensure that such wastewater facilities operate in compliance with the water quality regulations set forth by the State. WDRs, issued by the State, establish effluent limits on the kinds and quantities of pollutants that POTWs can discharge. These permits also contain pollutant monitoring, record-keeping, and reporting requirements. Each POTW that intends to discharge into the nation's waters must obtain a WDR prior to initiating its discharge.

Implementation of the proposed Project would result in the development of up to 52 residential units on the Project site. The Project site is within the sewer service area of the IRWD's Michelson Water Reclamation Plant (MWRP). Because IRWD's MWRP is considered a POTW, operational discharge flows treated at IRWD's MWRP would be required to comply with applicable WDRs issued by the Santa Ana RWQCB. Compliance with conditions or permit requirements established by the City as well as WDRs outlined by

the Santa Ana RWQCB would ensure that wastewater discharges coming from the Project site and treated by the wastewater treatment facility system would not exceed applicable Santa Ana RWQCB wastewater treatment requirements. Therefore, a less than significant impact associated with this issue would occur, and no mitigation is required.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

b) **Water.** The City is served by the El Toro Water District, the Trabuco Canyon Water District, and IRWD. IRWD would be the primary water supplier to the Project site. IRWD's service area covers an area of 181 square miles and includes the City of Irvine and portions of the Cities of Costa Mesa, Lake Forest, Newport Beach, Tustin, Santa Ana, and Orange, as well as unincorporated Orange County. IRWD provides potable and non-potable water supply services to a population of approximately 370,000 residents. Approximately 25 percent of IRWD's supply is recycled water. In fiscal year 2012–2013, IRWD delivered approximately 93,037[1] acre-feet (af) of water (including potable and non-potable water). IRWD delivered 98,431[2] acre-feet of water (including potable and non-potable water) in fiscal year 2013-2014.

In April 2015, the Governor of the State of California issued an Executive Order directing the SWRCB to implement mandatory potable water reductions in cities and towns across California to reduce water usage by 25 percent. These restrictions will require water suppliers to California's cities and towns to reduce usage compared to the amount used in 2013. Every water purveyor does not have the same target percentage and the reductions range from 4 to 36 percent. IRWD has been tasked by the State to reduce drinking water use throughout ~~the~~ its service area by 16 percent.

IRWD has an adopted Water Shortage Contingency Plan (WSCP) that provides guidelines for specific responses to levels of drought ranging from Stage 1 to Stage 4 as shown in Table 4.17.A. The WSCP provides IRWD with a series of measures that may be implemented during a water shortage or drought conditions. On July 13, ~~2105~~2015, IRWD declared a Level Two Water Shortage. This is the first time in the history of IRWD that a Level Two Water Shortage has been declared.

[1] IRWD, An Overview. http://irwd.com/images/pdf/about-us/IRWD-FactSheet-8-14.pdf, accessed April 17, 2015.

[2] IRWD, Comments on the Notice of Intent to Adopt an MND for the Encanto Residential Project at 25192 Commercentre Drive. October 1, 2015.

Table 4.17.A: IRWD Water Shortage Levels

Stage Number	Water Supply Condition	Percent Shortage
1	Shortage Warning and Low-Level Shortage	Up to 10 percent
2	Significant Shortage	10 to 25 percent
3	Severe Shortage	25 to 40 percent
4	Crisis Shortage Condition	>40 percent

Source: IRWD Water Shortage Contingency Plan (February 2009).

In order to accomplish the State-mandated reductions, IRWD has implemented the following water shortage measures.

- **Level One Water Shortage Measures Already in Effect:**
  - Prevention of irrigation runoff and water waste
  - Leak prevention
  - Ban on washing down hard or paved surfaces, except when necessary to alleviate safety or sanitary hazards
  - Ban on the use of non-recirculating decorative fountains or water features
  - Ban on single-pass cooling
  - Ban on the use of a hose for vehicle washing unless the hose has a positive, automatic shut-off device
- **Level Two Water Shortage Measures Included in the Level Two Declaration:**
  - Customers shall reduce potable landscape watering by up to 50 percent.
  - Swimming pools shall be filled to a lower level to minimize water loss due to splashing.
  - Discretionary maintenance requiring refilling of swimming pools shall be prohibited. Filling newly constructed pools and refilling pools for required, non-discretionary maintenance are not subject to the ban.
  - Commercial conveyor and in-bay car wash systems must reuse water if equipped to do so.
  - Recycled water shall be required for construction activities, including earthwork, dust control, and cleanup. IRWD may, at its discretion, waive this requirement if it can be demonstrated to IRWD's satisfaction that compliance with the requirement imposes undue hardship.
  - The use of recycled water is required for street sweeping activities. IRWD may, at its discretion, waive this requirement if it can be demonstrated to the IRWD's satisfaction that compliance with the requirement imposes undue hardship.
  - Common-interest associations shall not fine or assess owners of separate interests for reducing or eliminating the watering of vegetation or lawns, unless the association

uses only recycled water for irrigation of its common areas and recycled water is also available at the irrigated area of the separate interest.

- IRWD, by separate action, shall implement demand management measures through adjustments in the allocation-based pricing structure. (On June 22, 2015, the Board adopted No. 2015-17 implementing such adjustments.)

If the water shortage progresses to a Level 3 or Level 4 water shortage, IRWD will employ additional strategies to achieve necessary demand reductions. According to IRWD, most shortages, unless extreme (e.g., Level 4), can be addressed with a combination of voluntary measures and a reduction of discretionary uses through financial incentives.

The Project site was previously rough graded and is currently undeveloped. The proposed Project includes installation of a new domestic water line that would connect to an existing 12-inch PVC line in Commercentre Drive, which connects to an existing 18-inch CML line in Alton Parkway. The proposed Project also includes the installation of a recycled water hydrant on the Project site. The recycled water hydrant would connect to the existing 12-inch recycled water line in Commercentre Drive. Recycled water would only be used during construction. The proposed Project would increase demand for water, and on-site infrastructure is required for the Project to be completed. A discussion of water use during construction and operation of the proposed Project is included below.

Water Use During Construction. Short-term demand for water may occur during construction activities on-site. Water demand for soil watering (fugitive dust control), cleanup, masonry, painting, and other activities would be temporary and would cease at Project build out (2017). It is estimated that 1 to 2 af of water per day (325,851 gallons per acre-foot) would be used at the site during earthmoving activities. To control fugitive dust, an additional 30 to 35 gallons per cubic yard of material to be moved would be used. For the proposed Project, that would result in a water demand of approximately 315,000 gallons for fugitive dust control.

Following the State of Emergency declared by Governor Jerry Brown in January 2014 due to the State's drought, SCAQMD approved a plan to address drought conditions while maintaining air quality. The plan, adopted on June 6, 2014, seeks to ensure that businesses would continue to operate without further increasing water shortages resulting from the drought. Application of water is one of the predominant measures used to control fugitive dust in the South Coast Air Basin. SCAQMD's Drought Management and Water Conservation Plan promotes water-sparing alternatives such as:

- Paving unpaved roadways and using vacuum sweepers instead of water to remove dust from paved areas.
- Increasing reliance on non-toxic chemical dust suppressants to stabilize soils.
- Increasing use of physical/mechanical barriers to contain or limit transport of fugitive dust.

In addition, IRWD encourages construction contractors to utilize recycled water for fugitive dust control during the Level Two Water Shortage. As stated above, the proposed Project includes installation of a recycled water hydrant on the Project site. The recycled water hydrant would connect to the existing 12-inch recycled water line in Commercentre Drive. Recycled water would only be used during construction.

It is anticipated that all water utilized during construction to control fugitive dust would be recycled water. During construction of the recycled water hydrant on the Project site, water would be necessary for fugitive dust control and soil compaction. It is anticipated that recycled water would be trucked to the Project site from an existing recycled water hydrant in the Baker Ranch Community and that one truckload of water would be sufficient.

IWRD is not currently experiencing a shortage related to recycled (non-potable) water. According to IWRD, ~~reclaimed~~ recycled water production remains constant and is considered "drought-proof" as a result of the fact that sewage flows remain virtually unaffected by dry years.[1] Therefore, water supply is available to meet the incremental increase in demand from the proposed Project during construction. The Project would not necessitate new or expanded water entitlements, and IRWD would be able to accommodate the increased demand for recycled water. Therefore, Project impacts associated with an increase in recycled water demand are considered less than significant, and no mitigation is required.

Water Use During Operation. Due to the diversity of IRWD's supplies, the supplies remain essentially constant between normal, single dry, and multiple dry years. This is due to the fact that groundwater and water imported from the Metropolitan Water District of Southern California (MWD) account for all of IRWD's potable supply, and recycled water, groundwater, and imported water comprise most of IRWD's nonpotable supply. Groundwater production typically remains constant or increases in cycles of dry years, even if overdraft of the basin temporarily increases, as groundwater producers reduce their demand on imported supplies to secure reliability. IRWD utilizes the basis years from MWD's 2010 Regional Urban Water Management Plan (RUWMP) to represent past dry periods through 2035, including a repeat of the 1990–1992 multiple-dry-year hydrology and the 1977 single dry-year hydrology. IRWD's average water year is represented in 2003. The supply and demand forecasts for the multiple-dry-year scenario (considered to be worst-case scenario) are shown in Table 4.17.B. As shown in Table 4.17.B, in the multiple-dry-year scenario, IRWD's projected water demand in 2020 would be 120,196 acre-feet per year (afy), and IRWD's projected water supply in 2020 would be 177,674 afy. According to the UWMP, IRWD is capable of meeting the water demands of its customers (existing and planned) with substantial reserves in multiple dry years from 2015 through 2035.

[1] 2010 Urban Water Management Plan. IRWD. June 2011. Page 61.

Table 4.17.B: Water Supply and Demand Projections Comparison – Multiple-Dry-Year Third-Year Supply (2015–2035)

Year	Water Supply (afy[1])	Water Demand (afy)	Surplus/Shortage (afy)
2015	173,610	118,031	Surplus: 55,579
2020	177,674	120,196	Surplus: 57,478
2025	177,674	127,692	Surplus: 49,982
2030	177,674	128,651	Surplus: 49,023
2035	177,674	129,592	Surplus: 48,082

Source: Irvine Ranch Water District, 2010 Urban Water Management Plan, 2011. Table 34.
[1] An acre-foot is the amount of water necessary to cover 1 acre of surface area to a depth of 1 foot and is approximately 326,000 gallons of water.
afy = acre-feet per year

Long-term demand for water would occur during operation of the proposed Project. As shown in Table 4.17.C, it is estimated that the proposed Project's average daily potable water demand would be approximately 18,460 ~~19,860~~ gallons/day (gpd), or 20.68 ~~22.25~~ afy and the Project's average daily recycled water demand would be approximately 2,996 gpd or 3.36 afy. Therefore, the proposed Project would represent a small portion (0.04 percent) of IRWD's projected surplus potable water supply in 2020.

Table 4.17.C: Estimated Water Demand for the Proposed Project

Land Use	Proposed Project	Demand Coefficient	Water Demand
Potable Water			
Residential – Low-Medium Density (interior and exterior)	52 du	355 gal/du/day	18,460 gal/day
Potable Water Total			18,460 gal/day
Recycled Water			
Community Park	0.21 ac	2,200 gal/ac/day	440 gal/day
Common Landscaped Areas (HOA maintained)	0.08 ac	2,200 gal/ac/day	176 gal/day
Fuel Modification Zones & Slopes	2.38 ac	1,000 gal/ac/day	2,380 gal/day
Recycled Water Total			2,996 gal/day

Source: IRWD, Water Resources Master Plan, Table 3-1, Interim Land Use and Water Use Factors (January 2012).
Note: The area calculation for the Fuel Modification Zones in Table 4.17.C includes Fuel Modification Zone B, which is not within the project boundary but will be subject to off-site improvements (clearing, irrigation, and maintenance) as explained in Section 2.0, Project Description.
ac = acre(s)
du = dwelling unit(s)
gal = gallon(s)

As required of all new development in California, the proposed Project would comply with California State law regarding water conservation measures, including pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of

water-efficient appliances. In addition to complying with applicable Title 24 provisions, the proposed Project would incorporate additional water conservation measures including, but not limited to:

- Energy Star dishwashers;
- High-efficiency (low-flow) plumbing fixtures;
- Two-button, dual-flush toilets; ~~and~~
- An electrically operated irrigation system utilizing weather sensors and low-volume irrigation; and
- Compliance with the City's Model Water Efficient Landscape Ordinance.

Incorporation of these water conservation measures would reduce the water demands of the proposed Project, however, as detailed above, water supply is available to meet the incremental increase in demand from the proposed Project even without these measures. In addition, through a conditional "will serve" letter (Appendix H), IRWD has stated that it would have adequate water supplies to furnish each and every building lot, without exception, in the tentative tract, subject to certain conditions, including but not limited to the installation of the necessary in-tract distribution mains that would be installed as part of the proposed Project. As such, the proposed Project would not necessitate new or expanded water entitlements, and IRWD would be able to accommodate the increased demand for potable water. Therefore, Project impacts associated with an increase in potable water demand are considered less than significant, and no mitigation is required.

Water Distribution. As stated above, the proposed Project includes installation of a new domestic water line that would connect to an existing 12-inch PVC line in Commercentre Drive, which connects to an existing 18-inch CML line in Alton Parkway. According to IRWD,[1] the existing 12-inch PVC line in Commercentre Drive has a design capacity for an average flow of 1,763 gallons/minute (gpm). The 19,860 gpd (approximately 14 gpm) of water demanded by the proposed Project would be approximately 0.80 percent of the total daily capacity of the existing 12-inch pipe in Commercentre Drive.

Installation of water and sewer facilities sufficient to serve a proposed project is a standard condition for development projects. In addition, a SAMP, a water and sewer facility planning study prepared by IRWD for a specific planning area or development proposal, ~~may~~ will be required prior to ~~final approval of the development plans~~ issuance of building permits. Section 1.2 of the IRWD Procedures Guidelines states, "Larger projects may require the preparation of a service feasibility study or a Sub-Area Master Plan (SAMP) to determine whether the existing IRWD facilities are adequate to serve the needs of the proposed development at build out or if new IRWD facilities are required to be constructed to handle the additional demands." The Procedures Guidelines leave the definition of "large projects" to IRWD staff discretion. Generally, any multi-unit residential, commercial, or industrial project will require a SAMP or SAMP addendum.

[1] Correspondence with Mitchell Robinson, E.I.T. Assistant Engineer, Planning at IRWD. May 7, 2015.

Therefore, given that the proposed Project would utilize a small percent of the daily capacity of the existing pipe in Commercentre, and IRWD's standard requirements for facility planning, adequate water distribution facilities would exist to serve the project. Project impacts related to the existing water distribution facilities would be less than significant, and no mitigation is required.

Wastewater. As previously identified, IRWD is also the wastewater service provider for the Project site. IRWD's sanitary sewer system conveys wastewater to two treatment plants through more than 800 mi of sewer distribution pipelines, the MWRP in Irvine, and the Los Alisos Water Recycling Plant in Lake Forest. The proposed Project would be served by the MWRP. According to the 2010 UWMP,[1] the permitted capacity of the MWRP is 18 million gallons per day (mgd) and the average flow is approximately 18 mgd. According to IRWD,[2] in 2014, the capacity of the MWRP was increased from 18 mgd to 28 mgd. Planners estimate that, when the service area reaches "final build out" in approximately 2025, a recycled water capacity of 33 mgd would be required to meet demand. A Master Plan was prepared to ensure that the MWRP would meet these requirements.

Based on the "local-interior" factor in IRWD's Water Resources Master Plan[1] (January 2012), it is estimated that the proposed Project would generate approximately 10,660 gpd, or 0.01066 mgd, of wastewater. The proposed Project would require approximately 0.1 percent of the available daily treatment capacity at MWRP. Therefore, increased wastewater flows from the proposed Project can be accommodated within the existing design capacity of the MWRP.

The proposed Project includes installation of a new sanitary sewer line that would connect to an existing 8-inch VCP line in Commercentre Drive, which connects to an existing 15-inch VCP line in Alton Parkway. According to IRWD,[3] the existing 8-inch VCP line in Commercentre Drive currently has the design capacity for the average flow of approximately 772 gpm, or 1,111,680 gpd. The existing flow in the sewer adjacent to the Project site is approximately 60 gpm, or approximately 90,000 gpd. The 10,660 gpd of wastewater generated from the proposed Project would be approximately 1 percent of the total available daily capacity of the existing 8-inch pipe in Commercentre Drive. As IRWD has confirmed that no sewer deficiency currently exists in the downstream area along Alton Parkway, the proposed Project would have no significant impact to the existing sewer system's capacity.

Installation of water and sewer facilities sufficient to serve a proposed project is a standard condition for development projects. In addition, a SAMP, a water and sewer facility planning study prepared by IRWD for a specific planning area or development proposal, ~~may~~ will be required prior to ~~final approval of the development plans~~ issuance of building permits. Section 1.2 of the IRWD Procedures Guidelines states, "Larger

1 2010 UWMP. 2010 Urban Water Management Plan. IRWD. June 2011.
2 IRWD Facilities, http://www.irwd.com/construction/facilities, accessed June 10, 2015.
3 Written correspondence with Mitchell Robinson, IRWD, May 7, 2015.

projects may require the preparation of a service feasibility study or a Sub-Area Master Plan (SAMP) to determine whether the existing IRWD facilities are adequate to serve the needs of the proposed development at build out or if new IRWD facilities are required to be constructed to handle the additional demands." The Procedures Guidelines leave the definition of "large projects" to IRWD staff discretion. Generally, any multi-unit residential, commercial, or industrial project will require a SAMP or SAMP addendum.

Therefore, the proposed Project would not require, nor would it result in, the construction of new wastewater treatment or collection facilities or expansion of existing facilities other than those facilities to be constructed on-site, which could cause significant environmental effects. Project impacts related to the construction of wastewater treatment or collection facilities are less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

c) The City of Lake Forest is a co-permittee on the Orange County Municipal Separate Storm Sewer System (MS4) permits issued by both the San Diego and Santa Ana RWQCBs for the Area-Wide Urban Storm Water Permits pursuant to the NPDES program under Section 402(p) of the federal CWA. These permits regulate urban storm water runoff, surface runoff, and drainage that flow into the MS4 system. The City's storm water drainage system flows into Orange County Flood Control District facilities. The City is responsible for regulating inflows to and discharges from its municipal storm drainage system. The Project site is located in the jurisdiction of the Orange County MS4 Permit issued by the Santa Ana RWQCB.

As discussed in Section 4.6, Hydrology and Water Quality, the proposed Project would increase impervious surface area on-site, which would increase the volume of runoff from the site. However, the additional runoff would be captured and detained ~~infiltrated~~, which would ~~substantially~~ reduce the peak flow rate so that it does not exceed existing conditions. Therefore, the Project would not exceed the capacity of the downstream storm drain lines. Because the volume runoff from the site would be equal to or lower than existing conditions, the proposed Project would not contribute additional runoff to the downstream storm water drainage facilities or cause the expansion of existing facilities. Therefore, impacts to storm water drainage facilities would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact.

Mitigation Measures: No mitigation is required.

d) Refer to Response 3.17.b. The relatively moderate increase in water use would be accounted for in the anticipated growth rates for the City. The Project would not necessitate new or expanded water entitlements, and ~~the City~~ IRWD would be able to accommodate the increased demand for potable water from the Project. In addition, through a conditional "will

serve" letter (Appendix H), IRWD has stated that it would have adequate water supplies to furnish each and every building lot, without exception, in the tentative tract, subject to certain conditions, including but not limited to the installation of the necessary in-tract distribution mains that would be installed as part of the proposed Project. Therefore, IRWD would have sufficient water supplies available to serve the Project from existing entitlements and resources and would not require new or expanded entitlements. Therefore, impacts related to water supplies are less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

e) Refer to Response 3.17.b. Although the Project would increase water demand on-site, the increased wastewater flows from the proposed Project can be accommodated within the existing design capacity of the treatment plants that serve the City. In addition, through a conditional "will serve" letter (Appendix H), IRWD has stated that it would be able to provide sewer service to each and every building lot, without exception, in the tentative tract, subject to certain conditions, including but not limited to the installation of the necessary in-tract sewer mains that would be installed as part of the proposed Project. Therefore, the wastewater treatment provider would have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Therefore, impacts related to wastewater generation are less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

f) The Project site is located within Orange County Waste & Recycling's (OCWR) service area. OCWR owns and operates three landfills in Orange County that accept municipal solid waste. These include the Frank R. Bowerman Landfill in Irvine, which accepts commercial waste only; the Olinda Alpha Landfill in Brea, which accepts both public and commercial waste; and the Prima Deshecha Landfill in San Juan Capistrano, which also accepts both public and commercial waste. All three landfills are Class III and only accept non-hazardous municipal solid waste.

Within the City, collection of solid waste is contracted to CR&R Incorporated (CR&R). CR&R collects solid waste, green waste (i.e., grass clippings, tree and shrub clippings), and items for recycling. The company provides three different carts for automated collection of waste, recyclables, and green waste.

Frank R. Bowerman Landfill, located at 110002 Bee Canyon Access Road, Irvine, is the closest OCWR landfill to the Project site and would be expected to provide waste disposal for the proposed Project once it is operational. This landfill is permitted to accept up to11,500[1] tons of solid waste per day and currently accepts a daily average of approximately 4,716[2] tons of solid waste per day. The landfill opened in 1990 and is anticipated to close in approximately 2053.

As illustrated by Table 4.17.D, the proposed Project would generate a total of 635.96 pounds of solid waste per day (0.32 tons per day) of solid waste.

Table 4.17.D: Project Solid Waste Generation

Land Use	Proposed Project	Generation Rate	Total Solid Waste Generated per day
Single-Family Residential	52 units	12.23 lbs/household/day	635.96 lbs

Source: CalRecycle, Estimated Solid Waste Generation and Disposal, Residential Developments; LSA Associates, Inc., April 2015.
lbs = pounds

The incremental increase of solid waste generated by the proposed Project would constitute approximately 0.005 percent of the average daily available capacity (approximately 6,784 tons per day) at the Frank R. Bowerman Landfill. Solid waste generated by the proposed Project would not exceed the capacity of the Frank R. Bowerman Landfill. The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs. Therefore, the proposed Project would result in a less than significant impact to solid waste and landfill facilities, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

g) The California Integrated Waste Management Act of 1989 (AB 939) changed the focus of solid waste management from landfill to diversion strategies such as source reduction, recycling, and composting. The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995 and 50 percent by 2000. As of 2011, the City had accomplished a waste diversion rate of 78 percent.[3]

It is expected that the proposed Project would comply with existing or future statutes and regulations, including waste diversion programs mandated by City, State, or federal law. In addition, as discussed above, the proposed Project would not result in excessive production of

1 Frank R. Bowerman Landfill. http://oclandfills.com/landfill/active/bowerman, accessed April 17, 2015.
2 SWANA 2013 Landfill Management Excellence Award Nomination. https://swana.org/Portals/0/Awards/2013/Landfill_Management_Bronze.pdf, accessed April 17, 2015.
3 City of Lake Forest 2012 Annual Report, Waste Management of Orange County. http://www.lakeforestca.gov/civica/filebank/blobdload.asp?BlobID=8091, accessed April 17, 2015.

solid waste that would exceed the capacity of the existing landfill serving the Project site. Therefore, the proposed Project would not result in an impact related to federal, State, or local statutes and regulations related to solid waste, and no mitigation is required.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
(b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐
(c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☐	☐	☒	☐
(d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis:

a) The Project site was previously rough graded and is currently undeveloped. A small concrete driveway, a gravel parking lot with cement curbs and light fixtures, and a sidewalk surrounding a dirt pad where a temporary office trailer was previously located are currently on the Project site. There is also a small trash enclosure located near the existing Project entry. Based on the Project Description and the preceding responses, development of the proposed Project does not have the potential to degrade the quality of the natural environment. According to the *Biological Technical Report for the Encanto Residential Project* (Glenn Lukos Associates, Inc., May 2014; Appendix B), no portion of the Project site or the immediately surrounding areas contains an open body of water that serves as natural habitat in which fish could exist. Likewise, the Project site is generally not suitable to support special-status species, and no known candidate, sensitive, or special status-species were observed inhabiting the Project site during the general survey and habitat assessment. There is a low potential[1] for certain reptiles and birds to be observed on the Project site. Due to the small area of impact and the higher quality of habitat available in the adjacent open space, impacts to candidate, sensitive, or special-status plant or animal species would be less than significant.

Due to the disturbed and maintained condition of the Project site, the site provides limited suitable habitat for ground-nesting migratory birds. However, if vegetation is allowed to

[1] The species has a low potential to occur on-site based on suitable habitat; however, its presence/absence could not be confirmed.

persist within the Project site, the proposed Project may have the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to September 15). Disturbing or destroying active nests is a violation of the MBTA. Project implementation must be accomplished in a manner that avoids impacts to active nests during the breeding season. Therefore, if Project construction (including fuel modification) occurs between February 1 and September 15, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to ground- and/or vegetation-disturbing activities to confirm the absence of nesting birds. As documented in Mitigation Measure B-1, avoidance of impacts can be accomplished through a variety of means, including establishing suitable buffers around any active nests. Compliance with Mitigation Measure B-1 would ensure that the Project adheres to the MBTA, thereby reducing potential Project impacts related to biological resources to a less than significant level.

According to the *Cultural and Paleontology Resources Inventory Report* (ICF International, August 2015; Appendix C), the likelihood of encountering archaeological resources in the Project site is considered low because the Project site has been extensively altered by previous ground disturbance. However, due to the proximity of numerous prehistoric cultural resources within a 0.5 mi radius of the Project site, and because prehistoric settlements typically occur in proximity to natural waterways, there is a potential to encounter buried, previously unrecorded cultural resources during Project construction. To mitigate this potential impact to archaeological resources, an archaeological monitor would be required to be present on-site during grubbing, earthmoving, or trenching activities. Mitigation Measure C-1 requires that an archaeologist be on-site during all grubbing, earthmoving, or trenching activities and other significant ground-disturbing activities. Implementation of Mitigation Measure C-1 would reduce any potential impacts to previously undiscovered cultural resources to a less than significant level. Therefore, with implementation of Mitigation Measure C-1, potential impacts related to unknown buried archaeological resources would be reduced below a level of significance.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures B-1 and C-1.

Significance Determination After Mitigation: Less Than Significant Impact.

b) *State CEQA Guidelines* Section 15065(a)(2) states that a Lead Agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. As discussed in Section 4.4, Biological Resources, development of the proposed Project would not result in significant impacts to any sensitive habitat species identified in the Orange County NCCP/HCP. The proposed Project would not conflict with local ordinances or the adopted HCP, NCCP, or other approved local, regional, or State HCP. As discussed in Section 4.7, Greenhouse Gas Emissions, the proposed Project would result in a less than significant impact related to GHG emissions and would not impede or interfere with achieving the State's emission reduction objectives in AB 32. As a result, the proposed Project would not result in or substantially contribute to cumulatively considerable

GHG emissions. In addition, as discussed in Section 4.10, the proposed Project would be consistent with applicable City of Lake Forest General Plan policies. As discussed in Sections 3.1 through 3.17, the proposed Project would not result in any significant unavoidable impacts. Therefore, the proposed Project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

c) The Project site was previously rough graded and is currently undeveloped. The Project proposes to change the General Plan land use designation of the Project site from Light Industrial to Low-Medium-Density Residential (7 to 15 du/ac). The Project site currently has a zoning designation of Pacific Commercentre Planned Community – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a PD District as the combining district. Impacts related to the proposed Project are less than significant or can be reduced to less than significant levels with the incorporation of mitigation measures.

Section 15130 of the *State CEQA Guidelines* discusses the requirements for a cumulative analysis requires either the use of a list of cumulative projects or a summary of project, such as those in the LFTAM model used in the *Transportation Impact Analysis* (Transpo Group, April 2015; Appendix G). As discussed in Section 4.16, Circulation and Parking, with the addition of Project traffic, cumulative Project traffic, and the ambient growth rate, all study area intersections would continue to operate at acceptable LOS (LOS D or better) during the a.m. and p.m. peak hours. Therefore, no mitigation is required.

As discussed in Section 4.7, Greenhouse Gas Emissions, the proposed Project would result in a less than significant impact related to GHG emissions and would not impede or interfere with achieving the State's emission reduction objectives in AB 32. As a result, the proposed Project would not result in or substantially contribute to cumulatively considerable GHG emissions.

The proposed Project does not exceed the SCAQMD's localized and significance thresholds, would not result in cumulative impacts, and is therefore not cumulatively considerable.

In summary, the proposed Project would rely on and can be accommodated by the existing road system, public services, and utilities. Impacts of the proposed Project would not be cumulatively considerable in connection with the effects of past projects, the effects of other current projects, or the effects of probable future projects.

Significance Determination: Less Than Significant Impact.

Mitigation Measures: No mitigation is required.

d) The Project site was previously rough graded and is currently undeveloped. The proposed Project includes the development of a gated residential community consisting of 52 two-story (with an optional third story provided for a specific floor plan) single-family detached residential units. The Project proposes to change the General Plan land use designation of the Project site from Light Industrial to Low-Medium-Density Residential (7 to 15 du/ac). The Project site currently has a zoning designation of Pacific Commercentre Planned Community – High Technology. The Project proposes to rezone the Project site to R2 Multifamily Dwellings District as the base district, with a PD District as the combining district. Based on the Project Description and the preceding responses, development of the proposed Project would not cause substantial adverse effects on human beings because all potentially significant impacts of the proposed Project can be mitigated to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures A-1, B-1, C-1 through C-3, G-1, L-1, N-1 and N-2, PS-1 through PS-3, and WQ-1 through WQ-4.

Significance Determination After Mitigation: Less Than Significant Impact.

5.0 MITIGATION MONITORING AND REPORTING PROGRAM

5.1 MITIGATION MONITORING REQUIREMENTS

PRC Section 21081.6 (enacted by the passage of AB 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the Project or conditions of Project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during Project implementation. For those changes which have been required or incorporated into the Project at the request of a Responsible Agency or a public agency having jurisdiction by law over natural resources affected by the Project, that agency shall, if so requested by the Lead Agency or a Responsible Agency, prepare and submit a proposed reporting or monitoring program.
- The Lead Agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based. A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of Project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other Project, by incorporating the mitigation measures into the plan, policy, regulation, or Project design.
- Prior to the close of the public review period for a draft Environmental Impact Report (EIR) or MND, a Responsible Agency, or a public agency having jurisdiction over natural resources affected by the Project, shall either submit to the Lead Agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the Responsible Agency or agency having jurisdiction over natural resources affected by the Project, or refer the Lead Agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a Lead Agency by a Responsible Agency or an agency having jurisdiction over natural resources affected by the Project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a Responsible Agency or agency having jurisdiction over natural resources affected by a Project with that requirement shall not limit that authority of the Responsible Agency or agency having jurisdiction over natural resources affected by a Project, or the authority of the Lead Agency, to approve, condition, or deny Projects as provided by this division or any other provision of law.

5.2 MITIGATION MONITORING PROCEDURES

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. It describes the requirements and procedures to be followed by the City to ensure that all mitigation measures adopted as part of the proposed Project would be carried out as described in this IS/MND. Table 5.A lists each of the mitigation measures specified in this IS/MND and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
4.1: Aesthetics		
A-1: **Comprehensive Lighting Plan.** Prior to issuance of a precise grading permit for the Encanto Residential Project (proposed Project), the Project Applicant shall prepare a comprehensive lighting plan for review and approval by the City of Lake Forest (City) Director of Development Services or designee. The lighting plan shall be prepared by a qualified engineer and shall comply with applicable standards of the City Municipal Code. The lighting plan shall address all aspects of lighting, including, but not limited to, infrastructure and safety. The lighting plan shall include the following in conjunction with other measures as determined necessary by the illumination engineer: a. All Project lighting shall be hooded or shielded to focus the light downward and prevent light spillage onto adjacent properties. b. All lights shall be designed and located so that direct light rays are confined to the premises. c. Parking area lighting shall be Illuminating Engineering Society "Full Cut Off" designated or "fully shielded" fixtures so that no light is emitted above the lowest light-emitting part of the fixture. d. Light levels at the property line shall not exceed 0.1 footcandle (fc) adjacent to business properties. e. Light standards shall not exceed 20 feet in height. The Lighting Plan shall also include a photometric survey. The photometric survey shall demonstrate that lighting values do not exceed 0.1 fc adjacent to business properties and that no direct rays shine onto public streets or adjacent sites.	Project Applicant with verification by Director of the City of Lake Forest Development Services, or designee	Prior to issuance of a precise grading permit
4.2: Agricultural and Forest Resources		
The proposed Project would not result in significant adverse impacts related to agriculture. No mitigation would be required.		
4.3: Air Quality		
The proposed Project would not result in significant adverse impacts related to air quality. No mitigation would be required.		
4.4: Biological Resources		
B-1 **Compliance with the Migratory Bird Treaty Act.** In the event that Project construction or grading activities (including fuel modification) should occur between February 1 and September 15, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to commencement of construction activities to confirm the absence of nesting birds. If active nesting of birds is observed within 100 feet (ft) of the designated construction area prior to construction, the biologist shall establish suitable buffers around the active nests (e.g., as much as 500 ft for raptors and 300 ft for non-raptors [subject to the	Project Applicant with verification by Director of the City of Lake Forest Development Services, or designee	Prior to commencement of grading activities and issuance of any building permits

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	recommendations of the qualified biologist]), and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Prior to commencement of grading activities and issuance of any building permits, the Director of the City of Lake Forest Development Services, or designee, shall verify that all Project grading and construction plans include specific documentation regarding the requirements of the Migratory Bird Treaty Act (MBTA), that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field with orange snow fencing. In addition, during the Least Bell's vireo (vireo) breeding season (March 15 through August 31), construction noise levels shall be restricted to below 60 dBA Leq at 100 feet from areas occupied by the vireo. Twice weekly surveys for the vireo shall be conducted by the biological monitor in areas of suitable habitat within 500 feet of proposed construction activities to determine the presence of vireo nest building activities, egg incubation activities, or brood rearing activities. If vireo are present, noise monitoring shall be conducted weekly by a qualified noise specialist with at least 10 hours of field noise monitoring training. The instrument used for measuring noise shall meet ANSI S1.4-1983 and ANSI S1.4N-1985 standards for a Type 1 or Type 2 meter and shall have a calibration certificate less than one year old. The noise monitoring shall demonstrate that construction noise levels are less than 60 dBA Leq at specified monitoring locations, no less than 100 feet from the active nest(s), as determined by the biological monitor. Weekly survey reports shall be prepared during the nesting season and sent electronically to the Carlsbad Fish and Wildlife Office (CFWO) each week that vireo are detected. The biological monitor(s) shall be a trained ornithologist with at least 40 hours of supervised experience locating vireo and mapping their locations in the field. At least 7 days prior to initiation of surveys, the names and resumes of all biologists that will be employed to survey for the vireo shall be submitted to the CFWO in writing. Proposed surveys and construction activities shall not begin until a biological monitor has been approved by the CFWO.		
4.5: Cultural Resources			
C-1	**Archeological Resource Mitigation Procedures.** Prior to issuance of grading permits, the Applicant shall submit a grading plan set prepared by the engineer of record for review and approval by the City of Lake Forest (City) Engineer and Director of Development Services. The grading plan set shall include an exhibit with cross-sections that maps the depths of native soils for the entire Project site and identifies areas of the site where grading and/or other ground disturbance has the potential to disturb native soils.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to the issuance of the first preliminary or precise grading permit

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
a. **Grading Native Soils.** Prior to the issuance of the first preliminary or precise grading permit, a qualified archaeologist and Native American monitor shall be retained by the Applicant for that grading permit to provide professional archaeologist and Native American monitoring services for any construction activities that may disturb native soils. The archaeologist shall be selected from the roll of qualified archaeologists maintained by the County of Orange (County). The Native American monitor shall be selected by the Applicant. The archaeologist and Native American monitor shall be present at the pre-grading conference to establish procedures for archaeological resource surveillance. Those procedures shall include provisions for temporarily halting or redirecting work to permit sampling, identification, and evaluation of resources deemed by the archaeologist to potentially be historical resources or unique archaeological resources, or by the Native American monitor to be tribal cultural resources under the California Environmental Quality Act (CEQA). These procedures shall be reviewed and approved by the Director of Development Services prior to issuance of the grading permit and prior to any surface disturbance on the Project site. Should any cultural or tribal cultural resources be discovered, no further grading shall occur in the area of the discovery until the Director of Development Services, or designee, is satisfied that the following treatment of the resource has occurred. In the event that a unique archeological resource or tribal cultural resource is discovered, and in accordance with Public Resources Code Section 21083.2(b)(1), (2), and (4), the resource shall be moved and buried in an open space area of the Project site, such as slope areas, which will not be subject to further grading activity, erosion, flooding, or any other ground disturbance that has the potential to expose the resource. The on-site area to which the resource is moved shall be protected in perpetuity as permanent open space. No identification of the resource shall be made on site; however, the Applicant shall plot the new location of the resource on a map showing latitudinal and longitudinal coordinates and provide that map to the Native American Heritage Commission (NAHC) for inclusion in the Sacred Lands File (SLF). Disposition of the resources shall be at the discretion of the City of Lake Forest, but in accordance with the foregoing.		
b. **Grading Non-Native Soils.** Prior to the issuance of the first preliminary or precise grading permit, a qualified archaeologist shall be retained by the Applicant for that grading permit to provide spot-check professional archaeologist monitoring services for any construction activities that may disturb non-native soils. (This archaeologist can be the same person hired under subdivision (a) above.) The spot-check		

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
professional archaeologist shall be on site for a maximum of 2 hours per week during these activities; however, during the first week of grading, the archaeologist shall be on site for a minimum of 3 hours to perform an overall site walkover. In the event the scope of grading work changes, or in the event of a delay in grading caused by discovery of a resource, the number of hours and duration of monitoring outlined previously shall be adjusted accordingly. In the event a unique archeological resource or tribal cultural resource is discovered, and in accordance with PRC Section 21083.2(b)(1), (2), and (4), the resource shall be moved and buried in an open space area of the Project site, such as slope areas, which will not be subject to further grading activity, erosion, flooding, or any other ground disturbance that has the potential to expose the resource. The on-site area to which the resource is moved shall be protected in perpetuity as permanent open space. No identification of the resource shall be made on site; however, the Applicant shall plot the new location of the resource on a map showing latitudinal and longitudinal coordinates and provide that map to the NAHC for inclusion in the SLF. Disposition of the resources shall be at the discretion of the City of Lake Forest, but in accordance with the foregoing.		

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
C-2 **Paleontological Resources Impact Mitigation Program.** Prior to the issuance of the first preliminary or precise grading permit, and for any subsequent permit involving excavation into older sedimentary deposits, as well as any excavations in the exposures of the marine late Miocene Capistrano Formation, the Applicant/Developer shall provide a letter to the Director of the City of Lake Forest Development Services Department, or designee, from a paleontologist. The letter shall state that the Applicant/Developer has retained this individual; that the paleontologist shall monitor ground-disturbing activities in older sedimentary deposits, as well as any excavations in the exposures of the marine late Miocene Capistrano Formation; and that the paleontologist shall provide on-call services in the event resources are discovered at shallower depths. The consultant shall be selected from the roll of qualified paleontologists maintained by the County. The paleontologist shall meet with Development Services staff and shall develop a Paleontological Resources Impact Mitigation Program (PRIMP) in order to mitigate adverse impacts to paleontological resources that may exist in on-site sediments. The PRIMP shall follow guidelines developed by the Society for Vertebrate Paleontology (SVP; 1995) and shall include, but not be limited to, monitoring of earthmoving activities during Project excavation in sediments that are likely to contain paleontological resources, specimen recovery, and screen washing; preparation of any collected specimens to the point of identification; identification and curation of any collected specimens into a museum repository with permanent, retrievable storage; and preparation of a final compliance report that would provide details of monitoring, fossil identification, cataloging, and repository arrangements.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to the issuance of the first preliminary or precise grading permit
4.6: Geology and Soils		
G-1 **Incorporation of and Compliance with the Recommendations in the Geotechnical Study.** All grading operations and construction shall be conducted in conformance with the recommendations included in the geotechnical documents prepared by GeoTek, Inc. (included in Appendix D of this Initial Study/Mitigated Negative Declaration [IS/MND]). The recommendations are found in Document C: GeoTek Response to City Review Checklist dated May 15, 2015. The specific requirements in the geotechnical documents address or include, but are not limited to, the following: 1. Earthwork, including site preparation for areas to receive engineered fill, grading activities, and temporary excavations; 2. Foundations, including shallow foundation design criteria, post-tensioned slab design recommendations, and foundation setbacks;	Project Applicant with verification by City of Lake Forest Building Official, or designee	Prior to commencement of grading activities

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
3. Retaining and garden wall design and construction criteria, including cantilevered walls and retaining wall backfill and drainage; 4. Soil corrosion; 5. Imported soils; 6. Concrete flatwork, including exterior concrete slabs, sidewalks, driveways, and concrete performance; 7. Pavement design; and 8. Post-construction considerations, including landscape maintenance, and planting and drainage. Additional site grading, specifications, and foundation plans shall be reviewed by the Project geotechnical consultant prior to construction to check for conformance with the recommendations of this report. The Project geotechnical consultant shall be present during site grading and foundation construction to observe and document proper implementation of the geotechnical recommendations. The Project Applicant/Developer shall require the Project geotechnical consultant to perform at least the following duties during construction: a. Observe site clearing and grubbing operations for the proper removal of unsuitable materials. b. Observe and test the bottom of removals prior to fill placement. c. Evaluate the suitability of on-site and import materials for fill placement, and collect soil samples from laboratory testing where necessary. d. Observe the fill for uniformity during placement, including utility trench backfill, and perform field density testing of the fill materials. e. Observe and probe foundation excavations to confirm the suitability of bearing materials. Grading plan review shall also be conducted by the City of Lake Forest City Engineer, or designee, prior to the start of grading to verify that requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be performed in accordance with the requirements of the City Building Code and the California Building Code (CBC) applicable at the time of grading, as well as the recommendations of the Project geotechnical consultant as summarized in a final report subject to review by the City Engineer, or designee, prior to the start of grading activities.		

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
4.7: Greenhouse Gas Emissions		
The proposed Project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation would be required.		
4.8: Hazards and Hazardous Materials		
The proposed Project would not result in significant adverse impacts related to hazards and hazardous materials. No mitigation would be required.		
4.9: Hydrology and Water Quality		
WQ-1 **Construction General Permit.** Prior to issuance of a grading permit, the Project Applicant shall obtain coverage under the State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, NPDES No. CAS000002) (Construction General Permit). The Project Applicant shall provide the Waste Discharge Identification Number (WDID) to the City of Lake Forest (City) to demonstrate proof of coverage under the Construction General Permit. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction Best Management Practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to issuance of a grading permit
WQ-2 **Final Water Quality Management Plan.** Prior to the issuance of any grading or building permits, the Project Applicant shall prepare a Final Water Quality Management Plan (WQMP). The Final WQMP shall be prepared consistent with the Orange County Municipal Separate Storm Sewer System (MS4) Permit, Drainage Area Management Plan, Model WQMP, and Technical Guidance Document. The Final WQMP shall specify BMPs to be incorporated into the design of the Project. The Project Applicant shall provide the Final WQMP to the City for review and approval.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to issuance of a grading permit or building permit
WQ-3 **Best Management Practices.** During operation, the Homeowner's Association (HOA) shall verify BMP implementation and maintenance through inspection, self-certification, survey, or other equally effective measure. The certification shall verify, at a minimum, the inspection and maintenance of all structural BMPs, including inspection and required maintenance in the late summer/early fall (prior to the start of the rainy season). The HOA shall retain, and make available to the City upon request, operations, inspections, and maintenance records of the BMPs for at least 5 years after the recorded inspection date. In addition, the HOA shall ensure that long-term funding for BMP maintenance is available.	Homeowner's Association with verification by Director of the City of Lake Forest Development Services Department, or designee	During operation

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
WQ-4 **Transfer of Responsibility for Best Management Practices.** Prior to recordation of the Final Covenants, Conditions, and Restrictions (CC&Rs) for the development, the City Director of Development Services, or designee, shall confirm that the duty to operate and perform maintenance on BMPs on the property is stated as an express obligation of the homeowner's association (HOA) in the document. The CC&Rs shall further state that the HOA's Board of Directors shall submit a formal notice of transfer to the City at any time responsibility for operation and maintenance of the BMPs is transferred (e.g., from Meritage Homes Corporation to the HOA).	Homeowner's Association with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to recordation of the Final CC&Rs
4.10 Land Use/Planning		
The proposed Project would not result in significant adverse impacts related to land use/planning. No mitigation would be required.		
4.11: Mineral Resources		
The proposed Project would not result in significant adverse impacts related to mineral resources. No mitigation would be required.		
4.12: Noise		
N-1 **Final Acoustical Report.** Prior to the issuance of any certificates of occupancy for residences adjacent to any noise generating roadway (Lots 1 through 17), the Project Applicant/ Developer shall submit a final acoustical report to the City of Lake Forest Director of Development Services, or designee, that demonstrates that the interior noise levels in habitable rooms shall not exceed 45 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL), as defined by Title 24, Part 2, of the California Building Code. If necessary, the Project Applicant/Developer shall provide structural components with higher STC ratings to ensure that the 45 dB CNEL threshold is met.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to the issuance of any certificates of occupancy for residences adjacent to any noise generating roadway
N-2 **Operation of Graders and Scrapers.** Prior to issuance of a grading permit, the Director of the City of Lake Forest Development Services, or designee, shall verify that all Project grading and construction plans include specific notes prohibiting the operation of graders and scrapers for periods of 30 minutes or more in any hour when operating within 200 feet of the nearest residences to the east if those residences are built and occupied.	Project Applicant with verification by Director of the City of Lake Forest Development Services, or designee	Prior to commencement of grading activities and issuance of any building permits
4.13: Population and Housing		
The proposed Project would not result in significant adverse impacts related to population or housing. No mitigation would be required.		
4.14: Public Services and Utilities		
PS-1 **Secured Fire Protection Agreement.** Prior to issuance of any grading permits for the Project, the designated site developer shall enter into a Secured Fire Protection Agreement with the Orange County Fire Authority (OCFA). The Secured Fire Protection Agreement shall specify the developer's pro-rata fair-share funding of capital improvements necessary to establish adequate fire protection facilities and equipment, and/or personnel. Evidence of an OCFA-approved agreement shall be submitted to City of Lake Forest Director of Development Services, or designee.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to issuance of any grading permits

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
PS-2 **School Fees.** Prior to issuance of any building permits, the Project Applicant/Developer shall provide proof to the Development Services Director, or designee, that payment of fees to the Saddleback Valley Unified School District (SVUSD) have been made in accordance with the Development Agreement between the City of Lake Forest, a California Municipal Corporation, and Meritage Homes of California, Inc.	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to issuance of any building permits
PS-3 **Park Fees.** Prior to issuance of any ~~grading~~ building permits, the Project Applicant/ Developer shall provide proof to the Development Services Director, or designee, that payment of park fees to the City of Lake Forest have been made in accordance with the Development Agreement between the City of Lake Forest, a California Municipal Corporation, and Meritage Homes of California, Inc..	Project Applicant with verification by Director of the City of Lake Forest Development Services Department, or designee	Prior to issuance of any ~~grading~~ building permits
4.15: Recreation		
Refer to Mitigation Measure PS-3. No additional mitigation is required.		
4.16: Circulation and Parking		
The proposed Project would not result in significant adverse impacts related to transportation/traffic. No mitigation would be required		
4.17: Utilities/Service Systems		
The proposed Project would not result in significant adverse impacts related to utilities/service systems. No mitigation would be required.		

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TECHNICAL APPENDICES ARE PROVIDED ON THE ATTACHED CD

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