PUBLIC REVIEW DRAFT | MAY 2020

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Trumark Residential Project

LEAD AGENCY:

City of Mission Viejo
200 Civic Center
Mission Viejo, California 92691
Contact: Larry Longenecker
949.470.3053

PREPARED BY:

VCS Environmental
30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, California 92675
Contact: Dan Bott
949.489.2700

VCS Environmental
EXPERTS IN STRATEGIC SOLUTIONS

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May 29, 2020

This document has been setup for double-sided printing in order to conserve natural resources.

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1.0 ENVIRONMENTAL SUMMARY

1.1 Background

1. Project Title:

Trumark Residential Project

2. Lead Agency Name and Address:

City of Mission Viejo | Planning Department
200 Civic Center, Mission Viejo, California 92691

3. Contact Person and Phone Number:

Larry Longenecker, Planning and Economic Development Manager
Telephone: 949.470.3053

4. Project Location:

The project site is located within the City of Mission Viejo, along El Toro Road between Marguerite Parkway and State Route 241.

5. Project Sponsor's Name and Address:

Eric Nelson, Vice President of Land Development | Trumark Companies
450 Newport Center Drive, Suite 300, Newport Beach, CA 92660

6. General Plan Designation:

The City Mission Viejo General Plan designates the project site as Open Space/Recreation.

7. Zoning:

The project site is zoned for Recreation.

8. Description of Project:

The proposed project involves the development of 91 dwelling units on 6.79 acres at a density of 13.40 dwelling units per acre. The following discretionary approvals are required by the City of Mission Viejo; General Plan Amendment from Open Space/Recreation to Residential Planned Development 30 (RPD-30), Zone Changes from Recreation (RPD-30). Lot Line Adjustment, Planned Development Permit, Tentative Tract Map and Variances to allow for increased in building height to 40 feet, to allow increase height of retaining wall to 32 feet and reduce minimum building separation to 15 feet.

9. Surrounding Land Uses and Setting:

The project site is located on El Toro Road between Marguerite Parkway and State Route 241. The project site is currently undeveloped and consists of a hilly, heavily vegetated terrain. The project site is situated within an urbanized setting and is surrounded by a parking lot and office building to the west, State Route 241 to the east, open space slope and multiple-family land uses to the south and a self-storage facility to the north. Regional access to the site would be provided from State Route 241 and local access would be from El Toro Road.

1.2 Environmental Factors Potentially Affected

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

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

1.3 Lead Agency Determination

Based on the analysis conducted in this Initial Study, the City of Mission Viejo, as the Lead Agency, has made the following determination:

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

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

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

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

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier 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. ☐

I find that the proposed project has previously been analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to the State CEQA Guidelines and the City's adopted Local CEQA Guidelines. The proposed project is a component of the whole action analyzed in the previously adopted/certified CEQA document. ☐

I find that the proposed project has previously been analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and City CEQA Guidelines. Minor additions and/or clarifications are needed to make the previous documentation adequate to cover the project which are documented in this addendum to the earlier CEQA document (CEQA Section 15164). ☐

I find that the proposed project has previously been analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and City CEQA Guidelines. However, there is important new information and/or substantial changes have occurred requiring the preparation of an additional CEQA document (ND or EIR) pursuant to CEQA Guidelines Sections 15162 through 15163. ☐

Signature

5-28-20
Date

LARRY LONGENECKER
Printed Name

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2.0 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. Pursuant to Section 15367 of the State CEQA Guidelines, the City of Mission Viejo is the Lead Agency and has the principal responsibility of approving the proposed project. As the Lead Agency, the City of Mission Viejo is required to ensure that the proposed project complies with CEQA and that the appropriate level of CEQA documentation is prepared. Through preparation of an Initial Study as the Lead Agency, the City of Mission Viejo would determine whether to prepare an Environmental Impact Report (EIR), Negative Declaration (ND) or Mitigated Negative Declaration (MND). Based on the conclusions of this Draft Initial Study, the City of Mission Viejo has recommended that the appropriate level of environmental documentation for the proposed project is an MND. This Initial Study/Mitigated Negative Declaration (IS/MND) analyzes the potential direct, indirect and cumulative effects associated with implementation of the proposed project.

2.1 Statutory Authority and Requirements

In accordance with CEQA (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), City of Mission Viejo as the Lead Agency, is required to undertake the preparation of an Initial Study to determine whether the proposed project would have a significant environmental impact. If the Lead Agency finds that there is no substantial evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall prepare a Negative Declaration (or Mitigated Negative Declaration) for that project. (Section 21080(c), Public Resources Code).

This Mitigated Negative Declaration, which may ultimately be adopted by the City of Mission Viejo in accordance with CEQA, is intended as an informational document undertaken to describe the potential environmental impacts of the project. However, the resulting documentation is not a policy document, and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits, and other discretionary approvals would be required.

2.2 Purpose

Section 15063 of the CEQA Guidelines identifies global disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study must include: (1) a description of the project, including the location of the project; (2) an identification of the environmental setting; (3) an identification of environmental effects by use of a checklist, matrix or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries; (4) a discussion of ways to mitigate significant effects identified, if any; (5) an examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls; and (6) the name of the person or persons who prepared or participated in the preparation of the IS.

2.3 Incorporation by Reference

The planning documents listed below were utilized during the preparation of this Initial Study. These documents are incorporated by reference and were utilized throughout this IS/MND as the fundamental planning documents that may apply to work on the project site. Background information and policy information as well as specific adopted rules and regulations pertaining to the City of Mission Viejo were also relied upon throughout this document. The documents are available for review at the City of Mission Viejo, Planning Department, 200 Civic Center, Mission Viejo, California, 92691.

- City of Mission Viejo General Plan (comprehensive update August 2013). The *City of Mission Viejo General Plan* (General Plan) is the long-range guide for growth and development within the City. The *General Plan* also provides guidance to preserve the qualities that define the natural and built environment. The *General Plan* is divided into nine "elements" or chapters that contain goals, policies, and programs which are intended to guide land use and development decisions. The *General Plan* is also a tool to help City staff, City Commissions, and the City Council make land use and public investment decisions and provides the framework for the City's *Zoning Ordinance*. It identifies the economic development, transportation improvements, community service and facility improvements, and environmental programs needed to sustain and improve the quality of life in the City. The Land Use, Conservation/Open Space, and Circulation Elements were updated in August 2013 along with a Program EIR.
- Codified Ordinances of the City of Mission Viejo. The *Codified Ordinances of the City of Mission Viejo* (City Municipal Code), updated December 31, 2019, consists of codes and ordinances adopted by the City. These include standards intended to regulate land use and zoning, health and sanitation, building and construction, peace, morals and safety, traffic, parks and recreation and streets and sidewalks, water quality, public facilities, and public safety.
- City of Mission Viejo Zoning Code. The City Zoning Code is utilized to implement the General Plan and provide a guide for the growth and development of land within the City. The City Zoning Code contains development regulations for specified zoning districts within the City.

3.0 PROJECT DESCRIPTION

3.1 Proposed Project

The proposed project involves approval of a General Plan Amendment, Zone Change, Planned Development Permit, Tentative Tract Map and Variances to allow for the construction and operation of a 91-unit multiple-family dwelling residential development project.

3.2 Project Site

Regionally, the project site is located in the City of Mission Viejo (City), within the County of Orange; refer to Figure 3-1, *Regional Location*. Locally, the project site is located within the northeastern area of the City of Mission Viejo on El Toro Road between Marguerite Parkway and State Route 241 (SR-241); refer to Figure 3-2, *Vicinity Map*. Regional access to the site would be provided from SR-241 and local access would be from El Toro Road.

The overall project site is comprised of approximately 13.4 acres consisting of 0.79 acres of existing improved parking area and 12.6 acres of undeveloped natural and manufactured slopes. The project site has moderate relief ranging in elevation from 845 feet to 1,020 feet. An earthen drainage extends generally southeast to northwest through the center of the project site and outlets through a culvert that crosses underneath El Toro Road. Additionally, a concrete lined v-ditch flows southeast to northwest through the western portion of the project site. The site consists of a hilly, moderately vegetated terrain, consisting of native, non-native and ornamental vegetation communities. The County of Orange Natural Community Conservation Plan (NCCP) boundary is also located north of the project site.

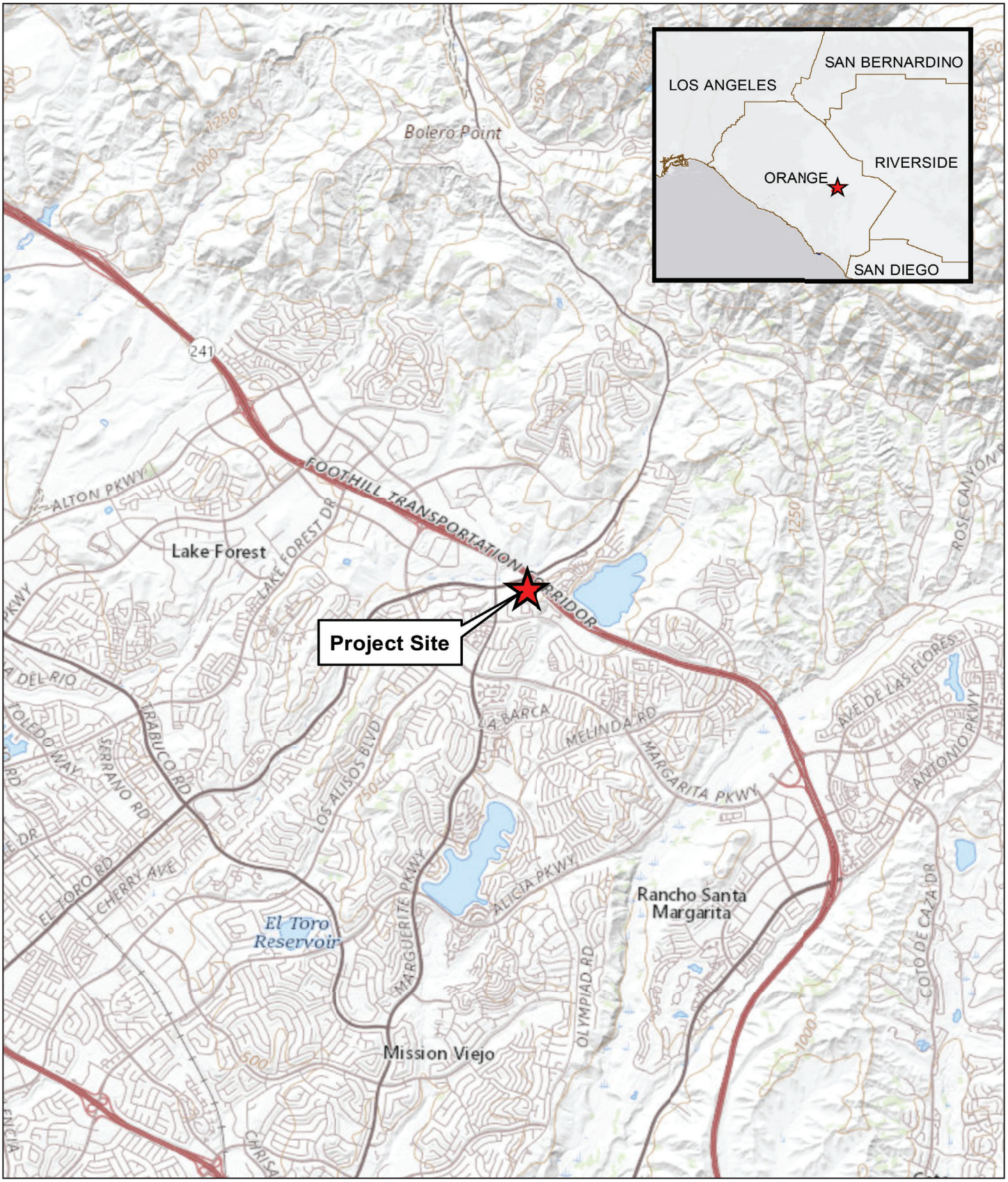
There are several utility easements including a 200-foot wide Edison powerline easement at the eastern side of the site and communication utility easements across the site and along the southern-most ridgetop. An Edison tower and a set of powerlines are located at the southeast corner of the site. The powerlines span the site within an easement area that extends offsite to the north to another Edison tower and poles. A cell tower tree and associated access road are located at the top of the ridgeline along the southern boundary of the site.

The existing conditions on the project site are shown in Figure 3-3a, *Site Photograph Locations*, and Figures 3b and 3c, *Existing Site Photographs*. The project site is situated within an urbanized setting and is surrounded by a parking lot and office building to the west, SR-241 to the east, self-storage facility to the north and manufactured open space slope and multiple-family land uses to the south. There are two existing residential communities located downslope of the ridgeline. The residential communities are generally at a lower elevation than the east-west trending ridgetop that forms the southern boundary of the site. Both communities are separated from the site by a descending manufactured fill slope.

The City of Mission Viejo General Plan currently designates the project site as Open Space/Recreation and it is zoned Recreation. Table 3-1, *Surrounding Land Uses*, shows the existing and planned land uses surrounding the project site.

Table 3-1
Surrounding Land Uses

Direction	General Plan Designation	Zoning	Existing Land Use
North	Business Park	Business Park	Self-Storage Building
East	No General Plan Designation	No Zoning on Property	Foothill Transportation Corridor
South	RPD-30 Residential Planned Development	RPD-30 Residential Planned Development	Multiple-Family Residential
West	Commercial Highway	Commercial Highway	Professional Office Building



Source: ESRI; March 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Regional Location

VCS Environmental

Figure 3-1

Source: Google Earth Pro; March 2020.

- approximate Project Site Boundary

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Vicinity Map

VCS Environmental

Figure 3-2

Source: Google Earth Pro; April 2020.

- approximate Project Site Boundary

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Site Photograph Locations

VCS Environmental

Figure 3-3a

1. View looking from parking lot to Saddleback Church office building.

4. View from El Toro Road looking towards the project site.

2. View looking at the project site westerm boundary.

5. View from parking lot off of El Toro Road looking towards the project site.

3. View from El Toro Road looking southwest.

6. View looking northeast from El Toro Road sidewalk looking across El Toro Road towards Storage West Self Storage and CA-241 (Foothill Transportation Corridor).

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Existing Site Photographs

7. View from sidewalk of project site looking north at Storage West Selft Storage building on El Toro Road.

10. View from California Court parking area looking northeast towards project site.

8. View from El Toro Road looking east towards CA-241 (Foothill Transportation Corridor).

11. View from dirt road above California Court looking north towards Storage West Self Storage building on El Toro Road.

9. View from California Terrace parking area looking north towards project site.

12. View from Painted Trails looking west towards project site.

3.3 Project Description

The project proposes the development of 91 multiple-family dwelling units. The project would require a General Plan Amendment, Zone Change and potential Lot Line Adjustment. As shown in Figure 3-4, *Existing and Proposed General Plan Amendment and Zone Change*, the project would amend the General Plan land use designation from Open Space/Recreation to Residential Planned Development 30 (RPD-30) and change the Zoning on the site from Recreation to Residential Planned Development 30 (RPD-30). The project would also require a Planned Development Permit approval, Lot Line Adjustment and requested variances to the City's Zoning Code site development standards.

As shown in Figure 3-5, *Site Plan* the project consists of 10 three-story residential buildings configured in a series of 7-Plex, 10-plex and 11-Plex buildings. The buildings would be configured as a series of drive isles and looping road. A private driveway from El Toro Road would provide vehicular access to the project with a pedestrian connection located north of the private driveway. The maximum height of the buildings would be approximately 40 feet[1]. The building site would be at an elevation ranging from 34 feet - 60 feet above the existing grade along El Toro Road. A mix of one-bedroom, two-bedroom and three-bedroom residential units will be provided ranging in size from 885 square feet to 1,920 square feet. A pool, spa and recreation center would be centrally located within the project providing onsite recreational amenities. In addition, seating areas are scattered throughout the site, and along the top of the slope, providing multiple areas for common use and opportunities for taking advantage of the panoramic views to the west. The project proposes to integrate the site's existing topography into its design by incorporating existing manufactured slopes that would surround the site, providing an aesthetically pleasing environment and an open space buffer between the project and adjacent land uses. A land use summary of the proposed project is shown in Table 3-2, *Land Use Summary*.

Table 3-2
Land Use Summary

Category	Size
Total Size of Project Site	13.4 acres
Development Area	6.79 acres
Private Drive and Parking Areas	1.57 acres
Total Units	91 units
Density	13.4 du/ac
Preserved Open Space	5.26 acres
Open Space Landscape Slopes	3.53 acres
Recreation Area	0.31 acres

CIRCULATION/PARKING

Primary access to the project would be from a driveway along El Toro Road. Both right turn in/out and left turn in/out access would be provided. A private loop road would provide internal access for the project. Pedestrian connections to El Toro Road would be provided by sidewalks along the driveway entrance to the project. The sidewalk would be designed with City standards, American with Disabilities Act (ADA) guidelines, and as required and approved by the City Engineer. As shown Table 3-3, *Parking Summary*, a

[1] A 35-foot maximum height provision may be modified by the commission as part of a planned development permit application up to a maximum of 45 feet or three stories.

combination of covered garage parking and surface parking would be provided; refer to Figure 3-6, *Proposed Parking Plan*.

Table 3-3
Parking Summary

Parking Type	Parking Spaces
Required Parking	
RPD 30	Parking Required
Garage Parking 2 Spaces Per Unit X 91	182
Guest Parking 1 Space Per 3 Units	31
Total Required Parking	***213***
Proposed Parking	
Enclosed Garages	
65-Combination Two/Three Bedroom Units	130
26 One Bedroom/Studio Units	26
Total Garage Parking	156
26 Units x 1 Dedicated Surface Parking	26
Guest Parking Open Surface	37
ADA Spaces	3
Total Proposed	***219***

ARCHITECTURE

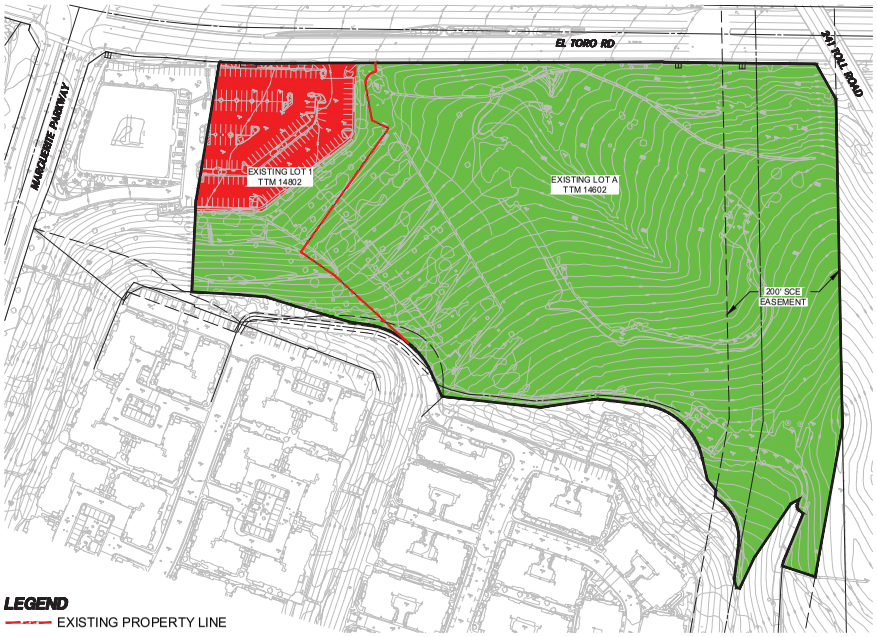
The proposed project has been designed to be visually compatible with similar architectural elements of Spanish traditional influences that are common in Mission Viejo. Providing housing choices for a wider market segment, the proposed project includes two configuration alternatives, three-story townhome living and flat living, with a variety of floorplans and a range of square footages. This design enables housing prices that are more attainable for a wider range of buyers, which responds to the housing market demands and moreover, promotes household-type diversity and buyer preference. Conceptual building elevations and renderings of the project are shown on Figures 3-7a, 3-7b, 3-7c, *Conceptual Building Elevations*.

Influenced by Mission Viejo's Andalusian and Spanish aesthetics, this project provides architecture that is straightforward, yet softened by the calm color palette and purposefully placed details. Appropriate to the style and to enhance the architectural identity, stone is used to accent the walls, S-tile is the roofing material, and detailing is included as decorative vents and shutters. To further provide visual interest and a strong style identity, doors and garages are style appropriate using panels and include pops of authentic color with landscaped alleys that include crawling vines at various locations. To round out the characteristic elements of this Spanish inspired project, metal railings are used on balconies.

LANDSCAPE

As shown in Figure 3-8, *Conceptual Landscape Plan*, the landscape treatment for the project provides landscape treatment along the surrounding slopes, development area and entryway to the project. The project is situated on a hillside and surrounded by accenting landscape slopes. The proposed slope planting would consist of a California friendly plant palette, including London Plane Tree, Aleppo Pine, California Pepper Tree and Southern Live Oak as an accent with Acacia and Honeysuckle as groundcovers. The intent for the slope planting is to blend in with the adjacent "Painted Trail" slope and the existing environment.

EXISTING

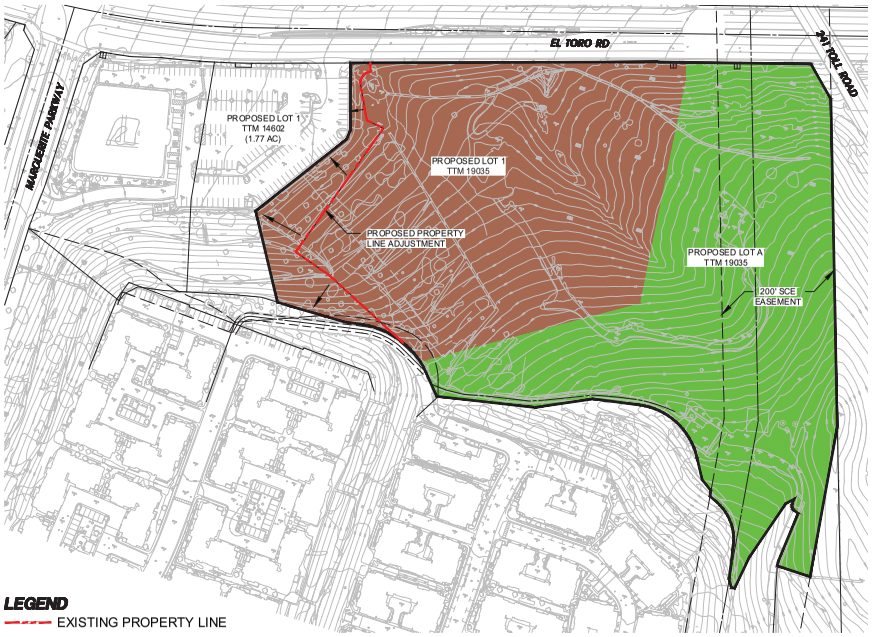


LEGEND

EXISTING PROPERTY LINE

TRACT 14602				EXISTING
LOT 1		LAND USE	ZONE	ACRES
		RECREATION / OPEN SPACE	RECREATION	1.25
		COMMERCIAL HIGHWAY	CH	1.31
TOTAL ACRES FOR LOT 1				2.56
LOT A		LAND USE	ZONE	ACRES
		RECREATION / OPEN SPACE	RECREATION	12.61
TOTAL ACRES FOR LOT A				12.61

PROPOSED



LEGEND

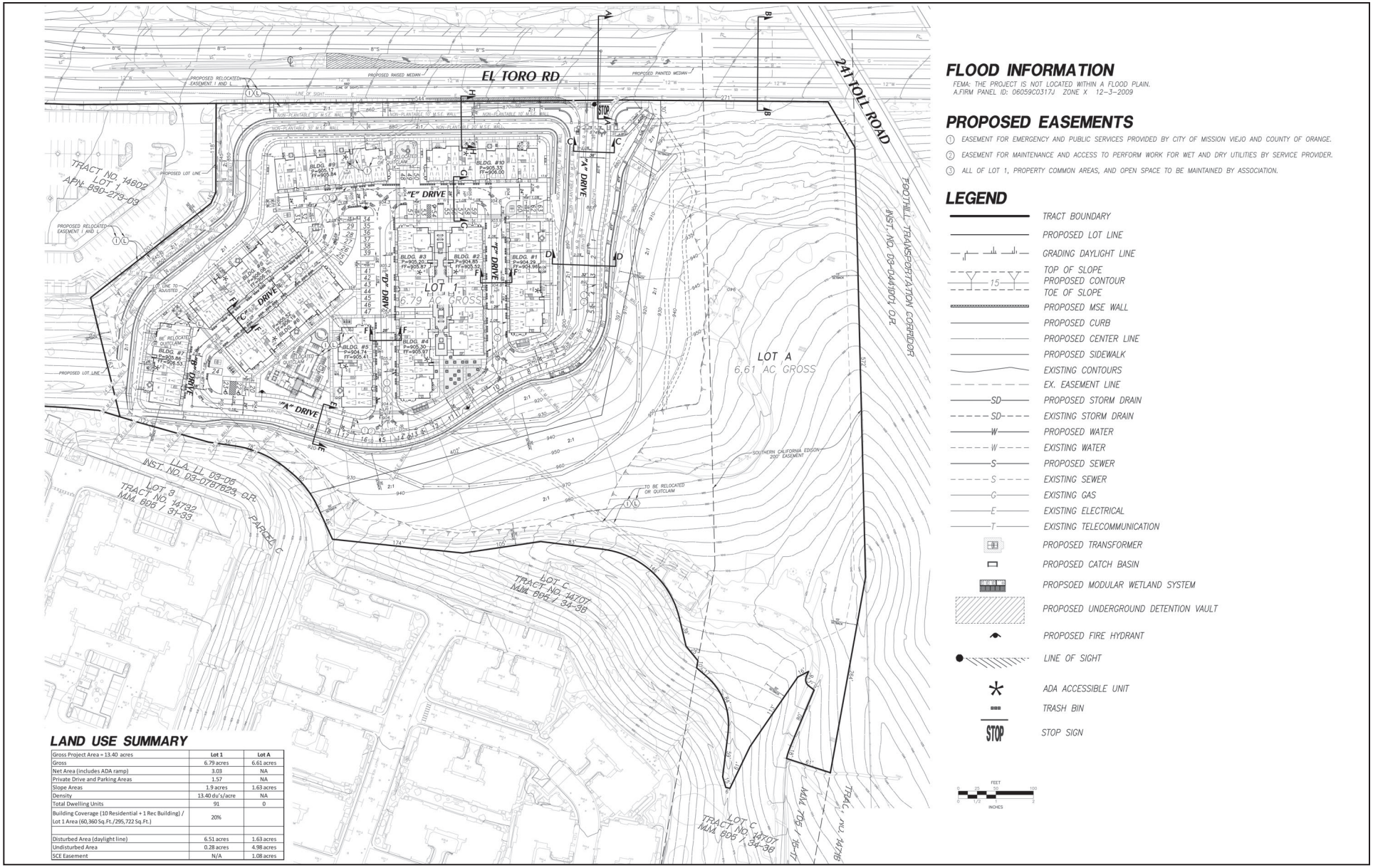
EXISTING PROPERTY LINE

TTM 19035 PROPOSED GENERAL PLAN LAND USE AND ZONE				PROPOSED
LOT 1		LAND USE	ZONE	ACRES
		RESIDENTIAL 30	RPD 30	6.79
TOTAL ACRES FOR LOT 1		RESIDENTIAL 30	RPD 30	6.79
LOT A		LAND USE	ZONE	ACRES
TOTAL ACRES FOR LOT A		RECREATION / OPEN SPACE	RECREATION	6.61

PROPOSED LOT LINE ADJUSTMENT TRACT 14602				OLD	PROPOSED (NEW)
TRACT 14602 LOT 1		LAND USE	ZONE	ACRES	ACRES
		RECREATION / OPEN SPACE	RECREATION	1.25	0.46
		COMMERCIAL HIGHWAY	CH	1.31	1.31
TOTAL ACRES FOR LOT 1				2.56	1.77
NOTE: MOVE 0.79 AC TRACT 14602 FROM LOT 1 TO TRACT 14602 LOT A					
TTM 19035 LOT 1					
CHANGE 0.79 ACRES OF RECREATION/OPEN SPACE		TO 0.79 AC OF RESIDENTIAL 30			

Source: Hunsaker & Associates; May 13, 2020.

Existing and Proposed General Plan Amendment and Zone Change



FLOOD INFORMATION

FEMA: THE PROJECT IS NOT LOCATED WITHIN A FLOOD PLAIN.
A.FIRM PANEL ID: 06059C0317J ZONE X 12-3-2009

PROPOSED EASEMENTS

1. EASEMENT FOR EMERGENCY AND PUBLIC SERVICES PROVIDED BY CITY OF MISSION VIEJO AND COUNTY OF ORANGE.
2. EASEMENT FOR MAINTENANCE AND ACCESS TO PERFORM WORK FOR WET AND DRY UTILITIES BY SERVICE PROVIDER.
3. ALL OF LOT 1, PROPERTY COMMON AREAS, AND OPEN SPACE TO BE MAINTAINED BY ASSOCIATION.

LEGEND

- TRACT BOUNDARY
- PROPOSED LOT LINE
- GRADING DAYLIGHT LINE
- TOP OF SLOPE
- PROPOSED CONTOUR
- TOE OF SLOPE
- PROPOSED MSE WALL
- PROPOSED CURB
- PROPOSED CENTER LINE
- PROPOSED SIDEWALK
- EXISTING CONTOURS
- EX. EASEMENT LINE
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED WATER
- EXISTING WATER
- PROPOSED SEWER
- EXISTING SEWER
- EXISTING GAS
- EXISTING ELECTRICAL
- EXISTING TELECOMMUNICATION
- PROPOSED TRANSFORMER
- PROPOSED CATCH BASIN
- PROPSOED MODULAR WETLAND SYSTEM
- PROPOSED UNDERGROUND DETENTION VAULT
- PROPOSED FIRE HYDRANT
- LINE OF SIGHT
- ADA ACCESSIBLE UNIT
- TRASH BIN
- STOP SIGN

FEET
INCHES

LAND USE SUMMARY

	Lot 1	Lot A
Gross Project Area = 13.40 acres		
Gross	6.79 acres	6.61 acres
Net Area (includes ADA ramp)	3.03	NA
Private Drive and Parking Areas	1.57	NA
Slope Areas	1.9 acres	1.63 acres
Density	13.40 du's/acre	NA
Total Dwelling Units	91	0
Building Coverage (10 Residential + 1 Rec Building) / Lot 1 Area (60,360 Sq.Ft./295,722 Sq.Ft.)	20%	
Disturbed Area (daylight line)	6.51 acres	1.63 acres
Undisturbed Area	0.28 acres	4.98 acres
SCE Easement	N/A	1.08 acres

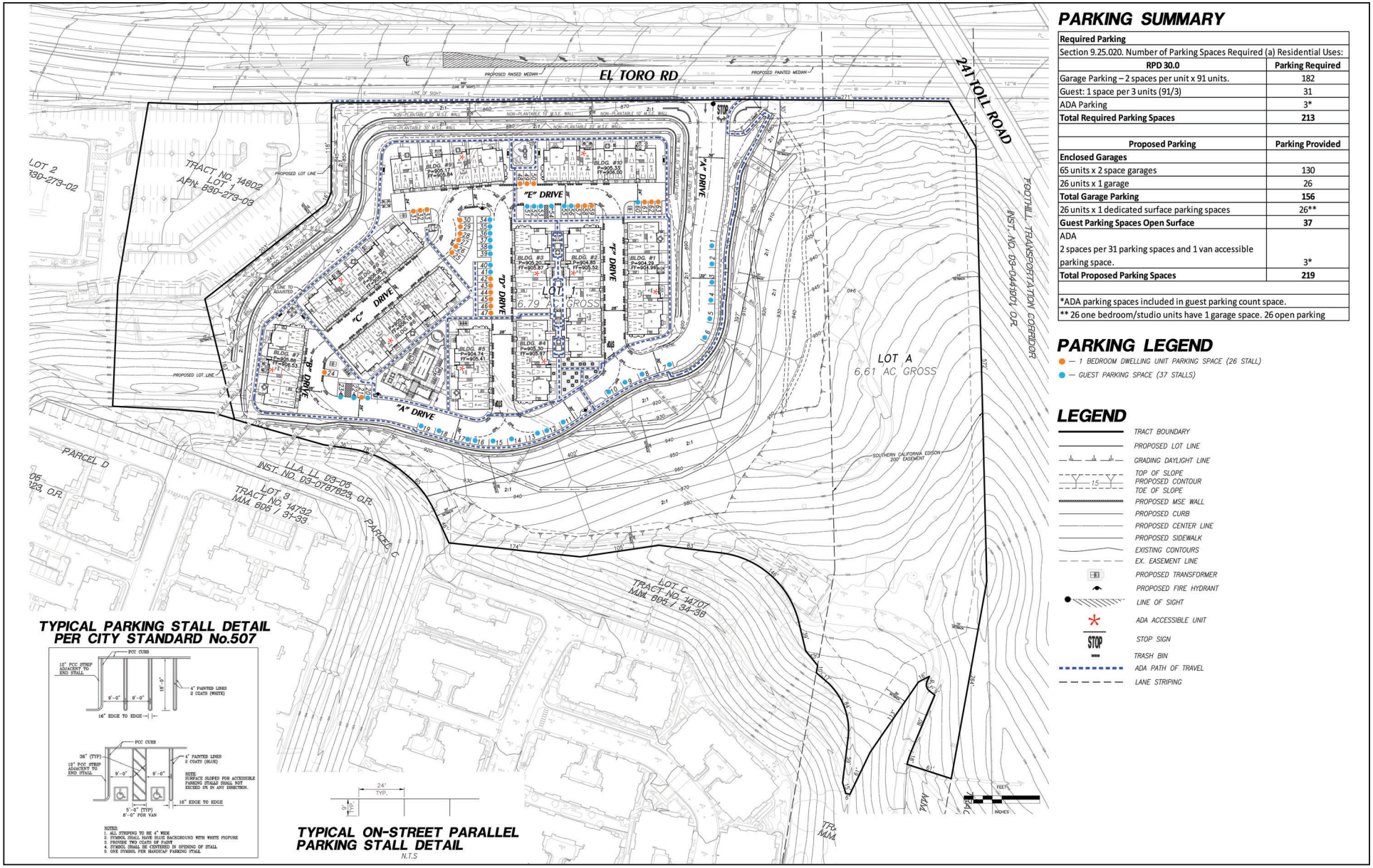
Source: Hunsaker & Associates; May 15, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Site Plan

VCS Environmental

Figure 3-5



PARKING SUMMARY

Required Parking	
Section 9.25.020. Number of Parking Spaces Required (a) Residential Uses:	
RPD 30.0	**Parking Required**
Garage Parking – 2 spaces per unit x 91 units.	182
Guest: 1 space per 3 units (91/3)	31
ADA Parking	3*
Total Required Parking Spaces	**213**
Proposed Parking	**Parking Provided**
Enclosed Garages	
65 units x 2 space garages	130
26 units x 1 garage	26
Total Garage Parking	**156**
26 units x 1 dedicated surface parking spaces	26**
Guest Parking Spaces Open Surface	**37**
ADA 2 spaces per 31 parking spaces and 1 van accessible parking space.	3*
Total Proposed Parking Spaces	**219**
*ADA parking spaces included in guest parking count space.	
** 26 one bedroom/studio units have 1 garage space. 26 open parking	

PARKING LEGEND

- 1 BEDROOM DWELLING UNIT PARKING SPACE (26 STALL)
- GUEST PARKING SPACE (37 STALLS)

LEGEND

- TRACT BOUNDARY
- PROPOSED LOT LINE
- GRADING DAYLIGHT LINE
- TOP OF SLOPE
- PROPOSED CONTOUR
- TOE OF SLOPE
- PROPOSED MSE WALL
- PROPOSED CURB
- PROPOSED CENTER LINE
- PROPOSED SIDEWALK
- EXISTING CONTOURS
- EX. EASEMENT LINE
- PROPOSED TRANSFORMER
- PROPOSED FIRE HYDRANT
- LINE OF SIGHT
- ADA ACCESSIBLE UNIT
- STOP SIGN
- TRASH BIN
- ADA PATH OF TRAVEL
- LANE STRIPING

TYPICAL PARKING STALL DETAIL PER CITY STANDARD No.507

TYPICAL ON-STREET PARALLEL PARKING STALL DETAIL

N.T.S

Source: Hunsaker & Associates; May 15, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Proposed Parking Plan

Note: Artist's conception; colors, materials and application may vary.

Left

Front

Right

Rear

STYLE ELEMENTS

Roof:	Concrete "S" Tile Roof	Exterior:	Stucco
Fascia:	Wood Fascia	Window & Door:	Foam Trim
Barge:	Wood Barge Board	Trim: Entry Door:	Decorative Front Entry Door Decorative
Gable:	Pre-Manufactured Pipe Detail	Garage Door:	Metal Roll-Up Garage Door

Source: WHA (William Hezmalhalch Architects, Inc.); May 15, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Conceptual Building Elevations – 7 Plex

'A' Exterior Elevations

Left

Front

Right

Rear

'B' Exterior Elevations

Front

STYLE ELEMENTS

Roof:	Concrete "S" Tile Roof
Fascia:	Wood Fascia
Barge:	Wood Barge Board
Gable:	Pre-Manufactured Pipe Detail
Exterior:	Stucco
Window & Door Trim:	Foam Trim
Entry Door:	Decorative Front Entry Door
Garage Door:	Decorative Metal Roll-Up Garage Door

Source: WHA (William Hezmalhalch Architects, Inc.); May 15, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Conceptual Building Elevations – 10 Plex

Source: WHA (William Hezmalhalch Architects, Inc.); May 15, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Conceptual Building Elevations – 11 Plex

Source: Urban Arena; April 13, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Conceptual Landscape Plan

The Entry Drive is highlighted by the two Corner Monuments, with a Focal Tree and accent planting. The interior planting comprises California friendly and drought tolerant planting materials.

A Recreation Center is proposed with a pool, spa, overhead cabana, and a BBQ area. A small tot-lot at the bluff top would also be provided. Units along the bluff top would be provided with a private patio to take advantage of the views along with a sidewalk connected to the blufftop path. A passive Paseo area is furnished with seating areas, pottery, and Courtyard trees with lantern lights to encourage residents to be outside and embrace the outdoor amenities.

DRAINAGE PLAN

The storm water runoff from the site would be conveyed along internal private drives and would flow into proposed catch basins located throughout the project site and connect to the El Toro Road storm drain. A proposed onsite underground modular wetland system would treat storm and nuisance water flows before they are discharged offsite to the existing storm drain along El Toro Road by way of "A" Drive. Stormwater runoff along the west downslope would be collected and diverted to the El Toro storm drain to prevent runoff from entering the adjacent property. The El Toro storm drain outlets into Aliso Creek before draining into the ocean. The drainage system will be developed in accordance with County of Orange Flood Control District Standards.

PUBLIC UTILITIES

Onsite utility infrastructure would be required to be constructed to serve the project. As shown in Figure 3-9, *Conceptual Utility Plan*, Municipal and private utility services necessary to serve the project site are currently available along Marguerite Parkway to the west and along El Toro Road to the north, including water, sanitary sewer, and dry utilities (e.g., electricity, natural gas, cable). The utilities would be provided to the project via underground connections from Marguerite Parkway and El Toro Road. Utility connections from Marguerite Parkway would run east along El Toro Road to the project site. No new or expanded utility lines or facilities are required for serving the project, except as needed for the utility connections. The final sizing and design of onsite facilities would occur during final design.

Water

Water service to the project site would be available through an existing 12-inch water line along the south side of El Toro Road. Two proposed eight-inch water lines would connect to the El Toro Road water line near the northeast corner of the project site. The eight-inch water lines would run parallel along "A" Drive from El Toro Road and loop through the project along all internal project drives to service all units, including the three proposed fire hydrants. The proposed water lines would be owned and maintained by the Santa Margarita Water District.

Sewer

Sewer service to the project site is available through the existing eight-inch sewer line at the intersection of Marguerite Parkway and El Toro Road that is owned and maintained by the Santa Margarita Water District. A proposed eight-inch sewer line would connect to the Santa Marguerite Parkway sewer line and run east along El Toro Road before turning south towards the project site. The eight-inch sewer line would continue along all internal project drives to service all units.

Electric, Natural Gas and Telecommunications

Southern California Edison (SCE) would provide electricity to the project site and would serve the project via an existing underground service that runs along El Toro Road. Three proposed transformers would be located within the project site; one between buildings 2 and 4, one between buildings 6 and 7, and one

between buildings 8 and 9. The Southern California Gas Company (SCG) would provide natural gas to the project site and has an existing gas line along El Toro Road. Telephone service is provided by AT&T and cable television and internet services are provided by Cox Communications.

PUBLIC SERVICES

Fire Protection Service

The Orange County Fire Authority (OCFA) provides for fire protection and emergency services for the City of Mission Viejo including the location of the proposed infill development project. The closest fire stations to the project site include OCFA Station No. 54 located at 19811 Pauling, Lake Forest, approximately two miles north of the project site and Fire Stations No. 31 and No. 42, approximately 2.1 miles from the project site.

Police Protection Service

The City of Mission Viejo contracts with the Orange County Sheriff's Department (OCSD) and is within the Southeast Operations jurisdiction for police services, including the location of the proposed infill development project. The closest Sheriff's station is the Saddleback Station, located at 20202 Windrow Drive, Lake Forest, approximately 1.6 miles northwest of the proposed project site.

School Services

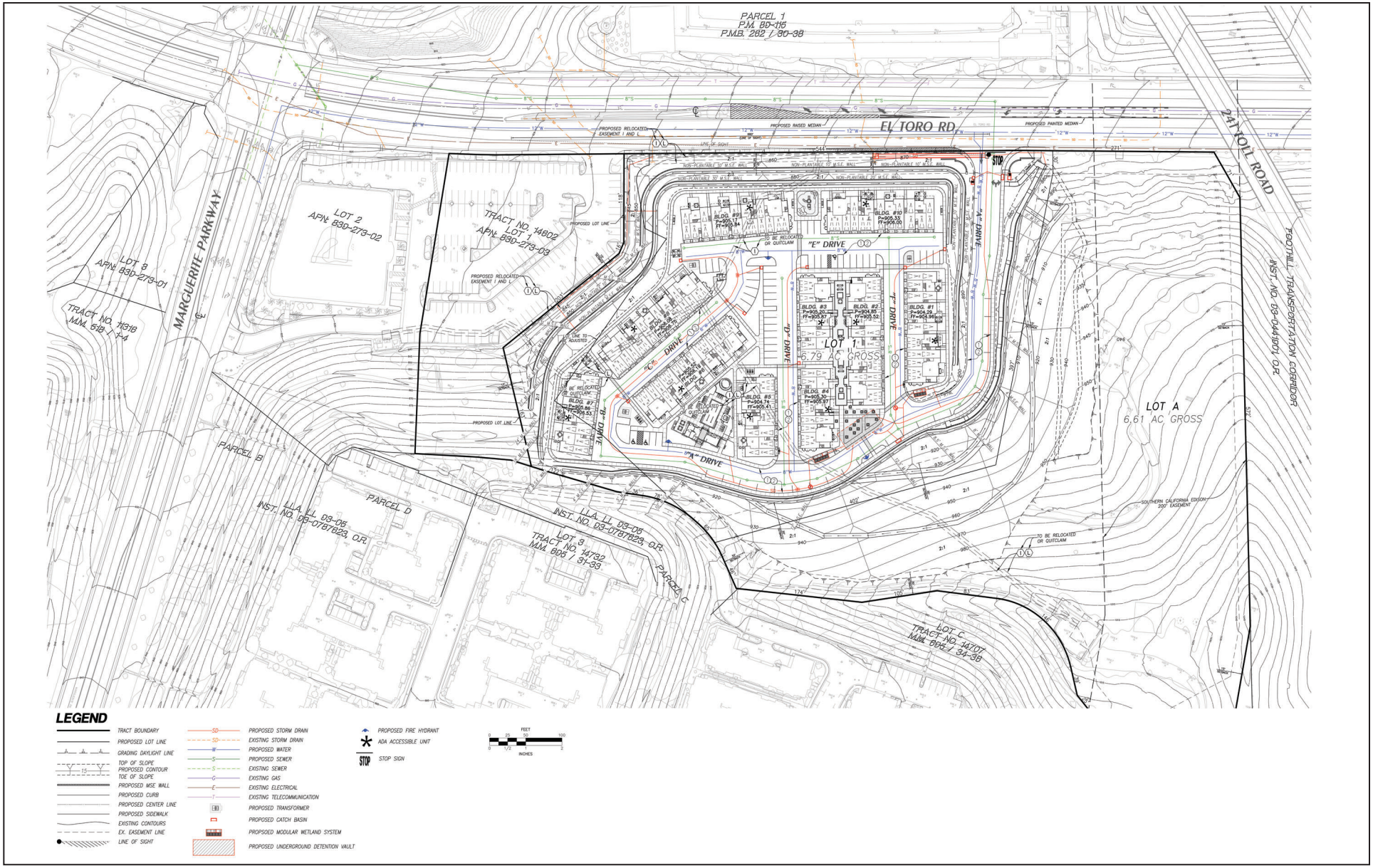
The project site is within the Saddleback Valley Unified School District (SVUSD). According to the SVUSD, *My School Locator Map*, schools that would serve the proposed project include: Del Lago Elementary School at 27181 Entidad, Mission Viejo (1.4 miles); La Paz Intermediate School at 25151 Pradera Drive, Mission Viejo (5.6 miles); and Trabuco High School at 27501 Mustang Run, Mission Viejo (1.2 miles).

Solid Waste Disposal

Solid waste disposal service would be provided by Waste Management of Orange County. The nearest landfill, Frank R. Bowerman Landfill, is located at 11002 Bee Canyon Access Road, Irvine, approximately 9.3 miles north of the project site.

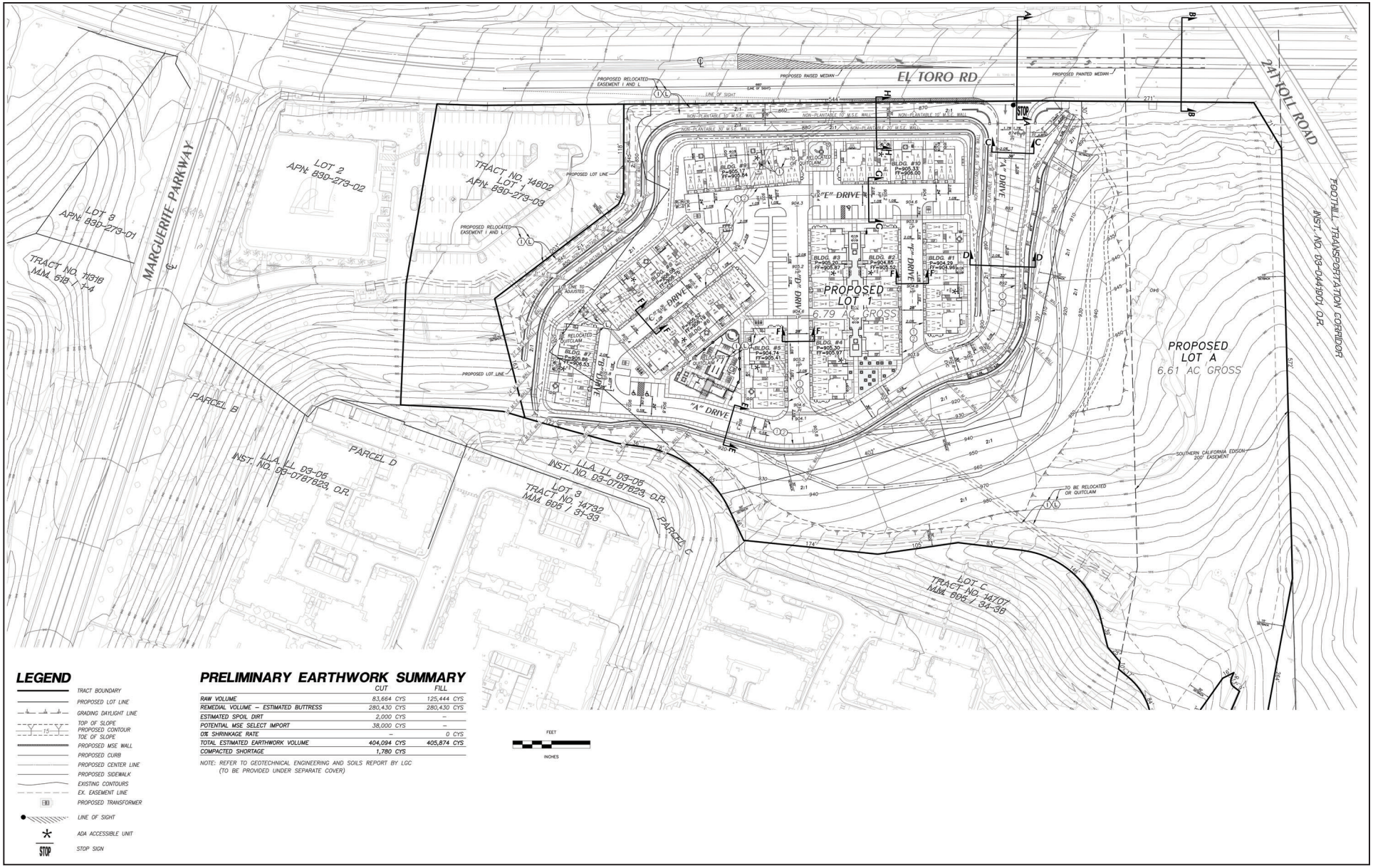
3.4 Construction Activities

The proposed project would include grading and building activities to construct onsite access ways, infrastructure, building pads and residential structures. The grading limits for the project would occur within an 8.14-acre development area. The project would cut into the existing hillside to create access into the site and to grade and create a flat building pad area. The 200-ft SCE easement area is not planned to be encroached upon. The grading activities would be balanced onsite with 404,094 cubic yards of cut and 405,874 cubic yards of fill. An estimated 0% shrinkage factor is incorporated into the fill quantities. The grading plan shows there is an estimated 83,664 cubic yards of raw cut material that would be needed for the project in addition to an estimated 280,430 cubic yards of material that would address buttress and remediation work for slope stability; refer to Figure 3-10, *Conceptual Grading Plan and TTM 19035 for Condominium Purposes*. There is an estimated 125,444 cubic yards of raw fill material that would include the raw cut material and some additional soil import to be brought to the site. To balance the site and support the proposed residential development area, an estimated 38,000 cubic yards of select material would be expected to be imported to the project site and approximately 2,000 cubic yards of spoil material from onsite trench grading work would be used to balance the earthwork on the site. The project site would be surrounded by manufactured landscape slopes that would be supported by a combination of setbacks and concreate retaining walls.



Source: Hunsaker & Associates; May 15, 2020.

Conceptual Utility Plan



Source: Hunsaker & Associates; May 15, 2020.

Conceptual Grading Plan and TTM 19035 for Condominium Purposes

The frontage on El Toro Road would have a combination of landscape setbacks, landscape slopes, v-ditches and a multiple retaining wall system that would be terraced with a 2:1 slope separating each wall. At the edge of sidewalk, a 20-foot setback, 2:1 slope with heavy landscaping would be provided. A 10-foot retaining wall and v-ditch would be at the top of the slope. Extending from the retaining wall, another 10-foot, 2:1 slope would be provided that would be extended to a second retaining wall and v-ditch measuring 20 - 30 feet in height. The retaining wall and v-ditch would crest at the top of the slope of the building pad. A minimum 15-foot setback at the development pad would be provided. Landscaping would be installed in front of each wall with select species to assist in maintaining the slope and screening the retaining walls along the El Toro Road Street Frontage.

Along the southern boundary of the project site, up to a 21-foot retaining wall would be provided, west of "A" Drive. The retaining wall would taper easterly to about 13 feet where the ADA sidewalk ramp begins. Between "A" Drive and the toe of the retaining wall there would be curb, sidewalk, and landscaping. South of the retaining wall would be manufactured slopes that would daylight at the natural grade near the existing ridgeline. Landscaping would be installed in front of the retaining wall with select species to assist in maintaining the slope and screening.

Along the western boundary, a combination of terraced retaining walls and v-ditches would be provided. A 2:1 landscaped slope and a 10-foot tall retaining wall and v-ditch would be provided above the toe of the slope. A 2:1 slope would extend from the retaining wall to a second retaining wall measuring 18 - 32 feet in height. A 2:1 slope would extend from the retaining walls that would crest at the top of the slope of the development pad area. A minimum 15-foot setback at the development pad would be provided. Landscaping would be installed in front of each wall with select species to assist in maintaining the slope and screening of the retaining walls along the neighboring office parking lot area.

Along the eastern boundary, east area of the project site, east of "A" Drive, a 10-foot landscaped 2:1 sloped setback and 10-foot retaining wall would be provided. A 10-foot landscaped, 2:1 slope would extend from the retaining wall to a second retaining wall that is also 10 feet tall. This retaining wall would be parallel to "A" Drive and traverses to the south side of the project area. Atop the 10-foot retaining wall would be an area that includes a v-ditch. Further east, after the v-ditch, would be manufactured slopes and a bench between the retaining wall and the SCE Edison easement where the manufactured slopes daylight to existing natural slopes.

STAGING AREAS

The majority of construction staging and laydown areas would occur within the project site. However, some temporary construction parking would occur offsite on a portion of the parking lot north of the eastern portion of the project site. Temporary storage of materials may also occur in the adjacent parking lot and this area would be properly fenced and secured. The project site would be fenced during construction and the access would be for construction vehicles only.

CONSTRUCTION SCHEDULE AND MIX OF CONSTRUCTION EQUIPMENT

The project is anticipated to be under construction from the Fourth Quarter 2020, when clearing and grading would be initiated, until December 2021 (approximately 18 months). The duration for each stage of construction is estimated in Table 3-4, *Summary of Construction Activities*. The sequence of construction phases that typically occur would be clearing and site grading, horizontal building foundation and vertical building construction and paving and concrete work and landscape installation. The number and types of equipment to be used would vary on a daily basis based on the stage of construction. Typical construction equipment would be used would include concrete/industrial saws, dozers, tractors/loaders/backhoes, graders, excavators, cranes, forklifts, welders, cement and mortar mixers, pavers and paving equipment,

rollers, and, air compressors. A summary of the construction phases and estimated pieces of equipment and onsite employees for the proposed project is shown in Table 3-4.

Table 3-4
Summary of Construction Activities

Construction Activity	Daily	Total Construction Days
Clearing/Site Grading Phase		
Construction Trucks	200	25
Employees	40	40
Total Site grading	N/A	110
Building Foundation/Framing Phase		
Construction Trucks	52	49
Employees	48	48
Foundation	N/A	28
Framing	N/A	49
Paving/Concrete/Landscaping Phase		
Construction Trucks	20	24
Employees	24	24
Curb and Gutter	N/A	20
Paving	N/A	5
Landscaping	N/A	120

3.5 Requested Project Approvals/Permitting

The IS/MND is intended to provide environmental review for full implementation of the project, including all discretionary actions and ministerial permits associated with it. The City of Mission Viejo is the Lead Agency with approval authority over the project. Below is listing of permits and approvals required for the project.

General Plan Amendment:

- 6.79 acres Recreation/Open Space to Residential Planned Development 30 (RPD-30)

Zone Change:

- 6.79 acres Recreation to Residential Planned Development 30 (RPD-30)

Variances:

- Wall Height - To allow an increased wall height for retaining purposes up to 32 feet high.
- Building Separation - To reduce the required building separations from 20 feet to:
  - Building 3 and Building 4 are separated by 15 feet
  - Building 7 and Building 8 are separated by 15 feet with an average building separation over 20 feet
- Planned Development Permit (PDP)
- Tentative Tract Approval

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4.0 ENVIRONMENTAL ANALYSIS

A Mitigated Negative Declaration has been prepared for the proposed project because the Initial Study concluded that the proposed project would not result in significant unavoidable environmental impacts once mitigation measures are implemented. The following Sections 4.1 through 4.21, provide a discussion of the potential project impacts as identified in the Initial Study/Mitigated Negative Declaration (IS/MND). Explanations are provided within each corresponding impact category in this analysis.

4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

ENVIRONMENTAL ANALYSIS

a) Have a substantial adverse effect on a scenic vista?

No Impact: For purposes of determining significance under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public and is generally designated by public agencies to provide for their preservation. According to the City of Mission Viejo Open Space and Conservation Element, the project site is not designated as a scenic vista. Additionally, the project site does not provide any views of any City designated scenic vistas. No impact to scenic vistas would occur.

Mitigation Measures: No mitigation measures are required.

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

No Impact: The State Scenic Highway Program was established by the California Department of Transportation (Caltrans) to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to state highways. Highways may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the

landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. According to Caltrans, there are no designated or eligible state scenic highways within the viewshed of the proposed project. Therefore, no impacts to scenic resources along a state scenic highway would occur.

Mitigation Measures: No mitigation measures are required.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact: The proposed project is an undeveloped parcel that is situated within an urbanized setting. The site fronts along El Toro Road and is nestled between the Foothill Transportation Corridor (SR-241) and the Saddleback Church administrative office building. South of the site is existing multiple-family residential uses that are buffered from the site by large manufactured landscaped slopes. Existing overhead transmission wires crisscross the property. The majority of the site consists of rolling terrain and is currently overgrown within non-native weeds within some pockets of native vegetation. The property is privately owned and not accessible to the public. The property essentially functions as a buffer to surrounding land uses and transportation facilities.

The proposed project would involve the development of a 91-unit residential community. The project would be required to comply with citywide design guidelines and would be subject to design review by the City to determine consistency with relevant design policies, regulations, and standards. The relevant planning programs that would provide for the protection of scenic quality on the project site and surrounding area would be the City of Mission Viejo General Plan Land Use Element and Zoning Code.

GENERAL PLAN LAND USE ELEMENT

The General Plan Land Use Element provides Goal 3 to maintain community identity and development quality for the City and its neighborhood as well as identifies a series of policies to implement the goal. Table 4.1-1, *General Plan Land Use Element Goal 3 Consistency*, is an evaluation of the consistency of the proposed project with relevant policies provided in the Land Use Element.

Table 4.1-1
General Plan Land Use Element Goal 3 Consistency

Policy	Consistency Evaluation	Consistency Determination
Policy 3.1: Maintain the integrity of residential neighborhoods by preventing the intrusion of incompatible land uses.	The project is adjacent to similar types of residential uses and land use densities. The project is physically and visually buffered from adjacent land uses by large landscaped slopes that surround the site from all sides. The project would not introduce incompatible land uses, would not redirect through existing neighborhoods, or involve any long-term activities that would affect the quality and integrity of existing residential neighborhoods.	Consistent
Policy 3.2: Ensure that new development and land uses are architecturally consistent and compatible in scale and style with existing development and identified standards for the various districts within the City.	The proposed project has been designed to be visually compatible with similar architectural elements of Spanish traditional influences that are common in Mission Viejo. The scale of the project is compatible with existing residential uses in the project area. As part of the approvals, the project would require design review approval, which would ensure that the project is architecturally consistent and compatible in scale and style with other existing developments in the City.	Consistent

Policy	Consistency Evaluation	Consistency Determination
Policy 3.3: Ensure that infill development is compatible with community open space areas and existing community character.	The project design maintains existing open space areas on the site and incorporates them efficiency as open buffers and aesthetically pleasing visual elements.	Consistent
Policy 3.5: Emphasize quality of design for new development and rehabilitation of existing development, including the preservation and increase of arterial landscape space.	The project fronts along El Toro Road. A combination of landscaped slope, v-ditch and retaining wall system would be terraced along El Toro Road. The terracing of the slope would minimize the visual intrusion of the retaining walls. A 20-foot landscape setback is proposed along El Toro Road which would provide a landscape backdrop for pedestrians along the sidewalk as well as contribute to visually attractive street scape.	Consistent

ZONING CODE

The proposed project is requesting a Zone Change from Recreation to Residential Planned Development 30 (RPD-30). The intent of this zone change is to provide for high density single-family attached and multiple-family dwellings at a density range of 14.1 to 30 units per gross acre. The zoning code establishes site development standards and landscape standards for the RPD-30 zoning district to ensure that high quality and aesthetically pleasing new development occurs. As shown in Table 4.1-2, *Residential Planned Development 30 Site Development Standards*, the project would exceed minimum building setback requirements and comply with maximum lot coverage. As part of the proposed project approvals, the project is requesting to reduce the required building separations from 20 feet to 15 feet minimum and increase the maximum allowable height to 40 feet. The expansive building setbacks and surrounding landscaped slopes would provide open setting and landscape backdrop for the project. The proposed reduction in building area and proposed increase in height would not result in overly dense structures that would reduce the overall visual quality of project area or be visually incompatible with other existing residential structures in the area. Implementation of the proposed project would not conflict with Zoning Code and reduce the scenic quality of the project area.

Table 4.1-2
Residential Planned Development 30 Site Development Standards

Standard	Required Standard	Proposed Standard
Maximum Units/Acre	30	13.4 du/ac
Lot Area	5,000	6.79 acres
Lot Width	100	720 feet
Lot Depth	150	520 feet
Front Setback	30	Building setback is minimum 63 feet, walls exceeding height are at 10 feet.
Rear Setback	30	Rear building setback ranges from 30 feet – 120 feet, retaining walls range from 15 feet - 75 feet from rear Property Line
Side Setback	15	Building setback at least 74 feet, retaining walls at 15 feet.
Maximum Lot Coverage	50	2.94 acres
Distance Between Buildings	20	15 feet minimum
Private Outdoor Living Area	80	80 square feet/du
Maximum Building Height	35 or2 Stories	40 feet
Maximum Wall Height	6	Up to 32 feet
Source: Trumark, May 2020.		

MUNICIPAL CODE LANDSCAPE REQUIREMENT

Section 9.27 of the City's Municipal Code includes landscaping standards. These standards are intended to "Enhance the aesthetic appearance of development in all areas of the City by providing standards relating to quality, quantity and functional aspects of landscaping and landscape screening." The Municipal Code establishes a requirement for 15 percent of the net site area to be landscaped. The project proposes 3.53 acres of open space landscape slopes which would exceed the City's landscape requirements. The City's Municipal Code addresses landscape plans for setback and parkway treatment standards. The project fronts along El Toro Road and includes a combination of landscape setbacks and 2:1 slopes and terracing of retaining walls. The spacing between the retaining walls would be landscaped with various tree species, shrubs and groundcover which would enhance the streetscape along El Toro Road.

The project would not conflict with applicable community identity and urban design goals and would comply with established landscaped requirements for the project site and along El Toro Road. In accordance with the City's Zoning Code, the project would require approval of a Planned Development Permit. The Planned Development Permit process would involve review of the location, design, configuration, and impact of the proposed use by comparing the use to established standards and design guidelines. Through this process, the City would ensure that the project is consistent with City design guidelines and standards. Additionally, through a variance request, the City would be required to make appropriate findings that increased building height and reduce building separation would not result in physical environmental impacts related to aesthetics. With compliance with the City's design review process, the project would not conflict with applicable zoning and other regulations governing scenic quality.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated: The project area is currently developed with urbanized land uses that provide various levels of nighttime lighting. The construction activities for the proposed project would occur during the day. Therefore, no temporary nighttime construction lighting impacts would occur. The operation of the proposed project would introduce new sources of lighting into the project area. The proposed lighting would be like the type and level of existing lighting provided in the project area. The proposed project would be required to confine the lighting on the property to avoid spillover lighting impacts to adjoining properties. With implementation of Mitigation AR-1, 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 potential impacts would be less than significant.

Mitigation Measures:

AES-1: The project shall demonstrate that all exterior lighting has been designed and located so that all direct rays are confined to the property.

4.2 Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?	☐	☐	☐	☒

ENVIRONMENTAL ANALYSIS

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?

No Impact: The State of California Farmland Mapping and Monitoring Program indicates that there is no Prime Farmland, Unique Farmland or Farmland of Statewide Importance on the project site or surrounding area. Therefore, no impacts to Prime Farmland, Unique Farmland or Farmland of Statewide Importance would occur.

Mitigation Measures: No mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact: The project site is zoned Recreation and the development of the site would not conflict with any lands zoned for agriculture uses. According to the property title, the project site is not under a Williamson Contract. Implementation of the proposed project would have no impact regarding potential conflicts with existing agriculture zoning or Williamson Act contracts on the property.

Mitigation Measures: No mitigation measures are required.

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))?

No Impact: The proposed project is currently zoned Recreation and would not cause a rezone of lands that are zoned for forest land or timberland. Therefore, no impacts to forest land, timberland or lands zoned for timberland would occur.

Mitigation Measures: No mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact: There are no existing forest lands or timberland resources on the property and the project site is not zoned for timberland production. Implementation of the proposed project would not result in the loss of forest land.

Mitigation Measures: No mitigation measures are required.

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?

No Impact: The project site and surrounding properties do not contain farmland or timberland resources. The construction and operation of the proposed project would be confined to the project site and would not cause any onsite or offsite conversion of farmland or forest land to non-agriculture uses or non-forest uses.

Mitigation Measures: No mitigation measures are required.

4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. 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?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis* prepared by Vista Environmental in May 2020. The report is presented in its entirety in Appendix A.

Background

Air pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions).

CRITERIA POLLUTANTS AND OZONE PRECURSORS

The criteria pollutants consist of ozone, NO_X, CO, SO_X, lead (Pb), and particulate matter (PM). The ozone precursors consist of NO_X and VOC. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health based and/or environmentally based criteria for setting permissible levels. Table 4.3-1, *Criteria Pollutants*, provides descriptions of each of the criteria pollutants and ozone precursors.

Table 4.3-1
Criteria Pollutants

Criteria Pollutant	Description
Nitrogen Oxides	Nitrogen Oxides (NO_X) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. The primary manmade sources of NO_X are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel.

Criteria Pollutant	Description
Ozone	Ozone (O_3) is not usually emitted directly into the air but in the vicinity of ground-level and is created by a chemical reaction between NO_X and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NO_X and VOC that help form ozone.
Carbon Monoxide	Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes approximately 56 percent of all CO emissions nationwide.
Sulfur Oxides	Sulfur Oxide (SO_X) gases are formed when fuel containing sulfur, such as coal and oil is burned as well as from the refining of gasoline.
Lead	Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been vehicles and industrial sources.
Volatile Organic Compounds	Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements.
Particulate Matter	Particle matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM_{10}) that are also known as *Respirable Particulate Matter* are the particles that generally pass through the throat and nose and enter the lungs. Particles that are less than 2.5 micrometers in diameter ($PM_{2.5}$) that are also known as *Fine Particulate Matter* have been designated as a subset of PM_{10} due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.	

OTHER POLLUTANTS OF CONCERN

Toxic Air Contaminants: In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. TACs is a term that is defined under the California Clean Air Act and consists of the same substances that are defined as Hazardous Air Pollutants (HAPs) in the Federal Clean Air Act. There are over 700 hundred different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer.

Asbestos: Asbestos is listed as a TAC by the California Air Resources Board (CARB) and as a Hazardous Air Pollutant (HAP) by the United States Environmental Protection Agency (EPA). Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma.

Regulatory Setting

The project area is located in the South Coast Air Basin (SoCAB). The SoCAB includes Orange County in its entirety and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. Air pollutants are regulated at the national, state and air basin level. Each agency has a different level of regulatory responsibility. The EPA regulates at the national level. The California Air Resources Board (ARB) regulates at the state level and the South Coast Air Quality Management District (SCAQMD) regulates at the air basin level.

FEDERAL REGULATION

The EPA handles global, international, national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, conducts research, and provides guidance in air pollution programs and sets National Ambient Air Quality Standards (NAAQS), also known as federal standards. There are six common air pollutants, called criteria air pollutants, which were identified resulting from provisions of the Clean Air Act of 1970. The six criteria pollutants are Ozone, Particulate Matter (PM_{10} and $PM_{2.5}$), Nitrogen Dioxide, Carbon Monoxide, Lead and Sulfur Dioxide. The NAAQS were set to protect public health, including that of sensitive individuals.

STATE REGULATION

The ARB also administers California Ambient Air Quality Standards (CAAQS), for the ten air pollutants designated in the California Clean Air Act (CCAA). The ten state air pollutants include the six national criteria pollutants and visibility reducing particulates, hydrogen sulfide, sulfates and vinyl chloride.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national air quality standards. The SIP must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP. The CARB defines attainment as the category given to an area with no violations in the past three years. As indicated in Table 4.3-2, *South Coast Air Basin Attainment Status*, the Air Basin has been designated by EPA for the national standards as a non-attainment area for ozone and $PM_{2.5}$ and partial non-attainment for lead. Currently, the Air Basin is in attainment with the national ambient air quality standards for CO, PM_{10}, SO_2, and NO_2.

Table 4.3-2
South Coast Air Basin Attainment Status

Criteria Pollutant	Standard	Averaging Time	Designation[a)]	Attainment Date[b)]
1-Hour Ozone[c)]	NAAQS	1979 1-Hour (0.12 ppm)	Nonattainment (Extreme)	2/6/2023 (revised deadline)
	CAAQS	1-Hour (0.09 ppm)	Nonattainment	N/A
8-Hour Ozone[d)]	NAAQS	1997 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	NAAQS	2008 8-Hour (0.075 ppm)	Nonattainment (Extreme)	8/3/2038
	NAAQS	2015 8-Hour (0.070 ppm)	Pending – Expect Nonattainment (Extreme)	Pending (beyond 2032)
	CAAQS	8-Hour (0.070 ppm)	Nonattainment	Beyond 2032

Criteria Pollutant	Standard	Averaging Time	Designation[a)]	Attainment Date[b)]
CO	NAAQS	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
	CAAQS	1-Hour (20 ppm) 8-Hour (9 ppm)	Attainment	6/11/2007 (attained)
NO_2[e)]	NAAQS	2010 1-Hour (0.10 ppm)	Unclassifiable/Attainment	N/A (attained)
	NAAQS	1971 Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)
	CAAQS	1-Hour (0.18 ppm) Annual (0.030 ppm)	Attainment	---
SO_2[f)]	NAAQS	2010 1-Hour (75 ppb)	Designations Pending (expect Unclassifiable/Attainment)	N/A (attained)
	NAAQS	1971 24-Hour (0.14 ppm) 1971 Annual (0.03 ppm)	Unclassifiable/Attainment	3/19/1979 (attained)
PM10	NAAQS	1987 24-hour (150 µg/m^3)	Attainment (Maintenance)[g)]	7/26/2013 (attained)
	CAAQS	24-hour (50 µg/m^3) Annual (20 µg/m^3)	Nonattainment	N/A
PM2.5[h)]	NAAQS	2006 24-Hour (35 µg/m^3)	Nonattainment (Serious)	12/31/2019
	NAAQS	1997 Annual (15.0 µg/m^3)	Attainment (final determination pending)	8/24/2016 (attained 2013)
	NAAQS	2012 Annual (12.0 µg/m^3)	Nonattainment (Moderate)	12/31/2021
	CAAQS	Annual (12.0 µg/m^3)	Nonattainment	N/A
Lead[i)]	NAAQS	2008 3-Months Rolling (0.15 µg/m^3)	Nonattainment (Partial) (Attainment determination requested)	12/31/2015

Notes:
a) U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable.
b) A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.
c) The 1979 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard and therefore has some continuing obligations with respect to the revoked standard.
d) The 2008 8-hour ozone NAAQS (0.075 ppm) was revised to 0.070 ppm. Effective 12/28/15 with classifications and implementation goals to be finalized by 10/1/17; the 1997 8-hour O_3 NAAQS (0.08 ppm) was revoked in the 2008 O_3 implementation rule, effective 4/6/15;there are continuing obligations under the revoked 1997 and revised 2008 O_3 until they are attained.
e) New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO_2 standard retained.
f) The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards would remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard. Area designations are still pending, with Basin expected to be designated Unclassifiable /Attainment.
g) Annual PM10 standard was revoked, effective December 18, 2006; 24-hour PM10 NAAQS deadline was 12/31/2006; SCAQMD request for attainment redesignation and PM_{10} maintenance plan was approved by U.S. EPA on June 26, 2013, effective July 26, 2013.
h) The attainment deadline for the 2006 24-Hour $PM_{2.5}$ NAAQS was 12/31/15 for the former "moderate" classification; EPA approved reclassification to "serious", effective 2/12/16 with an attainment deadline of 12/31/19; the 2012 (proposal year) annual $PM_{2.5}$ NAAQS was revised on 1/15/13, effective 3/18/13, from 15 to 12 µg/m^3; new annual designations were final 1/15/15, effective 4/15/15; on July 25, 2016 EPA finalized a determination that the Basin attained the 1997 annual (15.0 µg/m^3) and 24-hour $PM_{2.5}$ (65 µg/m^3) NAAQS, effective August 24, 2016.
i) Partial Nonattainment designation – Los Angeles County portion of Basin only for near-source monitors. Expect to remain in attainment based on current monitoring data; attainment re-designation request pending.

Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

The project site is located within the South Coast Air Basin (under the jurisdiction of the SCAQMD). The SCAQMD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or

exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The Basin, in which the project site is located, is a non-attainment area for the federal ozone, $PM_{2.5}$ and lead standards, and the state ozone, PM_{10} and $PM_{2.5}$ standards. The Basin is in attainment for federal standards for PM_{10}, nitrogen dioxide, carbon monoxide and sulfur dioxide. The Basin is also in attainment for the state standards for CO, nitrogen dioxide, sulfur dioxide, lead and sulfates.

SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMPs). The AQMP's are prepared in coordination with the Southern California Association of Government (SCAG) *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS), adopted April, 2016 and the *2019 Federal Transportation Improvement* Program (FTIP), adopted September 2018, which addresses regional development and growth forecasts.

In addition to preparation of AQMP, SCAQMD has adopted several rulings to reduce construction related air emissions. The following lists the SCAQMD rules that are applicable but not limited to residential development projects in the Air Basin.

Rule 402 Nuisance: Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Compliance with Rule 402 would reduce local air quality and odor impacts to nearby sensitive receptors.

Rule 403 Fugitive Dust: Rule 403 governs emissions of fugitive dust during construction activities and requires that no person shall cause or allow the emissions of fugitive dust such that dust remains visible in the atmosphere beyond the property line or the dust emission exceeds 20 percent opacity, if the dust is from the operation of a motorized vehicle. Compliance with this rule is achieved through application of standard Best Available Control Measures, which includes but is not limited to the measures below. Compliance with these rules would reduce local air quality impacts to nearby sensitive receptors.

- Utilize either a pad of washed gravel 50 feet long, 100 feet of paved surface, a wheel shaker, or a wheel washing device to remove material from vehicle tires and undercarriages before leaving project site.
- Do not allow any track out of material to extend more than 25 feet onto a public roadway and remove all track out at the end of each workday.
- Water all exposed areas on active sites at least three times per day and pre-water all areas prior to clearing and soil moving activities.
- Apply nontoxic chemical stabilizers according to manufacturer specifications to all construction areas that would remain inactive for 10 days or longer.
- Pre-water all material to be exported prior to loading, and either cover all loads or maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114.
- Replant all disturbed area as soon as practical.

- Suspend all grading activities when wind speeds (including wind gusts) exceed 25 miles per hour.
- Restrict traffic speeds on all unpaved roads to 15 miles per hour or less.

Rules 1108 and 1108.1 Cutback and Emulsified Asphalt: Rules 1108 and 1108.1 govern the sale, use, and manufacturing of asphalt and limits the VOC content in asphalt. This rule regulates the VOC contents of asphalt used during construction as well as any on-going maintenance during operations. Therefore, all asphalt used during construction and operation of the proposed project must comply with SCAQMD Rules 1108 and 1108.1.

Rule 1113 Architectural Coatings: Rule 1113 governs the sale, use, and manufacturing of architectural coatings and limits the VOC content in sealers, coatings, paints and solvents. This rule regulates the VOC contents of paints available during construction. Therefore, all paints and solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1113.

Rule 1143 Paint Thinners: Rule 1143 governs the sale, use, and manufacturing of paint thinners and multi-purpose solvents that are used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations. This rule regulates the VOC content of solvents used during construction. Solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1143.

LOCAL JURISDICTIONS

Local jurisdictions, such as the City of Mission Viejo, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the AQMPs. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. In accordance with the CEQA requirements, the City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region would meet federal and state standards. Instead, the City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

PROJECT IMPACTS

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact: The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and regional plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project would be the SCAQMD AQMP. Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered consistent with the AQMP if it furthers one or more policies and does not obstruct other

policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency and both are evaluated below.

(1) Whether the project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Criteria 1: Based on the air quality modeling analysis (Appendix A), short-term regional construction air emissions would not result in significant impacts based on SCAQMD regional thresholds of significance or local thresholds of significance. The ongoing operation of the proposed project would generate air pollutant emissions that are inconsequential on a regional basis and would not result in significant impacts based on SCAQMD thresholds of significance. The analysis for long-term local air quality impacts showed that local pollutant concentrations would not be projected to exceed the air quality standards and a less than significant long-term impact would occur, and no mitigation would be required. Therefore, based on the information provided above, the proposed project would be consistent with the first criterion.

Criteria 2: Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The AQMP is developed through use of the planning forecasts provided in SCAG's RTP/SCS and FTIP. The RTP/SCS is a major planning document for the regional transportation and land use network within Southern California. The RTP/SCS is a long-range plan that is required by federal and state requirements placed on SCAG and is updated every four years. The FTIP provides long-range planning for future transportation improvement projects that are constructed with state and/or federal funds within Southern California. Local governments are required to use these plans as the basis of their plans for the purpose of consistency with applicable regional plans under CEQA. For this project, the City of Mission Viejo General Plan's Land Use Plan defines the assumptions that are represented in AQMP.

The General Plan Land Use Element designation for this site is Recreation/Open Space and is currently zoned as Recreation (R). The proposed project would include a General Plan Amendment that would redesignate the 6.79 acres of area to Residential 30 (R 30). The proposed project would also include a zone change of the 6.79 acres of area Residential Planned Development (RPD 30). Although the proposed project is currently inconsistent with the General Plan land use designation and zoning for the project site, the proposed project would be consistent with the adjacent residential land uses and would be in substantial compliance with the Land Use Element goals and policies. Therefore, due to the proposed project's nominal size and consistency with the surrounding neighborhood, the proposed project would not result in an inconsistency with the current land use designations with respect to the regional forecasts utilized by the AQMPs. Furthermore, the proposed project consists of an infill residential development in an area of Southern California that has a shortage of housing. As such, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion. Based on the above information, the proposed project would not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact would occur in relation to implementation of the AQMP.

Mitigation Measures: No mitigation measures are required.

b) 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?

Less Than Significant Impact: The following section calculates the potential air emissions associated with the construction and operations of the proposed project and compares the emissions to the SCAQMD standards.

CONSTRUCTION RELATED EMISSIONS

The construction activities for the proposed project are anticipated to include site preparation and grading, building construction, paving of the onsite driveways and parking lots, and application of architectural coatings. The construction emissions have been analyzed for both regional and local air quality impacts.

Construction Related Regional Emissions

The CalEEMod model has been utilized to calculate the construction related regional emissions from the proposed project. The worst-case summer or winter daily construction related criteria pollutant emissions from the proposed project for each phase of construction activities are shown in Table 4.3-3, *Construction Related Regional Criteria Pollutant Emissions*, and the CalEEMod daily printouts are located in Appendix A. Since it is possible that building construction, paving, and architectural coating activities could occur concurrently towards the end of the building construction phase, Table 4.3-3 also shows the combined regional criteria pollutant emissions from year 2022 building construction, paving and architectural coating phases of construction.

Table 4.3-3
Construction Related Regional Criteria Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Site Preparation[1]						
Onsite	3.89	40.50	21.15	0.04	10.17	6.35
Offsite	0.09	0.60	0.70	0.00	0.24	0.07
Total	***3.98***	***41.10***	***21.85***	***0.04***	***10.41***	***6.42***
Grading[1]						
Onsite	2.29	24.74	15.86	0.03	4.12	2.58
Offsite	0.37	10.83	3.50	0.03	0.93	0.28
Total	***2.66***	***35.57***	***19.36***	***0.06***	***5.05***	***2.86***
Building Construction (Year 2021)						
Onsite	1.90	17.43	16.58	0.03	0.96	0.90
Offsite	0.43	2.09	3.27	0.01	1.16	0.32
Total	***2.33***	***19.52***	***19.85***	***0.04***	***2.12***	***1.22***
Building Construction (Year 2022)						
Onsite	1.71	15.62	16.36	0.03	0.81	0.76
Offsite	0.41	1.97	3.07	0.01	1.15	0.32
Total	***2.12***	***17.59***	***19.43***	***0.04***	***1.96***	***1.08***

Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Paving						
Onsite	1.29	11.12	14.58	0.02	0.57	0.52
Offsite	0.06	0.03	0.43	0.00	0.17	0.05
Total	***1.35***	***11.15***	***15.01***	***0.02***	***0.74***	***0.57***
Architectural Coating						
Onsite	29.53	1.41	1.81	0.00	0.08	0.08
Offsite	0.07	0.04	0.51	0.00	0.20	0.05
Total	***29.60***	***1.45***	***2.32***	***0.00***	***0.28***	***0.13***
Combined Building Construction (Year 2022), Paving and Architectural Coatings						
Onsite	32.53	28.15	32.75	0.05	1.46	1.36
Offsite	0.54	2.04	4.01	0.01	1.52	0.42
Total	***33.07***	***30.19***	***36.76***	***0.06***	***2.98***	***1.78***
Maximum Daily Construction Emissions	**33.07**	**41.10**	**36.76**	**0.06**	**10.41**	**6.42**
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Site Preparation and Grading based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.
[2] Onsite emissions from equipment not operated on public roads.
[3] Offsite emissions from vehicles operating on public roads.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

Table 4.3-3 shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds during either site preparation, grading, or the combined building construction, paving and architectural coatings phases. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

Construction Related Local Impacts

Construction related air emissions could have the potential to exceed the state and federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

The local air quality emissions from construction were analyzed through utilizing the methodology described in *Localized Significance Threshold Methodology* (LST Methodology), prepared by SCAQMD, revised October 2009. The LST Methodology found the primary criteria pollutant emissions of concern are NO_X, CO, PM_{10}, and $PM_{2.5}$. In order to determine if any of these pollutants require a detailed analysis of the local air quality impacts, each phase of construction was screened using the SCAQMD's Mass Rate LST Look-up Tables. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily onsite emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$ from the proposed project could result in a significant impact to the local air quality.

Table 4.3-4, *Construction Related Local Criteria Pollutant Emissions*, shows the onsite emissions from the CalEEMod model for the different construction phases and the calculated localized emissions thresholds. Since it is possible that building construction, paving, and architectural coating activities may occur concurrently towards the end of the building construction phase, Table 4.3-4 also shows the combined

local criteria pollutant emissions from year 2022 building construction, paving and architectural coating phases of construction.

Table 4.3-4
Construction Related Local Criteria Pollutant Emissions

Phase	Pollutant Emissions (pounds/day)[1]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation[2]	40.58	21.24	10.20	6.36
Grading[2]	26.09	16.30	4.24	2.62
Building Construction (Year 2021)	17.69	16.99	1.11	0.94
Combined Building Construction (Year 2022), Paving and Architectural Coatings	28.41	33.25	1.65	1.41
Maximum Daily Construction Emissions	***40.58***	***21.24***	***10.20***	***6.36***
SCAQMD Local Construction Thresholds[3]	**183**	**1,804**	**13**	**7**
Exceeds Threshold?	No	No	No	No

Notes:
[1] The Pollutant Emissions include 100 percent of the onsite emissions (off-road equipment and fugitive dust) and 1/8 of the offsite emissions (on road trucks and worker vehicles), in order to account for the on-road emissions that occur within a ¼ mile of the project site.
[2] Site Preparation and Grading phases based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.
[3] The nearest offsite sensitive receptors are multiple-family homes located as near as 80 feet (24 meters) to south of the project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

The data provided in Table 4.3-4 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds during either site preparation, grading, or the combined building construction, paving, and architectural coatings phases. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

OPERATIONAL RELATED EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips, emissions from energy usage, onsite area source emissions created from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operational Related Regional Emissions

The operations related regional criteria air quality impacts created by the proposed project have been analyzed through use of the CalEEMod model. The worst-case summer or winter VOC, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$ daily emissions created from the proposed project's long-term operations have been calculated and are summarized in Table 4.3-5, *Operational Regional Criteria Pollutant Emissions*, and the CalEEMod daily emissions printouts located in Appendix A.

The data provided in Table 4.3-5 shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Table 4.3-5
Operational Regional Criteria Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources[1]	2.21	0.09	7.51	0.00	0.04	0.04
Energy Usage[2]	0.05	0.39	0.16	0.00	0.03	0.03
Mobile Sources[3]	0.89	3.14	11.83	0.05	4.48	1.22
Total Emissions	**3.15**	**3.62**	**19.50**	**0.05**	**4.55**	**1.29**
SCAQMD Operational Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[2] Energy usage consist of emissions from natural gas usage.
[3] Mobile sources consist of emissions from vehicles and road dust.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

In *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (also referred to as "*Friant Ranch*"), the California Supreme Court held that when an EIR concluded that when a project would have significant impacts to air quality impacts, an EIR should "make a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." In order to determine compliance with this Case, the Court developed a three-part test that includes the following:

1) The air quality discussion shall describe the specific health risks created from each criteria pollutant, including diesel particulate matter.

This Analysis details the specific health risks created from each criteria pollutant above. Additionally, the specific health risks created from diesel particulate matter is included in this analysis. As such, this analysis meets the Part 1 requirements of the Friant Ranch Case.

2) The analysis shall identify the magnitude of the health risks created from the project. The Ruling details how to identify the magnitude of the health risks. Specifically, the ruling states "The Court of Appeal identified several ways in which the EIR could have framed the analysis so as to adequately inform the public and decision makers of possible adverse health effects. The County could have, for example, identified the project's impact on the days of nonattainment per year."

Table 4.3-5 above shows that the primary source of operational air emissions would be created from mobile source emissions that would be generated throughout the Air Basin. As such, any adverse health impacts created from the proposed project should be assessed on a basin-wide level. As indicated, the Air Basin has been designated by EPA for the national standards as a non-attainment area for ozone, $PM_{2.5}$, and partial non-attainment for lead. In addition, PM_{10} has been designated by the state as non-attainment. It should be noted that VOC and NO_X are ozone precursors, as such they have been considered as non-attainment pollutants. According to the 2016 AQMP, the total 2016 emissions of VOC was 500 tons per year; NO_X was 522 tons per year; SO_X was 18 tons per year; and $PM_{2.5}$ was 66 tons per year. Since the 2016 AQMP did not calculate total PM_{10} emissions, the total PM_{10} emissions were obtained from *The California Almanac of Emissions and Air Quality 2013 Edition,* prepared by CARB, for the year 2020. The project contribution to each criteria pollutant in the South Coast Air Basin is shown in Table 4.3-6, *Project's Contribution to Criteria Pollutants in the South Coast Air Basin*.

Table 4.3-6
Project's Contribution to Criteria Pollutants in the South Coast Air Basin

Emissions Source	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Project Emissions[1]	3.15	3.62	19.50	0.05	4.55	1.29
Total Emissions in Air Basin[2]	1,000,000	1,044,000	4,246,000	36,000	322,000	132,000
Project's Percent of Air Emissions	**0.0003%**	**0.0003%**	**0.0005%**	**0.0001%**	**0.001%**	**0.001%**
SCAQMD Operational Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] From the project's total operational emissions shown above in Table 4.3-5.
[2] VOC, NO_X, CO, SO_2 and $PM_{2.5}$ from 2016 AQMP and PM_{10} from the California Almanac of Emissions and Air Quality 2013 Edition.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

As shown in Table 4.3-6, the project would increase criteria pollutant emissions by as much as 0.001 percent for PM_{10} in the South Coast Air Basin. Due to these nominal increases in the Air Basin-wide criteria pollutant emissions, no increases in days of non-attainment are anticipated to occur from operation of the proposed project. As such, this analysis meets the Part 2 requirements of the Friant Ranch Case and therefore, no further analysis is required. As such, operation of the project is not anticipated to result in a quantitative increase in premature deaths, asthma in children, days children would miss school, asthma related emergency room visits, or an increase in acute bronchitis among children due to the criteria pollutants created by the proposed project. Impacts would be less than significant.

Operations Related Local Air Quality Impacts

Project related air emissions could have the potential to exceed the state and federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from onsite operations. The following analyzes the vehicular CO emissions and local impacts from onsite operations.

Localized CO Hotspot Impacts from Project Generated Vehicle Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the state and federal CO standards of 20 ppm over one hour or 9 ppm over eight hours.

At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technologies on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. According to the SCAQMD Air Quality Data Tables, in 2007, the Saddleback Valley had maximum CO concentrations of 3 ppm for 1 hour and 2.2 ppm for 8-hours and in 2018, the Saddleback Valley had maximum CO concentrations of 1.2 ppm for 1-hour and 0.9 ppm for 8-hours, which represent decreases in CO concentrations of 60 percent and 59 percent, respectively between 2018 and 2007. In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS. SCAQMD conducted a CO

hot spot analysis for attainment at the busiest intersections in Los Angeles[2] during the peak morning and afternoon periods and did not predict a violation of CO standards. Since the nearby intersections to the proposed project are much smaller with less traffic than what was analyzed by the SCAQMD and since the CO concentrations are now approximately 60 percent lower than when CO was designated in attainment in 2007, no local CO Hotspot are anticipated to be created from the proposed project and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact would be anticipated to local air quality with the on-going use of the proposed project.

Local Criteria Pollutant Impacts from Onsite Operations

Project related air emissions from onsite sources such as architectural coatings, landscaping equipment, and onsite usage of natural gas appliances could have the potential to create emissions areas that could exceed the state and federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

The local air quality emissions from onsite operations were analyzed using the SCAQMD's Mass Rate LST Look-up Tables and the methodology described in LST Methodology. The Look-up Tables were developed by the SCAQMD to readily determine if the daily emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ from the proposed project could result in a significant impact to the local air quality. Table 4.3-7, *Operations Related Local Criteria Pollutant Emissions*, shows the onsite emissions from the CalEEMod model that includes area sources, energy usage, and vehicles operating in the immediate vicinity of the project site and the calculated emissions thresholds.

Table 4.3-7
Operations Related Local Criteria Pollutant Emissions

Onsite Emission Source	Pollutant Emissions (pounds/day)			
	NOx	CO	PM_{10}	$PM_{2.5}$
Area Sources	0.09	7.51	0.04	0.04
Energy Usage	0.39	0.16	0.03	0.03
Mobile Sources	0.39	1.48	0.56	0.15
Total Emissions	**0.87**	**9.15**	**0.63**	**0.22**
SCAQMD Local Operational Thresholds[1]	**183**	**1,804**	**3**	**2**
Exceeds Threshold?	No	No	No	No

Notes:
[1] The nearest offsite sensitive receptors are multiple-family homes located as near as 80 feet (24 meters) to south of the project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

The data provided in Table 4.3-7 shows that the on-going operations of the proposed project would not exceed the local CO, NO_X, PM_{10}, and $PM_{2.5}$ thresholds of significance. Therefore, the on-going operations of the proposed project would create a less than significant operations related impact to local air quality due to onsite emissions.

Mitigation Measures: No mitigation measures are required.

[2] The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning and LOS F in the evening peak hour.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact: The proposed project would not expose sensitive receptors to substantial pollutant concentrations. The local concentrations of criteria pollutant emissions produced in the nearby vicinity of the proposed project, which may expose sensitive receptors to substantial concentrations have been calculated for both construction and operations, which are discussed separately below. Additionally, the discussion includes an analysis of the potential impacts from toxic air contaminant emissions.

The nearest sensitive receptors to the project site are multiple-family homes located as near as 80 feet to the south of the property boundary site. The construction activities for the proposed project are anticipated to include site preparation and grading, building construction, paving of the onsite driveways and parking lots, and application of architectural coatings. Construction activities may expose sensitive receptors to substantial pollutant concentrations of localized criteria pollutant concentrations and from toxic air contaminant emissions created from onsite construction equipment, which are described below.

LOCAL CRITERIA POLLUTANT IMPACTS FROM CONSTRUCTION

The local air quality impacts from construction of the proposed project has been analyzed and were determined that the construction of the proposed project would not exceed the local CO, NO_X, PM_{10}, and $PM_{2.5}$ thresholds of significance. Therefore, construction of the proposed project would create a less than significant construction related impact to local air quality and no mitigation would be required.

TOXIC AIR CONTAMINANTS IMPACTS FROM CONSTRUCTION

The greatest potential for toxic air contaminant emissions would be related to diesel particulate matter (DPM) emissions associated with heavy equipment operations during construction of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime would contract cancer, based on the use of standard risk-assessment methodology. It should be noted that the most current cancer risk assessment methodology recommends analyzing a 30-year exposure period for the nearby sensitive receptors.

Given the relatively limited number of heavy-duty construction equipment, the varying distances that construction equipment would operate to the nearby sensitive receptors, and the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes, requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet, and currently no commercial operator would be allowed to purchase Tier 0 or Tier 1 equipment and by January 2023, no commercial operator would be allowed to purchase Tier 2 equipment. In addition to the purchase restrictions, equipment operators would need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. As of January 2019, 25 percent or more of all contractors' equipment fleets must be Tier 2 or higher. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project. As such, construction of the proposed project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

OPERATIONS RELATED SENSITIVE RECEPTOR IMPACTS

The on-going operations of the proposed project may expose sensitive receptors to substantial pollutant concentrations of local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from onsite operations. The following analyzes the vehicular CO emissions, local criteria pollutant impacts from onsite operations, and toxic air contaminant impacts.

LOCAL CO HOTSPOT IMPACTS FROM PROJECT VEHICLE TRAFFIC

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential impacts to sensitive receptors. The localized CO analysis provided above shows that no local CO Hotspots are anticipated to be created at any nearby intersections from the vehicle traffic generated by the proposed project. Therefore, operation of the proposed project would result in a less than significant exposure of offsite sensitive receptors to substantial pollutant concentrations.

LOCAL CRITERIA POLLUTANT IMPACT FROM ONSITE OPERATIONS

The local air quality impacts from the operation of the proposed project would occur from onsite sources such as architectural coatings, landscaping equipment, and onsite usage of natural gas appliances. The localized air quality analysis above determined that the operation of the proposed project would not exceed the local CO, NO_X, PM_{10}, and $PM_{2.5}$ thresholds of significance. Therefore, the on-going operations of the proposed project would create a less than significant operations related impact to local air quality due to onsite emissions and no mitigation would be required.

OPERATIONS RELATED TOXIC AIR CONTAMINANT IMPACTS

Particulate matter (PM) from diesel exhaust is the predominant TAC in most areas and according to *The California Almanac of Emissions and Air Quality 2013 Edition*, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde, have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program. Due to the nominal number of diesel truck trips that are anticipated to be generated by the proposed project, a less than significant TAC impact would occur during the on-going operations of the proposed project and no mitigation would be required. Therefore, operation of the proposed project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

Mitigation Measures: No mitigation measures are required.

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

Less Than Significant Impact: Individual responses to odors are highly variable and can result in a variety of effects. Generally, the impact of an odor results from a variety of factors such as frequency, duration, offensiveness, location, and sensory perception. The frequency is a measure of how often an individual is exposed to an odor in the ambient environment. The intensity refers to an individual's or group's perception of the odor strength or concentration. The duration of an odor refers to the elapsed time over which an odor is experienced. The offensiveness of the odor is the subjective rating of the pleasantness or unpleasantness of an odor. The location accounts for the type of area in which a potentially affected person lives, works, or visits; the type of activity in which he or she is engaged; and the sensitivity of the impacted receptor.

Sensory perception has four major components: detectability, intensity, character, and hedonic tone. The detection (or threshold) of an odor is based on a panel of responses to the odor. There are two types of thresholds: the odor detection threshold and the recognition threshold. The detection threshold is the lowest concentration of an odor that would elicit a response in a percentage of the people that live and work in the immediate vicinity of the project site and is typically presented as the mean (or 50 percent of the population). The recognition threshold is the minimum concentration that is recognized as having a characteristic odor quality, this is typically represented by recognition by 50 percent of the population. The intensity refers to the perceived strength of the odor. The odor character is what the substance smells like. The hedonic tone is a judgment of the pleasantness or unpleasantness of the odor. The hedonic tone varies in subjective experience, frequency, odor character, odor intensity, and duration. Potential odor impacts have been analyzed separately for construction and operations below.

CONSTRUCTION RELATED ODOR IMPACTS

Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents, and diesel equipment emissions. The objectionable odors that could be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the project site's boundaries. Due to the transitory nature of construction odors, a less than significant odor impact would occur.

OPERATIONS RELATED ODOR IMPACTS

The proposed project would consist of the development of a multiple-family residential community. Potential sources that may emit odors during the on-going operations of the proposed project would primarily occur from the trash storage areas. Pursuant to County regulations, permanent trash enclosures that protect trash bins from rain as well as limit air circulation would be required for the trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 and County trash storage regulations, no significant impact related to odors would occur during the on-going operations of the proposed project. Therefore, a less than significant odor impact would occur.

Mitigation Measures: No mitigation measures are required.

4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 state or federally protected wetlands (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?	☐	☐	☐	☒

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Biological Technical Report* prepared by VCS Environmental in May 2020. The report is presented in its entirety in Appendix B.

Existing Setting

The project site is currently undeveloped and surrounded by developed residential properties to the west and south, El Toro Road and a commercial building to the north, and SR-241 and open space to the east. The Orange County Central Coastal Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP) boundary is also located north of the project site.

VEGETATION COMMUNITIES

The project site supports six vegetation communities/land cover types. These vegetation communities/land cover types include California sagebrush scrub, Disturbed California sagebrush scrub, Ornamental landscaping, Upland mustard and other ruderal forbs, poison hemlock patch, and Disturbed/Developed. The vegetation communities on the project site are shown in Figure 4.4-1, *Vegetation/Land Cover Impacts*, and listed in Table 4.4-1, *Vegetation Communities*.

Table 4.4-1
Vegetation Communities

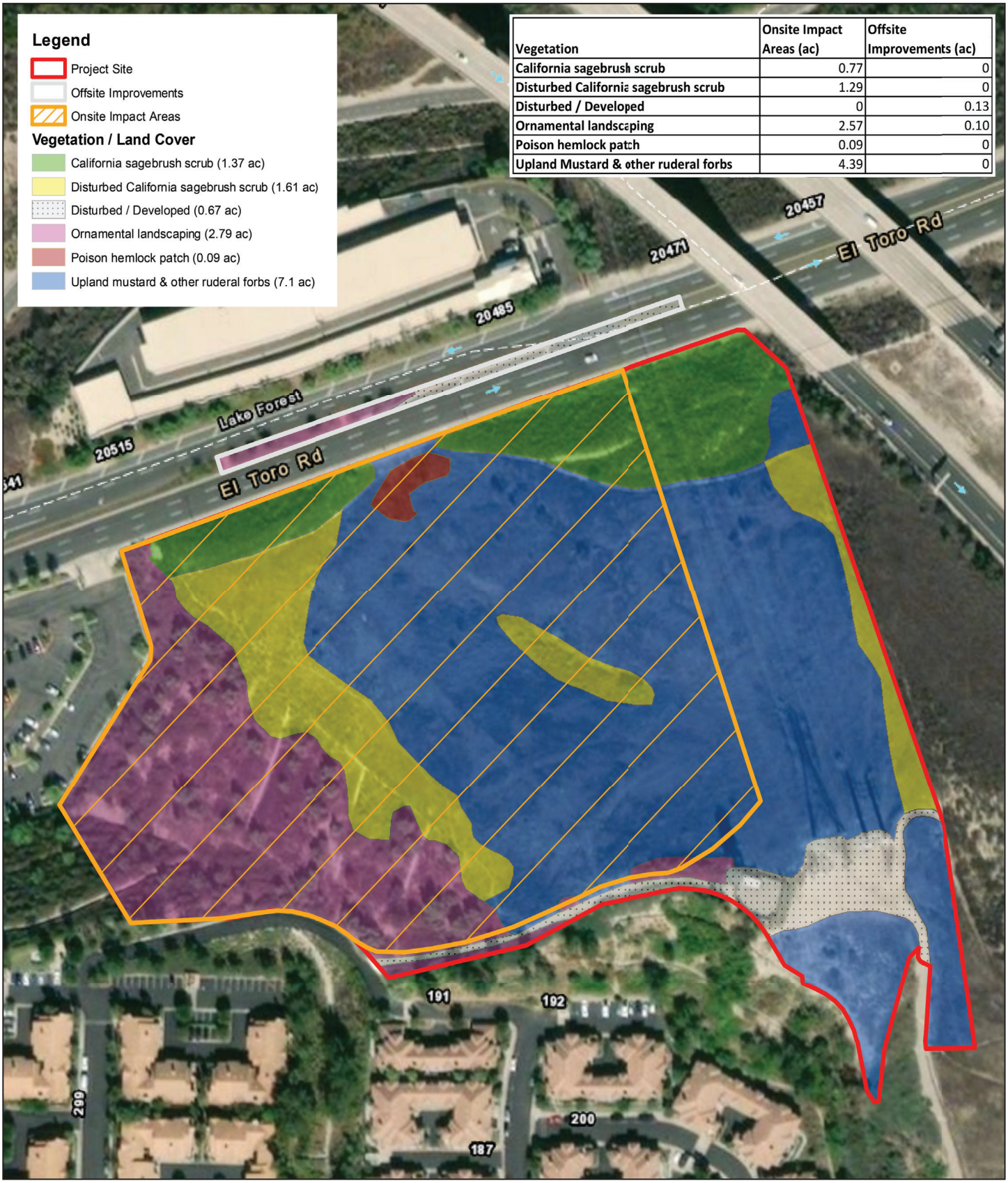
Vegetation Community/Land Cover Type	Project Site (acres)	Offsite Road Improvements (acres)	Total
California Sagebrush Scrub (G5S5)	1.37	--	**1.37**
Disturbed California Sagebrush Scrub (G5S5)	1.61	--	**1.61**
Disturbed / Developed	0.54	0.13	**0.67**
Ornamental Landscaping	2.69	0.1	**2.79**
Poison Hemlock Patch	0.09	--	**0.09**
Upland Mustard and other Ruderal Forbs	7.1	--	**7.1**
Total	**13.40**	**0.23**	**13.63**
Source: VCS Environmental, *Biological Technical Report*; May 2020.			

Below is a description of the onsite existing vegetation communities.

California Sagebrush Scrub: Approximately 1.37 acres of California sagebrush scrub was mapped within the project site. This vegetation community is primarily comprised of native species including California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), coyote brush (*Baccharis pilularis*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), red-bush monkey flower (*Mimulus auricantus* var. *puniceus*), coastal goldenbush (*Isocoma menziesii*), lemonade berry (*Rhus integrifolia*), yellow yarrow (*Eriophyllum confertiflorum*), and toyon (*Heteromeles arbutifolia*). Non-native species observed in this area included poison hemlock (*Conium maculatum*) and short-pod mustard (*Hirschfeldia incana*).

Disturbed California Sagebrush Scrub: Approximately 1.61 acres of Disturbed California sagebrush was mapped within the project site. Vegetation observed within this community includes native California sagebrush, coastal golden bush, coyote brush shrubs, poison oak (*Toxicodendron diversilobum*) and California dodder (*Cuscuta californica*). However, this vegetation community presents a moderate level of disturbance due to the presence of non-native species including short-pod mustard, red-steam filaree (E*rodium cicutarium*), yellow sweet clover (*Melilotus indicus*), and sow thistle (*Sonchus oleraceus*). Also, some ornamental shrubs are intermixed with the native vegetation in the western portion of the project site.

Disturbed/Developed: Approximately 0.54 acres of the land within the project site and 0.13 acres within the offsite road improvements, for a total of 0.67 acres, is considered Disturbed/Developed. These areas include existing dirt roads, bare ground, a cell tower structure, and Southern California Edison (SCE) transmission power infrastructure, primarily located in the southern portion of the project site.



Vegetation	Onsite Impact Areas (ac)	Offsite Improvements (ac)
California sagebrush scrub	0.77	0
Disturbed California sagebrush scrub	1.29	0
Disturbed / Developed	0	0.13
Ornamental landscaping	2.57	0.10
Poison hemlock patch	0.09	0
Upland Mustard & other ruderal forbs	4.39	0

Source: ESRI, Google Earth, Hunsaker & Associates, LGC, and VCS Environmental; April 2020.

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Vegetation/Land Cover Impacts

VCS Environmental

Figure 4.4-1

Ornamental Landscaping: Approximately 2.69 acres of ornamental vegetation was mapped within the project site. Additionally, 0.1 acres of ornamental vegetation was mapped within the offsite road improvements area north of the project site, for a total of 2.79 acres. This vegetation community consists of areas that were planted primarily with landscaping trees including some pine trees (*Pinus* spp.) canary inland pine (*Pinus canariensis*), Peruvian pepper (*Schinus molle*) trees, Mexican fan palm (*Washingtonia robusta*), blue gum (*Eucalyptus globulus*) sweet gum (*Liquidambar styraciflua*), and bank catclaw (*Acacia redolens*). The understory is comprised mainly of patches of crown daisy (*Glebionis coronaria*) and other non-native ruderal plant species. There are individual shrubs and small patches of native plants such as California sagebrush and toyon intermixed within the landscaping area.

Poison Hemlock Patch: Approximately 0.09 acres within the project site is mapped as a poison hemlock patch. This area is located between the two patches of California sagebrush scrub, primarily comprised of non-native poison hemlock and fennel (*Foeniculum vulgare*).

Upland Mustard and Other Ruderal Forbs: Approximately 7.1 acres of Upland mustard community was mapped within the project site. This vegetation is comprised primarily of non-native species including the following: high densities of short-pod mustard, Russian thistle (*Salsola tragus*), milk thistle (*Silybum marianum)*, hore hound (*Marrubium vulgare)*, bull thistle (*Cirsium vulgare*), foxtail chess (*Bromus madritensis*), ripgut brome (*Bromus diandrus*), tocalote (*Centaurea melitensis*), rattail sixweeks grass (*Festuca myuros*), and castor bean (*Ricinus communis*). Additionally, there are patches of artichoke thistle (*Cynara cardunculus)* and fennel, poison hemlock, common yellow wood sorrel (*Oxalis stricta),* and small patches of herbaceous native vegetation such as California sagebrush and coyote brush. Some emergent patches of blue elderberry trees (*Sambucus nigra* ssp. *caerulea*), one to a few, are also scattered within this habitat community.

Special Status Vegetation Communities: Three sensitive vegetation communities were reported in the CNDDB within two miles of the project site: Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, and Southern Sycamore Alder Riparian Woodland. Those vegetation communities were not observed on the Project site.

JURISDICTIONAL WATERS

Two jurisdictional waters of the U.S. and State features were identified on the project site; refer to Figure 4.4-2a, *Jurisdictional Waters of the State*, and Figure 4.4-2b, *Jurisdictional Waters of the United States*, and Table 4.4-2, *Jurisdictional Waters*. Feature A is an earthen drainage that runs generally southeast to northwest through the center of the project site and outlets through a culvert that crosses underneath El Toro Road. Feature B is primarily a concrete lined v-ditch that flows southeast to northwest through the western portion of the project site. The northern portion of Feature B is an earthen drainage that connects the v-ditch to a nearby drain. Feature B was considered jurisdictional because it appears to have replaced an existing drainage sometime in the mid-1980's to the early 1990's. The remainder of the v-ditches onsite were considered non-jurisdictional because they were excavated in the uplands, are primarily used for slope stabilization, and do not convey jurisdictional waters.

SENSITIVE WILDLIFE

A database search of special status plant species and wildlife species listed in the California Native Plant Society Online Survey of rare Plants and the California Department of Fish and Wildlife Natural Diversity database was conducted to determine the potential for special status plant and wildlife species to be present on the project site. A listing of special status plant and wildlife species that have a moderate or higher potential to occur on the project site is shown in Table 4.4-3, *Special Status Species*. A complete listing of all special status species that have some potential to occur on the project site is presented in the *Biological Technical Report* and graphically shown in Figure 4.4-3, *California Natural Diversity Database (CNNDB) Occurrences*.

Source: ESRI, Google Earth, Hunsaker & Associates, LGC, and VCS Environmental; April 2020.

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Jurisdictional Waters of the State

VCS Environmental

Figure 4.4-2a

Source: ESRI, Google Earth, Hunsaker & Associates, LGC, and VCS Environmental; April 2020.

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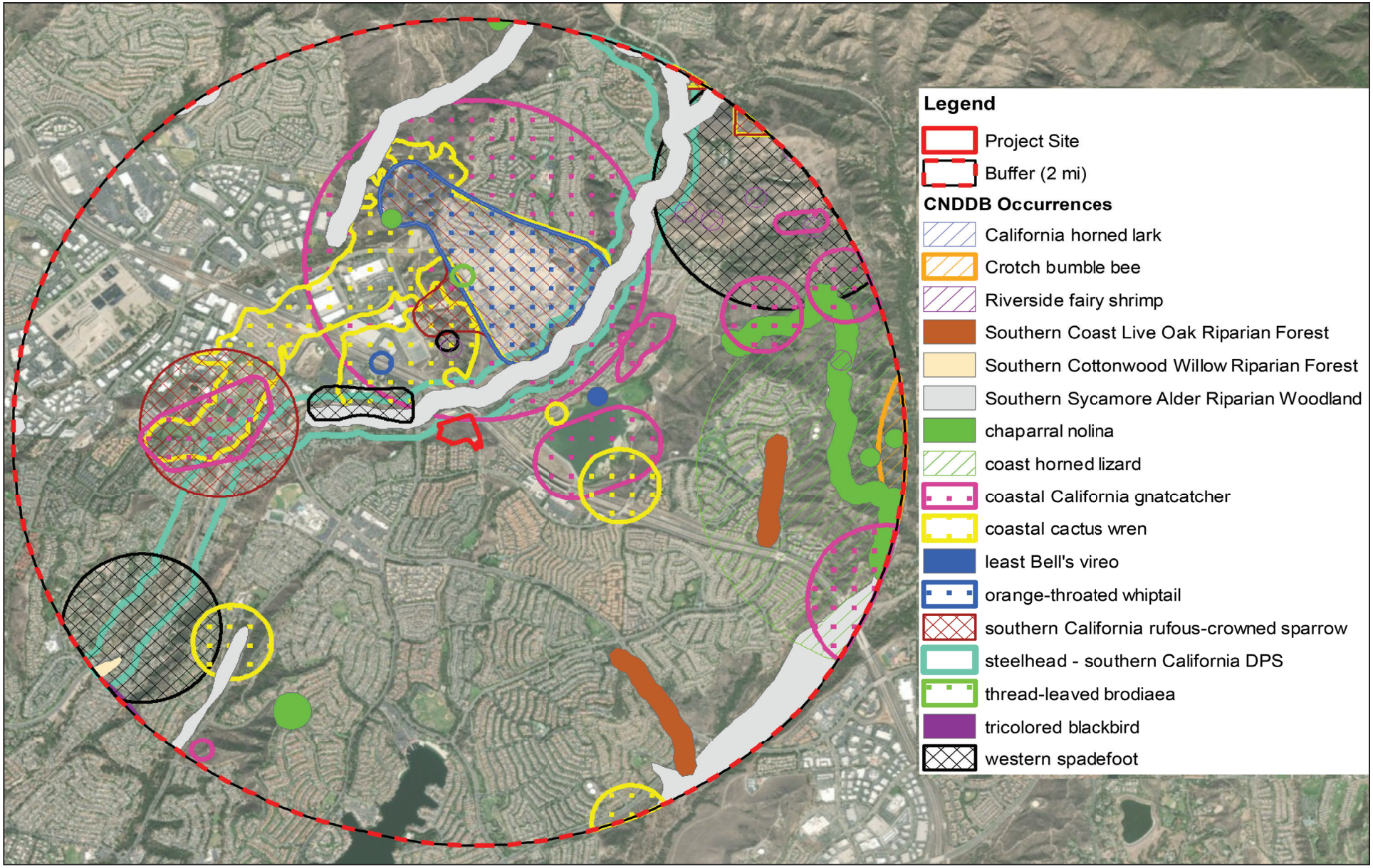
Jurisdictional Waters of the United States

VCS Environmental

Figure 4.4-2b



Source: ESRI and CNDDB; March 2020.

California Natural Diversity Database (CNDDB) Occurrences

Table 4.4-2
Jurisdictional Waters

Jurisdictional Waters	Area (Acres)	Length (Linear Feet)
Non-Wetland Waters of the U.S.	0.031	944
Wetland Waters of the U.S.	0.009	66
Waters of the U.S. Total	**0.040**	**1,010**
Streambed Waters of the State	0.035	944
Riparian Waters of the State	0.009	66
Waters of the State Total*	**0.044**	**1,010**

*Inclusive of waters of the U.S.
Source: VCS Environmental, *Biological Technical Report*; May 2020.

Table 4.4-3
Special Status Species

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site
Plants				
Calochortus weedii var. *intermedius*	Intermediate mariposa-lily	CRPR: 1B.2, FSS	Rocky hill and valley landscapes with chaparral, sage scrub, or grasslands. Elevation: 105 – 855 meters Blooming period: May - July	Moderate potential to occur. The project site is not rocky, there are few openings. Nearby occurrence is approximately one-mile northwest of the project.
Dudleya multicaulis	many-stemmed dudleya	CRPR: 1B.2, BLMS, FSS	Many-stemmed dudleya is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands on clay soils. Elevation: 15 – 790 meters Blooming period: April - July	Considered absent based on rare plant survey results.
Nolina cismontana	chaparral nolina (chaparral beargrass)	CRPR: 1B.2, FSS	Perennial evergreen shrub within rocky (sandstone or gabbro) habitats in chaparral and coastal scrub. Elevation: 140 – 1275 meters Blooming period: (March)May - July	Considered absent based on rare plant survey results.
Sambucus nigra shrubland alliance	blue elderberry stands	S3 G3	Stream terraces and in bottomlands; localized areas in upland settings. Soils are typically gravelly alluvium and intermittently flooded. The USFWS Wetland Inventory (1996 national list) recognizes *Sambucus nigra* ssp. *caerulea* as a FAC plant.	Absent.
Birds				
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	WL	Found on moderate to steep, dry, grass-covered hillsides, coastal sage scrub, and chaparral and often occur near the edges of the denser scrub and chaparral associations. Preference is shown for tracts of California sagebrush.	Moderate. Potential sagebrush habitat present on the project site.
Polioptila californica	coastal California gnatcatcher	FT, SSC	Obligate, permanent resident of coastal sage scrub below 835 meters in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Present. Species observed during CAGN focused surveys.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site

Legend:

Federal Endangered Species Act (ESA):
FE = federally listed as endangered
FT = federally listed as threatened

California Endangered Species Act (CESA):
SE = state listed as endangered
ST = state listed as threatened

California Department of Fish and Wildlife (CDFW):
SSC = species of special concern
CE= Candidate Endangered
FP = fully protected
WL = watch list

United States Forest Service (USFS):
FSS = Forest Service sensitive

United States Fish and Wildlife Service (USFWS):
BCC = USFWS bird of conservation concern

United States Bureau of Land Management (BLM):
BLMS = BLM sensitive

California Rare Plant Ranks (Formerly known as CNPS Lists
CRPR 1A - California Rare Plant Rank 1A (formerly List 1A): Plants presumed extirpated in California and either rare or extinct elsewhere.
CRPR: 1B - California Rare Plant Rank 1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere.
CRPR: 2 - California Rare Plant Rank 2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere.
CRPR: 4 - California Rare Plant Rank 4 (formerly List 4): Plants of Limited Distribution.

California Native Plant Society (CNPS) Threat Ranks:
The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered.

Source: VCS Environmental, *Biological Technical Report*; May 2020.

WILDLIFE MOVEMENT

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Corridors effectively act as links between different populations of a species. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing wildlife to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) would result in population or local species extinction; and
- Serving as travel routes for individual wildlife species as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions);
- Seasonal migration; and
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

The project site is bordered by residential development mainly to the west and south and open space to the north and east. The open space, located approximately 0.2 miles north of the project site, is separated from the project site by El Toro Road and SR-241 (Toll Road). This area includes a portion of the Central/Coastal NCCP/HCP, a state/federal habitat management and conservation plan that was designed to conserve, protect and enhance habitat including coastal sage scrub habitats. Due to the obstruction by surrounding development, the project site most likely does not function in regional wildlife movement, but the project may play a role in local wildlife movement including dispersal and foraging. The surrounding infrastructure and development would likely decrease the potential for local wildlife movement.

PROJECT IMPACTS

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?

Less Than Significant Impact With Mitigation Incorporated:

SPECIAL STATUS PLANT SPECIES

A general habitat assessment and one focused rare plant survey was performed on April 30, 2020 to identify whether any late blooming rare plant species were present at the project site. A second rare plant survey is planned for June/July 2020. During the April survey, no special status plant species were observed. As shown in Table 4.4-3, there would be the potential for one special status species, the intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*) to be observed on the project site during a late season focused rare plant survey. If the plant is identified during a late season survey and if it is located in an impact area, mitigation would include harvesting the individual plant bulbs identified during the survey and translocating them to suitable habitat in the open space portion of the site prior to project grading. With implementation of proposed Mitigation Measure BIO-1 to translocate the intermediate mariposa-lily, should it be found, the project would not result in significant impacts to special status plants.

SPECIAL-STATUS WILDLIFE

As shown in Table 4.4-3, one special status species, California gnatcatcher (*Polioptila californica californica*), a federally threatened and CDFW species of special concern, was observed on the project site. Implementation of the proposed project could result in direct or indirect impacts to the coastal California gnatcatcher through removal of California sagebrush scrub habitat and construction during the breeding season.

Direct impacts from project activities could include harassment, injury to or mortality of individuals, including through the destruction of active nests, during vegetation trimming, or through nest failure from noise and other disturbance in the vicinity of a nest. Direct impacts would be considered “take” of a listed species and would be considered significant without mitigation. Indirect impacts to this species include the loss of approximately 0.445 acres of coastal California gnatcatcher occupied California sagebrush scrub

within the impact area. Both potential direct and indirect impacts to California gnatcatcher due to project activities would be considered significant but mitigable.

A portion of the coastal California gnatcatcher occupied California sagebrush scrub would be avoided by the project and would remain for future use. This avoidance and the implementation of mitigation measures would reduce potential direct and indirect impacts to the coastal California gnatcatcher and occupied California gnatcatcher habitat loss to a less than significant level. To compensate for the potential loss of habitat, suitable California gnatcatcher habitat would be established and/or enhancement onsite at a minimum of 2:1 ratio or 0.89-acre of California sagebrush scrub habitat.

Two additional species associated with coastal sage scrub type habitats (including California sagebrush scrub), have a low to moderate potential to occur on the project site, including:

- Crotch bumble bee (*Bombus crotchii*), a CDFW candidate endangered species; and
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), a CDFW watch list species.

These species were not detected within the project site during the biological surveys, however, there is potential for the species to be found at the project site since suitable habitat, including California sagebrush scrub is present. Future development would impact a portion of this habitat. Mitigation for California sagebrush scrub, as described above, is expected to mitigate for any impacts to these species. However, as a CDFW candidate endangered species, if the project proceeds prior to the Fish and Game Commission's (FGC) decision not to list the species or the FGC lists the Crotch bumble bee, an Incidental Take Permit (ITP) would be processed with CDFW. Additionally, avoidance measures such as pre-construction nesting bird surveys would be implemented to avoid direct impacts to avian species, including the southern California rufous-crowned sparrow. With the implementation of Mitigation Measures BIO-2 through BIO-5, potential impacts to special status species would be considered less than significant.

Mitigation Measures:

BIO-1: A late spring/early summer focused rare plant survey would be completed to identify any late blooming species including intermediate mariposa lily. If the species is identified during the late season survey and if it is located in an impact area, mitigation would include harvesting the individual plant bulbs identified during the survey (or future survey conducted during an appropriate season) and relocating them to suitable habitat in the open space portion of the site prior to project grading. However, if no intermediate mariposa lily is observed during the survey, then no direct impacts are expected to occur as result of project implementation and no additional mitigation is recommended.

BIO-2: A Crotch bumble bee focus survey will be required prior to grading and an ITP would be processed prior to grading with CDFW should the species be present.

BIO-3: Removal of any trees, shrubs or any other potential nesting habitat would be conducted outside of the nesting season (February 15 to September 1) to the extent practical. A nesting bird survey should be conducted within three days prior to start of work if work occurs during the nesting bird season (January 1 – September 1). If vegetation removal occurs outside of nesting season or if no nesting birds are found, no further action is required. If active nests are identified, the biologist would establish appropriate buffers around the area (typically 500 feet for raptors and sensitive species, 200 feet for non-raptors/non-sensitive species). All work within these buffers would be halted until the nesting effort is finished (i.e., the juveniles are surviving independent from the nest). The onsite biologist would review and verify compliance

with these nesting boundaries and would verify the nesting effort has finished. Work can resume within the buffer area when no other active nests are found. Alternatively, a qualified biologist may determine that certain work can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). If vegetation clearing is not initiated within 72 hours of a negative survey during nesting season, the nesting survey must be repeated to confirm the absence of nesting birds.

BIO-4: To avoid attracting predators of the species of concern, the Project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).

BIO-5: To address impacts to the California gnatcatcher, consultation with USFWS is necessary. The Applicant shall mitigate impacts to 0.445 acres of occupied California sagebrush scrub CAGN habitat through the planting of a minimum of a 2:1 ratio of California sagebrush scrub habitat onsite. The onsite mitigation requirements would be established in an approved Habitat Mitigation and Monitoring Plan (HMMP). A qualified biologist shall be onsite to monitor all activities that result in the clearing of sensitive habitat including California sagebrush scrub as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas. The biological monitor would halt construction activities within 500 feet of nesting gnatcatchers. This distance may be reduced if a qualified CAGN biologist determines that activities are not negatively affecting the gnatcatcher and full-time biological monitoring is conducted.

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?

Less Than Significant Impact With Mitigation Incorporated: Vegetation communities with a State Rarity Ranking of S3 or lower are considered to have a special status due to the limited number of occurrences and impacts to those alliances are often considered significant. There are no vegetation communities onsite with a State Rarity Ranking of S3 or lower on the project site.

A total of 0.009 acres of jurisdictional wetland, as defined by the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board, would be impacted by the project development. This jurisdictional wetland is comprised of poison hemlock patch community, which is dominated by non-native species and not considered a sensitive natural community on its own. Impacts to the jurisdictional wetland would be mitigated at a minimum ratio of 2:1 at an agency-approved mitigation bank, such as Soquel Canyon Mitigation Bank. With implementation of Mitigation Measure BIO-6, impacts to jurisdictional wetlands (and the poison hemlock patch) would be considered less than significant.

California sagebrush scrub is a native California scrub habitat and accounts for approximately 1.37 acres within the project site. Because this vegetation community is associated with and provides suitable habitat for sensitive wildlife species, including the known occupation by CAGN, this vegetation community is considered sensitive. Project implementation would impact approximately 0.77 acres of California sagebrush scrub. With implementation of Mitigation Measures BIO-6, BIO-7 and BIO-8, potential impacts to sensitive vegetation communities would be reduced to less than significant.

Mitigation Measures:

BIO-6: Prior to the issuance of a grading permit, the Applicant shall provide evidence to the City that the following permits have been obtained: a RWQCB Section 401 Permit, a Section 1600

Streambed Alteration Agreement, a USACE Section 404 Permit, and a U.S. Fish and Wildlife Section 7 Consultation.

BIO-7: Permanent impacts to non-concreted jurisdictional waters of the U.S. and State totaling approximately 0.027 acres shall be compensated for at a minimum ratio of 2:1 at an agency-approved mitigation bank, such as Soquel Canyon Mitigation Bank, with an in-lieu fee program, onsite, or at an offsite permittee sponsored location.

BIO-8: California sagebrush scrub provides suitable habitat for sensitive wildlife species known to occupy the site, or with potential to occupy the site including Crotch bumble bee and southern California rufous-crowned sparrow. A total of 0.77 acres of California sagebrush scrub would be impacted by project implementation, of which only 0.445 acres is considered occupied by CAGN. Mitigation for the California sagebrush scrub habitat type, as described above, would mitigate for the potential presence of associated California sagebrush scrub wildlife species including Crotch bumble bee and southern California rufous-crowned sparrow.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact With Mitigation Incorporated: The jurisdictional waters on the project site are discussed previously in Table 4.4-2. They are anticipated to be permanently impacted by the project. These impacts would include 0.044 acres of waters of the State (0.035 acres streambed and 0.009 acres riparian) and 0.040 acres of waters of the U.S. (0.031 acres non-wetland and 0.009 acres wetland). (Please note, impacts to waters of the State are inclusive of waters of the U.S.) Mitigation for the concrete drainage features is not proposed; therefore, mitigation for impacts to 0.023 acres of waters of the U.S. and 0.027 acres of waters of the State is proposed.

Permanent impacts to wetland waters of the U.S. and streambed waters of the State are recommended to be compensated for at a minimum ratio of 2:1 at an agency-approved mitigation bank, with an in-lieu fee program, onsite, or at an offsite permittee sponsored location. With the implementation of Mitigation Measure BIO-7, potential impacts to wetland habitat would be less than significant.

Mitigation Measures: Mitigation Measure BIO-7 is required.

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?

Less Than Significant Impact With Mitigation Incorporated: The project site is bordered by residential development mainly to the west and south, and open space to the north and east. The open space, located approximately 0.2 miles north of the project site, is separated from the project site by El Toro Road and SR-241 (Toll Road). This open space area includes a portion of the Central/Coastal NCCP/HCP, a state/federal habitat management and conservation plan that was designed to conserve, protect and enhance habitat including coastal sage scrub habitats. Due to the obstruction by surrounding development, the project site most likely does not function in regional wildlife movement. The project site may play a role in local wildlife dispersal and foraging, which would be expected to continue with the preservation of the open space onsite. Therefore, no long-term or significant effects to wildlife movement are anticipated to occur from implementation of the proposed project and potential impacts on wildlife movement would be less than significant.

NESTING BIRDS

Due to the potential for onsite bird nesting, project construction could result in impacts to nesting birds that would be in violation of the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. Therefore, recommended avoidance measures include a pre-construction nesting bird survey to avoid impacts prior to the start of work would be implemented. With the implementation of BIO-3, potential impacts to migratory birds would be less than significant.

Mitigation Measures: Mitigation Measure BIO-3 is required.

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

No Impact: The project would not conflict with any local policy or ordinances protecting biological resources.

Mitigation Measures: No mitigation measures are required.

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?

No Impact: The Project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Furthermore, implementation of the project would not be expected to conflict with any approved local, regional, or state habitat conservation plan including the nearby Central/Coastal NCCP/HCP, since the project site is located 0.2 miles south of the NCCP/HCP land.

Mitigation Measures: No mitigation measures are required.

4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to in Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

ENVIRONMENTAL ANALYSIS

The following analysis is based on a Cultural Resources Technical Assessment and Summary Memorandum prepared by VCS Environmental in May 2020. The report is presented in its entirety in Appendix C.

Background

Cultural resources include prehistoric archaeological sites, historic archaeological sites, historic structures, and artifacts made by people in the past. Prehistoric archaeological sites are places that contain the material remains of activities carried out by the native population of the area (Native Americans) prior to the arrival of Europeans in Southern California. Artifacts found in prehistoric sites include flaked stone tools such as projectile points, knives, scrapers, and drills; ground stone tools such as manos, metates, mortars, and pestles for grinding seeds and nuts; and bone tools. Historic archaeological sites are places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans. Historic archaeological material usually consists of refuse, such as bottles, cans and food waste, deposited near structure foundations. Historic structures include houses, commercial structures, industrial facilities, and other structures and facilities more than 50 years old.

Regulatory Setting

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA requires a lead agency to determine whether a project would have a significant effect on one or more historical resources. A "historical resource" is defined as a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (*California Public Resources Code* [PRC], Section 21084.1); a resource included in a local register of historical resources (14 *California Code of Regulations* [CCR], Section 15064.5[a][2]); or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a][3]).

HUMAN REMAINS

Section 7050.5 of the *California Health and Safety Code* provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains.

Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours which, in turn, must identify the person or persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

Cultural Context

A long-standing tenet of New World archaeology has been that man did not arrive in the western hemisphere until about 10,000 to 11,000 Years Before Present (YBP). Some researchers have argued for earlier dates of entry, but the evidence has not been universally accepted by archaeologists. With more recent evidence, that is beginning to change (Dixon 1993; Adovasio and Page 2002; Johnson et al. 2002).

Most of the generally accepted early remains indicate a very small, mobile population apparently dependent on hunting large game animals as the primary subsistence strategy. However, recent evidence suggests that some very early people may have had a more sedentary lifestyle and probably relied upon a variety of resources (see Adovasio and Page 2002 for a discussion of the Monte Verde, Chile site). While early populations certainly used other resources, the bulk of the few traces remaining today are related to game hunting. This situation results from the fact that hunting equipment involved many lithic tools that do not decay, while the rest of the material culture used wood or leather, which are more subject to attrition through taphonomic (post depositional processes) factors. Lithic artifacts are the only surviving material from the Paleo-Indian Period (please see description below for definition). These consist primarily of large and extremely well-made projectile points and large but cruder tools such as scrapers and choppers. Encampments were never permanent but were probably sited near a major kill. Occupation would have lasted only until the resources of that kill were exhausted. Such an economy, using only a small fraction of the available resources would not have supported a large population. It is probable that the Paleo-Indians lived in groups no larger than extended families and that contact with other such groups was infrequent.

Several chronologies are generally used to describe the sequence of the later prehistoric periods of Southern California. William Wallace (1955) developed the first comprehensive California chronologies and defines four periods for the southern coastal region. Wallace's synthesis is largely "descriptive and classificatory, emphasizing the content of archaeological cultures and the relationships among them" (Moratto 1984:159). Wallace relies upon the concept of cultural horizons, which are generally defined by the temporal and spatial distribution of a set of normative cultural traits, such as the distribution of a group of commonly associated artifact types. As a result, his model does not allow for much cultural variation within the same time period, nor does it provide precise chronological dates for each temporal division. Nevertheless, although now over 50 years old, the general schema of the Wallace chronology has provided a general framework for Southern California prehistory that remains valid today.

By the late 1960s, radiocarbon dates and assemblage data were more widely available for many Southern California archaeological sites. Based on these new data, Warren (1968) synthesizes Southern California prehistory into five traditions which, unlike Wallace's horizons, account for more regional variation in the same time period. Defined as "a generic unit comprising historically related phases", traditions were not strictly sequential temporal units (Warren 1968). That is, different traditions could co-exist in the same region or in neighboring regions at the same time.

Horizon I: Early Man or Paleo Indian Period (11,000 BCE to 7,500 BCE[3]). While initially termed Early Man Horizon (I) by Wallace (1955), this early stage of human occupation is commonly referred to as the Paleo Indian Period today (Chartkoff and Chartkoff 1984:24). As discussed above, the precise start of this period is still a topic of considerable debate. At inland archaeological sites, the surviving material culture of this period is primarily lithic, consisting of large, extremely well made stone projectile points and tools such as scrapers and choppers. Encampments were probably temporary, located near major kills or important resource areas. The San Dieguito Tradition, defined by Warren at the stratified C.W. Harris site in San Diego County, is encompassed by this period of time (Moratto 1984:97).

Horizon II: Milling Stone Assemblages (7,500 BCE to 1,000 BCE). Encompassing a broad expanse of time, the Milling Stone Period was named for the abundant millingstone tools associated with sites of this period. These tools, the mano and metate, were used to process small, hard seeds from plants associated with shrub-scrub vegetation communities. An annual round of seasonal migrations was likely practiced with movements coinciding with ripening vegetal resources and the periods of maximal availability of various animal resources. Along the coast, shell midden sites are common site types. Some formal burials, occasionally with associated grave goods, are also evident. This period of time is roughly equivalent to Warren's (1968) Encinitas Tradition. Warren (1968) suggests that, as millingstones are common and projectile points are comparatively rare during this time period, hunting was less important than the gathering of vegetable resources.

However, more recent studies (Koerper 1981; Koerper and Drover 1983) suggest that a diversity of subsistence activities, including hunting of various game animals, were practiced during this time period. At present, little is known about cultural change during this period of time in Southern California. While this lack of noticeable change gives the appearance of cultural stasis, almost certainly many regional and temporal cultural shifts did occur over the course of this time period. Future research that is focused on temporal change in the Milling Stone Period would greatly benefit the current understanding of Southern California prehistory. One avenue of research that could help accomplish this goal would be a synthesis of the growing amount of archaeological "gray" literature involving cultural resource mitigation of Milling Stone Period sites in the Orange County area.

Horizon III: Intermediate Cultures (1,000 BCE to 750 CE). The Intermediate Period is identified by a mixed strategy of plant exploitation, terrestrial hunting, and maritime subsistence strategies. Chipped stone tools (e.g., projectile points) generally decrease in size, but increase in number. Abundant bone and shell remains have been recovered from sites dating to these time periods. In coastal areas, the introduction of the circular shell fishhook and the growing abundance of fish remains in sites over the course of the period suggest a substantial increase in fishing activity during the Intermediate Horizon. It is also during this time period that mortar and pestle use intensified dramatically. The mano and metate continued to be in use on a reduced scale, but the greatly intensified use of the mortar and pestle signaled a shift away from a subsistence strategy based on seed resources to that of the acorn. It is probably during this time period that the acorn became the food staple of the majority of the indigenous tribes in Southern California. This subsistence strategy continued until European contact. Material culture generally became more diverse and elaborate during this time period and included steatite containers, perforated stones, bone tools, ornamental items, and asphalt adhesive.

While Warren recognizes the start of the Campbell Tradition in the Santa Barbara region at roughly the beginning of the Intermediate Period, he did not see clear evidence of cultural change farther south. As a result, the Encinitas Tradition in Southern California encompasses both the Milling Stone and Intermediate Periods in Warren's chronology (1968:2, 4). However, the more recent chronological schema by Koerper and Drover (1983) clearly recognizes an Intermediate Period in Southern California. They suggest that Warren's inability to recognize an intermediate cultural stage was likely due to "the lack of conclusive data in 1968" (1983:26).

[3] BCE stands for "Before Common Era" and CE stands for "Common Era". These alternative forms of "BC" and "AD", respectively, are used throughout this document.

Horizon IV: Late Prehistoric Cultures (750 CE to 1769 CE). During the Late Prehistoric Period, exploitation of many food resources, particularly marine resources among coastal groups, continued to intensify. The material culture in the Late Prehistoric Horizon increased in complexity in terms of the abundance and diversity of artifacts being produced. The recovery and identification of a number of small projectile points during this time period likely suggests a greater utilization of the bow and arrow, which was likely introduced near the end of the Intermediate Period. Shell beads, ornaments, and other elements of material culture continue to be ornate, varied and widely distributed, the latter evidence suggestive of elaborate trade networks. Warren's (1968) scheme divides the late prehistoric period into several regional traditions. Western Riverside County, Orange County, and the Los Angeles Basin area are considered part of the "Shoshonean" tradition, which may be related to a possible incursion of Takic speakers into these areas during this period. The Late Prehistoric Period includes the first few centuries of early European contact (1542 CE to 1769 CE); this period is also known as the Protohistoric Period, as there was a low level of interaction between native Californians and Europeans prior to Portolá's overland expedition in 1769.

In the few centuries prior to European contact, the archaeological record reveals substantial increases in the indigenous population (Wallace 1955:223). Some village sites may have contained as many as 1,500 individuals. Apparently, many of these village sites were occupied throughout the year rather than seasonally. This shift in settlement strategy was likely influenced by improved food procurement and storage technology, which enabled population growth and may have helped stimulate changes in sociopolitical organization.

Ethnography

The project area was occupied during the Late Prehistoric Period by the Native American societies commonly known to anthropologists as the Juaneño and the Gabrielino (Kroeber 1925; Bean and Shipek 1978; Bean and Smith 1978). The name "Juaneño" denotes those people who, in historic times, were administered by the Spanish from Mission San Juan Capistrano. Many contemporary Juaneño identify themselves as descendants of the indigenous people living in the local San Juan and San Mateo Creek drainage areas, termed the Acjachemen Nation (Belardes 1992). While the term "Gabrielino" identifies those Native Americans, who were under the control of the Spanish Mission San Gabriel, the overwhelming number of people in these areas were of the same ethnic nationality and language group. Some currently refer to themselves as *Tongva*, while others prefer the term *Kizh*. Their territory extended from northern Orange County north to the San Fernando Valley in Los Angeles County. The terms the Native Americans in Southern California used to identify themselves have, for the most part, been lost; therefore, the names do not necessarily identify specific ethnic or tribal groups.

The two groups are broadly similar, but there are sufficient differences in Gabrielino and Juaneño language, ritual observances, and material culture to justify identification as separate social groups (Bean and Smith 1978). The languages of both groups are derived from the Takic family, part of the Uto-Aztecan linguistic stock. This feature was shared with the Serrano and Cahuilla Native American groups located in what is now San Bernardino and Riverside Counties. By contrast, the languages of the Native American groups located south of the Juaneño are derived from the Yuman language family, while the Chumash north of the Tongva appear to be of an isolated and deep origin, both representing origins quite different from that of the local languages (Mithun 1999:304).

Juaneño/Acjachemen. The Acjachemen population during the Precontact Period is thought to have numbered upwards of 3,500 (O'Neil 2002). It is known that 1,138 local Native Americans—consisting primarily of Acjachemen but including Gabrielino, coastal and interior Luiseño, Serrano, and Cahuilla—resided at Mission San Juan Capistrano in the year 1810 (Engelhardt 1922:175). The Mission's death register shows as many as 1,665 native burials in its cemetery by this time, a number in addition to those who died unrecorded at the remaining villages from natural causes and introduced infectious diseases.

Gabrielino/Tongva/Kizh. To the north of the Acjachemen resided the Gabrielino/Tongva/Kizh. They arrived in the Los Angeles Basin probably before 500 BCE as part of the so-called Shoshonean (Takic speaking) Wedge from the Great Basin region. The Gabrielino gradually displaced the indigenous peoples, who were probably Hokan speakers. Large, permanent villages were established in the fertile lowlands along rivers and streams and in sheltered areas along the coast. Eventually, Gabrielino territory encompassed the greater Los Angeles Basin, coastal regions from Topanga Canyon in the north to perhaps as far south as Aliso Creek, and the islands of San Clemente, San Nicholas, and Santa Catalina (Bean and Smith 1978:538–540). Recent studies suggest the population may have numbered as many as 10,000 individuals at their peak in the Precontact Period.

Cultural Resources Records Search

A California Historic Resources Information System (CHRIS) cultural resource records search was requested of the South Central Coastal Information Center (SCCIC) at California State University, Fullerton (CSUF) on March 23, 2020. It consisted of a request to examine the U.S. Geological Survey's (USGS') *El Toro* 7.5-minute quadrangle map to evaluate the project site for any cultural resources sites recorded or cultural resources studies conducted on and near the project site. In addition, it was requested that the California Points of Historical Interest (PHI), California Historical Landmarks (CHL), the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), the California State Historic Resources Inventory (HRI), and historic topographic maps be reviewed.

The SCCIC concluded that there have been 33 cultural resources studies completed within one-half mile of the project site. Twelve of those studies included at least a portion of the project site; refer to Table 4.5-1, *Cultural Resources Studies Within the Project Site*. Native American tribes may have additional historical resource information which could be elucidated during tribal consultation efforts.

Table 4.5-1
Cultural Resources Studies Within the Project Site

Report Number	Author/Year	Type of Study, Results
OR-00019	Howard/1975	Survey, 500 acres, 10 resources
OR-00251	Desautels & Chase/1976	Survey, 500 acres, 5 resources
OR-00286	Bean/1979	Survey – Linear, 31 resources
OR-00580	Anon./1977	Literature search, 0 resources
OR-00581	McCoy & Kirkish/1982	Monitoring and Data recovery Excavation, 11 resources (including ORA-725)
OR-00648	Breece & Padon/1982	Survey - Linear, 33 resources (including ORA-458)
OR-01102	Macko & Hurd/1991	Monitoring and Test Excavation, 2 resources (including ORA-725)
OR-01137	Demcak/1991	Survey, 8 resources (including ORA-458)
OR-01316	Demcak/1993	Monitoring report for ORA-458
OR-01439	McCoy & Roxana/1980	National Register Assessment, 26 resources (including ORA-725)
OR-01445	Desautels, et al./1977	Test Excavation, 5 resources (including ORA-458)
OR-02522	Wallock/2001	Upper Aliso Archaeological District designation, 35 resources (including ORA-458 and ORA-725)

Seven of the 12 studies undertaken at least partially within the project site included investigations of two of the resources within the project site: CA-ORA-458 and/or CA-ORA-725. The final study (OR-02522) is the Upper Aliso Archaeological District report. The District includes, among 33 other sites, CA-ORA-458 and CA-ORA-725.

The records search also concluded that there are fifteen resources recorded within a half-mile radius of the project site. Three of these cultural resources (30-000458, 30-000725, and 30-001728) are within the project site; refer to Table 4.5-2, *Cultural Resources Recorded Within the Project Site*.

Table 4.5-2
Cultural Resources Recorded Within the Project Site

Site Number	Recorder/Year (most recent)	Description
30-000458	Oxendine/1978	AP02 (Lithic Scatter), Excavated, resource is an element of District 30-001728
30-000725	Wallock/2001	AP02 (Lithic Scatter); AP15 (Habitation debris). Excavated, resource is an element of District 30-001728
30-001728	Wallock/2001	Upper Aliso Creek Archaeological District

Site *30-000458* is a lithic scatter of manos, cores, flakes, and fire-affected rock. It was included in the Upper Aliso Creek Archaeological District in 2001 (Wallock 2001). A monitoring report for the site by Carol Demcak in 1993 (OR-01316) suggests that the site has been destroyed by grading and construction of the existing storage facility. Careful monitoring of grading in the site area is recommended.

Site *30-000725* consists of three loci atop the first ridge to the southeast of El Toro Road at station 2342+00 of the Foothill Transportation Corridor. Each of the three loci exhibited a small lithic scatter of flakes, cores, and tools including groundstone objects. The site record prepared by Macko (1991) states that the entire site was graded with a monitor present following excavations and surface collection. It should be considered destroyed but monitoring in the area of the site is recommended. The site was included in the Upper Aliso Creek Archaeological District in 2001 (Wallock 2001).

Site 30-001728 is the Upper Aliso Creek Archaeological District itself (described in OR-02522), composed of 35 separate archaeological sites, is numbered CA-ORA-1728. It includes CA-ORA-458 and CA-ORA-725.

In addition, a Phase I assessment by PCR Services (2011), and a Phase II research design (Duke 2012) and Phase II study report (Duke 2013) for the nearby Skyridge development was closely reviewed and the records search and findings from those studies was summarized and compared to this project. The Skyridge project site lies less than one mile to the east of the project site, along El Toro Road.

The records search results received for the Skyridge Project (PCR 2011) indicate that more than 60 cultural resources studies have been completed and more than 50 cultural resources sites have been recorded within one mile of the Skyridge site. Many of the studies yielded positive results for the presence of resources. The site located on the Skyridge project site (CA-ORA-507), is a significant chert quarry that would have yielded considerable quality stone material for the manufacture of tools for native populations living in the vicinity. Several additional resources discovered along upper Aliso Creek during surveys for the widening of El Toro Road were deemed significant; one of which is CA-ORA-507. Immediately to the north of CA-ORA-507 is the Saddleback Meadows property. A large parcel east of El Toro Road. Up to a dozen archaeological sites have been recorded on the property. They were all tested for significance by the author

(Maxon 1995). Two—CA-ORA-710 and CA-ORA-711—were found significant. For these reasons, it is clear that based on the density and significance of sites in the vicinity, the surrounding area is highly sensitive for the presence of as yet undiscovered cultural resources.

An examination was made of the historic aerial photographs at HistoricAerials.com (NETRONLINE n.d.). The examination revealed that the Project site has never been developed. Aerial photographs, the earliest of which was taken in 1938, show only transient dirt roads skirting its edge.

CULTURAL RESOURCES SURVEY

A pedestrian survey of the project site was completed by VCS on May 15, 2020. Dense vegetation prevented a complete examination of the ground surface, especially in the higher elevated areas in the southern portion of the project site. The survey did not result in the discovery of any material related to the known archaeological sites on the property, nor in any other area of the project site.

PROJECT IMPACTS

a) Cause a substantial adverse change in the significance of a historical resource pursuant to in Section 15064.5?

Less Than Significant Impact With Mitigation Incorporated: A record search prepared for the project site did not identify any recorded historic-era built environment resources on the project site. Additionally, a pedestrian survey conducted on the project site did not show any evidence of historical resources being present. The project site is vacant with no prior uses occurring on the property. Because historical resources have known to occur within the region, there is the potential that historical resources could be encountered during excavation activities. To avoid adverse impacts to historical resources that could be encountered during construction, an archaeologist should establish procedures for archaeological resource surveillance as well as procedures for temporarily halting or redirecting work, observe grading activities, and salvage and catalogue archaeological resources, as necessary. With implementation of Mitigation Measure CR-1, potential impacts to unknown historical resources would be less than significant.

Mitigation Measures:

CR-1: Prior to the issuance of grading permits, the Applicant shall provide written evidence to the City of Mission Viejo that the Applicant has retained a qualified Archaeologist and Native American monitor to observe ground disturbing activities and recover archaeological resources, as necessary. The Archaeologist and Tribal monitors would attend the pre-grade conference where the Archaeologist would establish procedures for archaeological monitoring and shall establish procedures and protocols to temporarily halt ground disturbing activities to permit sampling, evaluation, and recovery of any discovery. If a discovery is determined to be a historical resource, unique archaeological resource, or Tribal Cultural Resource, additional excavations or treatment may be necessary to ensure that any impacts to them are mitigated to a less than significant level.

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

Less Than Significant Impact With Mitigation Incorporated: A records search and pedestrian surveys conducted in the project area identified two archaeological resources and one archaeological district on the project site. Both resources have been graded away as a result of earlier development projects. The archaeological district incorporates these two resources and 33 others outside the project site. Although both resources are no longer extant, because the project site is located within a general area of sensitivity

for prehistoric archaeology, grading activities associated with construction of the proposed project that encounter native soils could have the potential to encounter unknown archaeological resources. To avoid adverse impacts to archaeological resources that could be encountered during construction, it is recommended that an archaeologist observes grading activities, salvage and catalogue archaeological resources as necessary, and establishes procedures for archaeological resource surveillance as well as procedures for temporarily halting or redirecting work. With implementation of Mitigation Measure CR-1, potential impacts to unknown archaeological resources would be less than significant.

Mitigation Measures: Mitigation Measure CR-1 is required.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact With Mitigation Incorporated: No human remains or cemeteries are known to exist within or near the project site. However, there is always the potential that subsurface construction activities associated with the proposed project could encounter and potentially damage or destroy previously undiscovered human remains. Accordingly, this is considered a potentially significant impact. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and Section 5097.98 must be followed. With the implementation of Mitigation Measure CR-2 potential impacts to human remains would be less than significant.

Mitigation Measures:

CR-2: Project related earth disturbance has the potential to unearth previously undiscovered human remains, resulting in a potentially significant impact. Pursuant to Section 7050.5 of the *California Health and Safety Code*, if human remains are encountered during excavation activities, all work shall halt, and the County Coroner shall be notified. The Coroner would determine within two working days whether a cause of death investigation is necessary. If the Coroner determines that the remains are Native American, she/he would contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would then, pursuant to *California Public Resources Code,* §5097.98, immediately identify the most likely descendant (MLD), who may inspect the remains and site of discovery and make recommendations for the treatment and/or disposition of the remains. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human, preservation in place, and deeding the remains to the MLD for treatment. If no MLD is identified, the MLD fails to make a recommendation, or the landowner rejects the recommendation, the landowner shall rebury the remains with appropriate dignity on the property in a location that would not be subject to further subsurface disturbance.

4.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis* prepared by Vista Environmental in May 2020. The report is presented in its entirety in Appendix A.

Regulatory Framework

The regulatory setting related to energy conservation is primarily addressed through state and county regulations, which are discussed below.

STATE

Energy conservation management in the state was initiated by the 1974 Warren-Alquist State Energy Resources Conservation and Development Act that created the California Energy Resource Conservation and Development Commission (currently named California Energy Commission [CEC]), which was originally tasked with certifying new electric generating plants based on the need for the plant and the suitability of the site of the plant. In 1976, the Warren-Alquist Act was expanded to include new restrictions on nuclear generating plants, that effectively resulted in a moratorium of any new nuclear generating plants in the state. The following details specific regulations adopted by California in order to reduce the consumption of energy.

California Code of Regulations (CCR) Title 20

On November 3, 1976, the CEC adopted the *Regulations for Appliance Efficiency Standards Relating to Refrigerators, Refrigerator-Freezers and Freezers and Air Conditioners,* which were the first energy-efficiency standards for appliances. The appliance efficiency regulations have been updated several times by the Commission and the most current version is the *2016 Appliance Efficiency Regulations*, adopted January 2017 and now includes almost all types of appliances and lamps that use electricity, natural gas as well as plumbing fixtures. The authority for the CEC to control the energy-efficiency of appliances is detailed in California Code of Regulations (CCR), Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1609.

California Code of Regulations (CCR) Title 24, Part 6

The CEC is also responsible for implementing the CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24 Part 6) that were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. In 2008, California set an energy-use reduction goal of zero-net-energy use of all new homes by 2020 and the CEC was mandated to meet this goal through revisions to the Title 24, Part 6 regulations.

The Title 24 standards are updated on a three-year schedule and since 2008, the standards have been incrementally moving to the 2020 goal of the zero-net-energy use. On January 1, 2020, the 2019 standards went into effect that have been designed so that the average new home built in California would now use zero-net-energy and that non-residential buildings would use about 30 percent less energy than the 2016 standards due mainly to lighting upgrades. The 2019 standards also encourage the use of battery storage and heat pump water heaters, require the more widespread use of LED lighting as well as improve the building's thermal envelope through high performance attics, walls and windows. The 2019 standards also require improvements to ventilation systems by requiring highly efficient air filters to trap hazardous air particulates as well as improvements to kitchen ventilation systems.

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (CalGreen) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The CalGreen Building Standards are also updated every three years and the current version is the 2019 California Green Building Standard Code that became effective on January 1, 2020.

The CALGreen Code contains requirements for construction site selection; storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, storm water management, building design, insulation, flooring, and framing, among others. Implementation of the CALGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2019 CALGreen Code over the prior 2016 CALGreen Code include: an alignment of building code engineering requirements with the national standards that include anchorage requirements for solar panels, provides design requirements for buildings in tsunami zones, increases Minimum Efficiency Reporting Value (MERV) for air filters from 8 to 13, increased electric vehicle charging requirements in parking areas, and sets minimum requirements for use of shade trees.

CITY OF MISSION VIEJO

Although the City has not adopted any specific plans that address energy efficiency, the City has adopted the *Mission Viejo Sustainability Action Plan* (Mission Viejo SAP), March 2013, that addresses GHG emissions reduction through implementation of several measures that promote renewable energy as well as energy efficiency.

THRESHOLD OF SIGNIFICANCE

The 2018 amendments and additions to the CEQA Checklist now includes an Energy Section that analyzes the proposed project's energy consumption in order to avoid or reduce inefficient, wasteful or unnecessary consumption of energy. Since the Energy Section was just added, no state or local agencies have adopted specific criteria or thresholds to be utilized in an energy impact analysis. However, the 2018 *Guidelines for*

the Implementation of the California Environmental Quality Act, provide the following direction on how to analyze a project's energy consumption:

> "If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the EIR shall mitigate that energy use. This analysis should include the project's energy use for all project phases and components, including transportation related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. (Guidance on information that may be included in such an analysis is presented in Appendix F.) This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency."

If the proposed project creates inefficient, wasteful or unnecessary consumption of energy during construction or operation activities or conflicts with a state or local plan for renewable energy or energy efficiency, then the proposed project would create a significant energy impact.

PROJECT IMPACTS

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact: The proposed project would impact energy resources during construction and operation. Energy resources that would be potentially impacted include electricity, natural gas, and petroleum-based fuel supplies and distribution systems. This analysis includes a discussion of the potential energy impacts of the proposed project, with emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

CONSTRUCTION ENERGY CONSUMPTION

The construction activities for the proposed project are anticipated to include the grading of the project site, building construction and application of architectural coatings to the proposed multiple-family units, and paving of proposed parking spaces and onsite roads. The proposed project would consume energy resources during construction in three (3) general forms:

1) Petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site as well as delivery and haul truck trips (e.g., hauling of demolition material to offsite reuse and disposal facilities);

2) Electricity associated with the conveyance of water that would be used during project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power; and,

3) Energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Construction Related Electricity

During construction activities, the proposed project would consume electricity to construct the new structures and infrastructure. Electricity would be supplied to the project site by Southern California Edison

(SCE) and would be obtained from the existing electrical lines in the vicinity of the project site. The use of electricity from existing power lines rather than temporary diesel or gasoline powered generators would minimize impacts on energy use. Electricity consumed during project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary, nominal, and would cease upon the completion of construction. Overall, construction activities associated with the proposed project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during project construction would not be wasteful, inefficient, or unnecessary.

Since there are power poles running along the east side of the project site, it is anticipated that only nominal improvements would be required to SCE distribution lines and equipment with development of the proposed project. Where feasible, the new service installations and connections would be scheduled and implemented in a manner that would not result in electrical service interruptions to other properties. Compliance with City guidelines and requirements would ensure that the proposed project fulfills its responsibilities relative to infrastructure installation, coordinates any electrical infrastructure removals or relocations, and limits any impacts associated with construction of the project. Construction of the project's electrical infrastructure would not be anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity.

Construction Related Natural Gas

Construction of the proposed project typically would not involve the consumption of natural gas. Natural gas would not be supplied to support construction activities, thus there would be no demand generated by construction. Since the project site is adjacent to development that currently has natural gas service, construction of the proposed project would be limited to installation of new natural gas connections within the project site. Development of the proposed project would likely not require extensive infrastructure improvements to serve the project site. Construction related energy usage impacts associated with the installation of natural gas connections are expected to be confined to trenching to place the lines below surface. In addition, prior to ground disturbance, the proposed project would notify and coordinate with SoCalGas to identify the locations and depth of all existing gas lines and avoid disruption of gas service. Therefore, construction related impacts to natural gas supply and infrastructure would be less than significant.

Construction Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the project site and on-road automobiles transporting workers to and from the project site and on-road trucks transporting equipment and supplies to the project site.

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions and fuel use assumptions, which found that the off-road equipment utilized during construction of the proposed project would consume 50,429 gallons of fuel. The on-road construction trips fuel usage was calculated through use of the construction vehicle trip assumptions and fuel use assumptions, which found that the on-road trips generated from construction of the proposed project would consume 29,218 gallons of fuel. As such, the combined fuel used from off-road construction equipment and on-road construction trips for the proposed project would result in the consumption of

79,647 gallons of petroleum fuel. This equates to 0.00041 percent of the gasoline and diesel consumed in California annually. As such, the construction related petroleum use would be nominal, when compared to current petroleum usage rates.

Construction activities associated with the proposed project would be required to adhere to all state and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Development of the project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the proposed project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

OPERATIONAL ENERGY CONSUMPTION

The on-going operation of the proposed project would require the use of energy resources for multiple purposes including, but not limited to, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment and vehicle trips.

Operations Related Electricity

Operation of the proposed project would result in consumption of electricity at the project site. As detailed above, the proposed project would consume 695,817 kilowatt-hours per year of electricity. This equates to 0.0001 percent of the electricity consumed annually by Southern California Edison. As such, the operations related electricity use would be nominal, when compared to current electricity usage rates in the area.

It should be noted that the proposed project would be required to meet the 2019 Title 24, Part 6 building energy efficiency standards that have been developed to meet California's goal of zero-net-energy use for new homes. The zero-net-energy use would be achieved through a variety of measures to make new homes more energy efficient and by also requiring installation of photovoltaic systems of adequate size to generate enough electricity to meet the zero-net-energy use standard. The size of the PV system required for the project pursuant to the 2019 Title 24 standards was calculated, which found that the proposed project would need to install at least 156.7 Kilowatts of photovoltaic panels within the proposed project. Although the CalEEMod model found that with implementation of the 2019 Title 24 Part 6 standards that the proposed project would continue to utilize a nominal amount of power, it should be noted that the electricity usage and emission rates utilized by the CalEEMod model are based on regional average usage rates for existing homes, which were not all built to the most current Title 24 Part 6 standards, so the CalEEMod model provides a conservative or worst-case analysis of electricity use from the proposed project. Therefore, it is anticipated that the proposed project would be designed and built to minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the proposed project's electricity demand. Thus, impacts to electrical supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

Operations Related Natural Gas

Operation of the proposed project would result in increased consumption of natural gas at the project site. As detailed above, the proposed project would consume 1,528 MBTU per year of natural gas. This equates

to 0.0003 percent of the natural gas consumed annually in Orange County. As such, the operations related natural gas use would be nominal, when compared to current natural gas usage rates in the County.

It should be noted that the proposed project would comply with all federal, state, and county requirements related to the consumption of natural gas, that includes CCR Title 24, Part 6 *Building Energy Efficiency Standards* and CCR Title 24, Part 11: *California Green Building Standards.* The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed structures, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated that the proposed project would be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the proposed project's natural gas demand. Thus, impacts to natural gas supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

Operations Related Petroleum Fuel Use

Operation of the proposed project would result in increased consumption of petroleum-based fuels related to vehicular travel to and from the project site. As detailed above, the proposed project would consume 76,364 gallons of petroleum fuel per year from vehicle travel. This equates to 0.0004 percent of the gasoline and diesel consumed in California annually. As such, the operations related petroleum use would be nominal, when compared to current petroleum usage rates.

It should be noted that the proposed project would comply with all federal, state, and city requirements related to the consumption of transportation energy that includes California Code of Regulations Title 24, Part 10 California Green Building Standards that require all new homes to include a dedicated circuit in the garage to be utilized for electric car charging. Therefore, it is anticipated the proposed project would be designed and built to minimize transportation energy through the promotion of the use of electric-powered vehicles and it is anticipated that existing and planned capacity and supplies of transportation fuels would be sufficient to support the proposed project's demand. Thus, impacts with regard to transportation energy supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

In conclusion, the proposed project would comply with regulatory compliance measures outlined by the State of California and the City of Mission Viejo related to air quality, greenhouse gas emissions, transportation/circulation, and water supply. Additionally, the proposed project would be constructed in accordance with all applicable City Building and Fire Codes. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact: The City has not adopted any specific plans that address energy efficiency. However, the City of Mission Viejo Sustainability Action Plan (SAP) addresses GHG emissions reduction through implementation of several measures that promote renewable energy as well as energy efficiency. A consistency analysis with the Mission Viejo SAP provided in Section 4.8, Greenhouse Gas Emissions, shows that the proposed project would be consistent with the applicable measures provided in the Mission Viejo SAP for new development projects. Additionally, the proposed project would be required to be constructed based on the 2019 Title 24, Part 6 building energy efficiency standards that have been developed to meet California's goal of zero-net-energy use for new homes. The 2019 Title 24, Part 6 standards require solar photovoltaic panels to be installed on all of the proposed homes as well as implementation of several

energy efficiency measures that include enhanced insulation as well as high efficient lighting and appliances to meet the zero-net-energy use requirement. As such, the proposed project would be designed to meet all applicable California building energy efficiency standards as well as to meet the City's energy efficiency standards. Therefore, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) 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.	☐	☐	☐	☒
2) Strong seismic ground shaking?	☐	☐	☒	☐
3) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4) 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 offsite 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 direct or indirect 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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Preliminary Geotechnical Investigation Report* prepared for the project site by LGC Geotechnical in July 2019. The report is presented in its entirety in Appendix D.

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

No Impact: The Alquist-Priolo Earthquake Fault Zoning Act (Act) regulates development near active faults in order to mitigate the hazards of surface fault rupture. An active fault is one that has experienced earthquake activity in the past 11,000 years. Under the Act, the State Geologist is required to delineate special study zones along known active faults, known as Alquist-Priolo Earthquake Fault Zones. The Act also requires that prior to approval of a project, a geologic study be prepared to define and delineate any hazards from surface rupture and that a 50-foot building setback be established from any known trace hazard. According to the project geotechnical report and California Geologic Survey, there is no Alquist-Priolo Earthquake Fault Zones on the project site or in the nearby area. Therefore, the proposed project would not directly or indirectly be exposed to ground rupture impacts. Therefore, no ground rupture impacts would occur.

Mitigation Measures: No mitigation measures are required.

2) Strong seismic ground shaking?

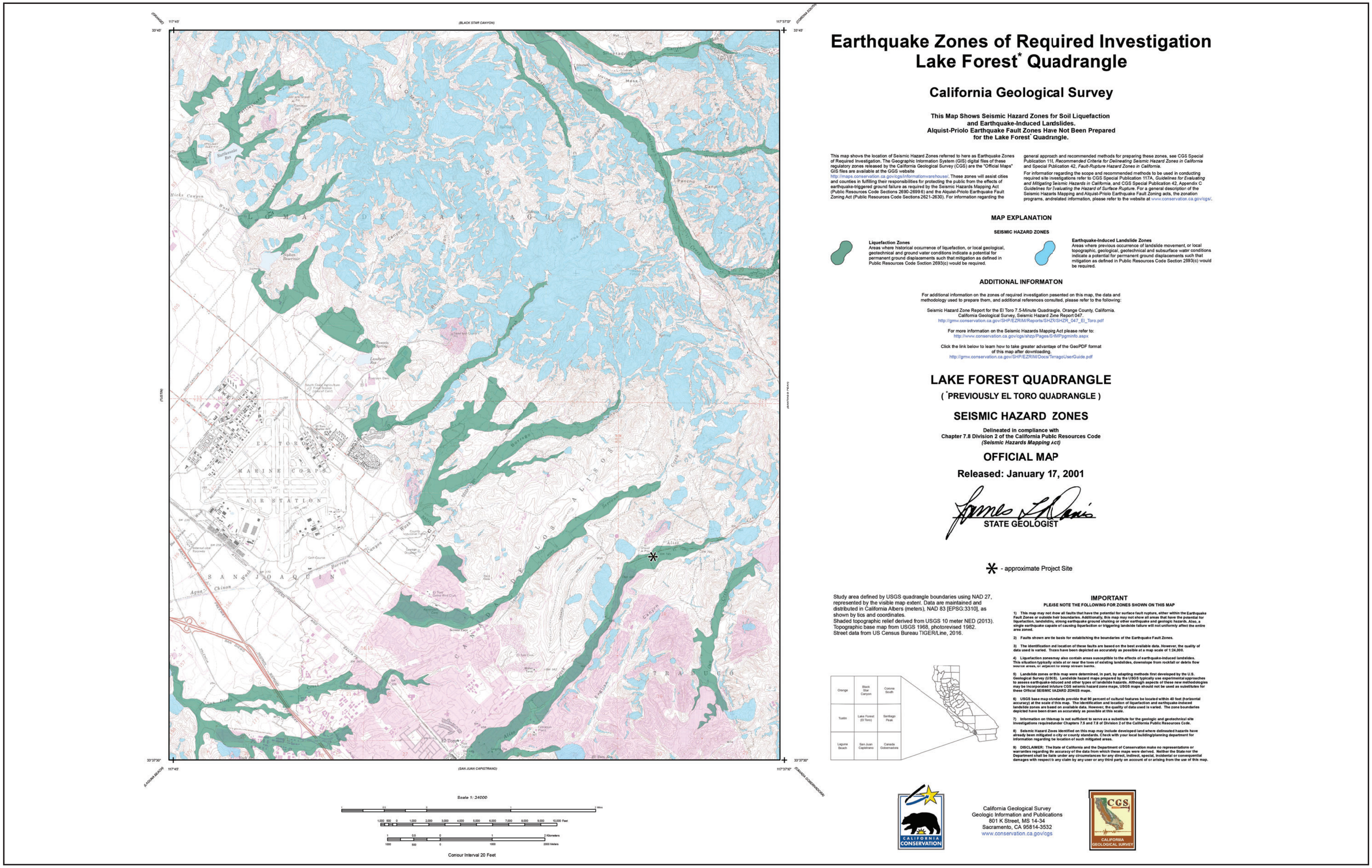
Less Than Significant Impact: The project site is situated within a seismically active region that could be subject to ground shaking impacts from several active faults in the region. The closest active faults in the regional vicinity with the potential to cause ground shaking in the City of Mission Viejo are the San Joaquin Hills blind thrust fault, Newport-Inglewood Fault Zone and the Whittier-Elsinore Fault Zone, located approximately 3.4 miles, 7.4 miles, and 15.9 miles from the site, respectively. The San Joaquin Hills fault is a blind thrust fault that is concealed at depth, without the potential for surface fault rupture. The San Andreas fault, which is the largest active fault in California, is approximately 49 miles northeast of the site. These faults would have the potential to produce an earthquake ranging up to 6.9 on the Richter Scale. In the event an earthquake of this magnitude occurs, the project site could experience periodic shaking, possibly of considerable intensity. The potential seismic shaking risks at the project site would be like other areas in southern California. The proposed structures on the project site would be required to be designed to meet the City's construction development standards and the seismic design parameters of the California Uniform Building Code to withstand potential seismic shaking impacts caused by an earthquake within an acceptable level of risk. Compliance with the City's construction standards and the California Uniform Building Code Seismic Safety Standards would minimize risks related to seismic shaking impacts. Therefore, the proposed project would not expose people or structures to potential adverse effects of ground shaking and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact: Liquefaction is the phenomenon in which loosely deposited soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subject to strong earthquake induced ground shaking. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50-feet below the ground surface. As shown in Figure 4.7-1, *Seismic Hazard Zone Map*, the California Department of Conservation Hazard Zone Map for the Cañada Gobernadora United States Geological Survey (USGS) Quadrangle shows the project site is not located within a Seismic Hazard Zone for Liquefaction Potential. The potential for ground failure and liquefaction would be low and potential liquefaction impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.



Source: Department of Conservation; May 9, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration
Seismic Hazard Zone Map

VCS Environmental

Figure 4.7-1

4) Landslides?

Less Than Significant Impact With Mitigation Incorporated: According to the California Geologic Survey Landslide Hazard Map for the Cañada Gobernadora Quadrangle, the northeastern-most corner of the site is identified as being susceptible to earthquake induced landslides. The geotechnical investigation conducted on the site identified two landslides in the central and northern portions of the site. As part of the construction activities for the proposed project, remedial grading would occur which would involve the removal and re-compaction of unsuitable soils including landslide materials. With the implementation of Mitigation Measure GEO-1 potential landslide impacts would be less than significant.

Mitigation Measures:

GEO-1: Final grading plans would incorporate design recommendations provided in the geotechnical evaluation prepared by LGC Geotechnical, July 2019. All grading shall be in accordance with City of Mission Viejo Grading Code and Manual.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact With Mitigation Incorporated: The site would be balanced with 404,094 cubic yards of cut and 405,874 cubic yards of fill. The land clearing and grading activities associated with the proposed project would uncover soil, which could be subject to erosion impacts caused by water and wind. Additionally, construction equipment and vehicles could indirectly transport sediment to offsite locations. Construction projects which disturb one or more acres of soil are required to obtain coverage under a general construction permit issued from the State Water Resources Control Board. The General Construction Permit would require the filing of a Notice of Intent with the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would provide a list of Best Management Practices to minimize potential adverse erosion impacts. Compliance with applicable NPDES erosion control requirements would reduce impacts related to substantial soil erosion or the loss of topsoil to a less than significant level. With the implementation of Mitigation Measure HYDRO-1, potential erosion impacts would be less than significant.

Mitigation Measures:

HYDRO-1: Prior to issuance of a grading permit, the Applicant would obtain coverage under a general construction permit issued from the State Water Resources Control Board. The General Construction Permit would require the filing of a Notice of Intent with the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact With Mitigation Incorporated: The geotechnical report prepared for the proposed project identified the following geologic conditions on the project site.

LANDSLIDES

The Grading Plan shows there is an estimated 78,770 cubic yards of raw cut material needed for the project in addition to an estimated 280,430 cubic yards of material that would address buttress and remediation work for slope stability. There is an estimated 115,770 cubic yards of raw fill material that includes the raw cut material and some additional soil import to be brought to the site. To balance the site and support the

proposed residential development area, an estimated 35,000 cubic yards of select material is expected to be imported to the project site and approximately 2,000 cubic yards of spoil material from onsite trench grading work would be used to balance the earthwork on the site.

As previously identified, the northeastern-most corner of the site is identified as being susceptible to earthquake induced landslides. As part of the construction activities for the proposed project, remedial grading would occur which would involve the removal and re-compaction of unsuitable soils including landslide materials. With the implementation of Mitigation Measure GEO-1, potential landslide impacts would be less than significant.

LATERAL SPREADING

Lateral spreading is a type of liquefaction-induced ground failure associated with the lateral displacement of surficial v blocks of sediment resulting from liquefaction in a subsurface layer. Because the potential for liquefaction at the project site would be low, the potential for lateral spreading would also be low.

SUBSIDENCE

Subsidence is geologic hazard that involves caving in or sinking of land. The geotechnical report prepared for the project identified that there would be a low potential for subsidence.

LIQUEFACTION

As previously identified from the project geotechnical report, the potential for ground failure and liquefaction would be low.

The project geotechnical report has not identified other types of ground failure constraints that could affect the geotechnical stability of the project. The project would require compliance with the California Building Code, compliance with the City of Mission Viejo Grading Code, and the incorporation of grading design recommendations provided in the project technical report. With implementation of Mitigation Measure GEO-1, potential geologic constraint impacts would be less than significant.

Mitigation Measures: Mitigation Measure GEO-1 is required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact With Mitigation Incorporated: Expansive soils are defined as fine grained silts and clays which are subject to swelling and contracting. The amount of swelling and contracting would be subject to the amount of fine-grained clay materials present in the soils and the amount of moisture either introduced or extracted from the soils. The project site is underlain by artificial fill materials, consisting of variable layers of sandy silt, clayey silt, some sand with scattered gravel. Geotechnical investigation identified that the soils on the project site have a high expansion potential. Expansive soils on the project site would be corrected through remedial grading which would involve the removal and re-compaction of unsuitable soil. With implementation of Mitigation Measure GEO-1, potential impacts associated with expansive soils would be less than significant.

Mitigation Measures: Mitigation Measure GEO-1 is required.

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?

No Impact: The proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impacts would occur regarding septic tanks or alternative wastewater disposal systems.

Mitigation Measures: No mitigation measures are required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated: A Vertebrate Paleontology records search was conducted by the Natural History Museum of Los Angeles County (NHMLAC) on April 3, 2020. According to NHMLAC, the less elevated terrain in the very northern portion of the project site contains surficial deposits that consist of younger Quaternary alluvium. These deposits typically do not contain significant vertebrate fossils in the uppermost layers, but older sedimentary deposits occurring at relatively shallow depth may well contain significant fossil vertebrate remains. Most of the proposed project area has exposures of the marine late Miocene La Vida Member of the Puente Formation.

The western-most portion of the proposed project area has exposures of the marine late Miocene Oso Member of the Capistrano Formation. Vertebrate fossil localities from the Oso Sand Member of the Capistrano Formation have been identified to the west and west-northwest of the project area. Additionally, to the southwest of the proposed project area there are additional Oso Sand localities. These vertebrate fossil localities have produced an extensive composite fossil fauna of predominately marine vertebrates including bonito shark (*Isurus hastalis*), extinct white shark (*Carcharocles megalodon*), eagle ray (*Myliobatis*), sturgeon (*Acipenser*), halibut (*Paralichthys*), sabretooth salmon (*Onchorhynchus rastrosus*), tortoise (*Geochelone*), leatherback turtle (*Psephophorus*), crocodile (*Crocodylidae*), auklet (*Mancallinae*), sea lion (*Imagotaria*), otter (*Satherium*), dugongid sea cows (*Dugongidae*), horse (*Pliohippus*), rhinoceros (*Rhinocerotidae*), camel (*Camelidae*), primitive baleen whale (*Herpetocetus*), right whale (*Balaenidae*), rorqual whale (*Balaenopteridae*), and sperm whale (*Scaldicetus*).

The record search determined no vertebrate paleontological localities were recorded on the project site. However, fossils were identified and recorded in the vicinity from the same subsurface sedimentary deposits that are on the project site. According to NHMLAC, shallow excavations in the younger Quaternary Alluvium exposed in the very north portion of the proposed project area are unlikely to uncover significant vertebrate fossils. Deeper excavations that extend down into older sedimentary deposits, or any excavations in the exposures of the Capistrano Formation or Puente Formation in the proposed project area, however, may well uncover significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations. With implementation of Mitigation Measures PALEO-1 and PALEO-2, potential impacts to paleontological resources or site or unique geologic features would be less than significant.

Mitigation Measures:

PALEO-1: Prior to the issuance of any grading permit, the project Applicant shall provide written evidence to the City of Mission Viejo, that the Applicant has retained a County certified paleontologist

to observe grading activities and salvage and catalogue fossils, as necessary. The paleontologist shall be present at the pre-grade conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the Applicant and City, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If the paleontological resources are found to be significant, the paleontologist shall determine appropriate actions, in cooperation with the Applicant, which ensure proper exploration and/or salvage.

PALEO-2: After completion of the project, the Applicant shall submit the paleontologist's follow-up report for approval by the City. The report shall include the period of inspection, a catalogue and analysis of the fossils found, and the present repository of the fossils. The Applicant shall prepare excavated material to the point of identification. The Applicant shall offer excavated finds for curatorial purposes to the City of Mission Viejo, or its designee, on a first refusal basis. These actions, as well as final mitigation and disposition of the resources, shall be subject to approval by the City of Mission Viejo. Applicant shall pay curatorial fees for the storage of these resources in perpetuity.

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4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis* prepared by Vista Environmental in May 2020. The report is presented in its entirety in Appendix A.

Existing Setting

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHGs), play a critical role in the Earth's radiation amount by trapping infrared radiation from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 4.8-1, *Greenhouse Gases*, provides a description of each of the greenhouse gases and their global warming potential.

Table 4.8-1
Greenhouse Gases

Greenhouse Gas	Description
Water Vapor	Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization.
Carbon Dioxide	The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. The concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources. This could result in an average global temperature rise of at least two degrees Celsius or 3.6 degrees Fahrenheit.
Methane	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs)).

Greenhouse Gas	Description
Nitrous Oxide	Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen.
Chlorofluorocarbons	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface).
Hydrofluorocarbons	HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential.
Perfluorocarbons	Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing.
Sulfur Hexafluoride	Sulfur Hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2.
Aerosols	Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.	

GLOBAL WARMING POTENTIAL

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to the reference gas, CO_2. The International Panel on Climate Change (IPCC) defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e. As such, the GWP of CO_2 is equal to 1. The GWP values used in this analysis are based on the 2007 IPCC Fourth Assessment Report, which are used in CARB's 2014 Scoping Plan Update and the CalEEMod Model Version 2016.3.2 and are detailed in Table 4.8-2, *Global Warming Potentials, Atmospheric Lifetimes and Abundances of GHGs*. The IPCC has updated the Global Warming Potentials of some gases in their Fifth Assessment Report. However, the new values have not yet been incorporated into the CalEEMod model that has been utilized in this analysis.

Table 4.8-2
Global Warming Potentials, Atmospheric Lifetimes and Abundances of GHGs

Gas	Atmospheric Lifetime (years)[1]	Global Warming Potential (100 Year Horizon)[2]	Atmospheric Abundance
Carbon Dioxide (CO_2)	50-200	1	379 ppm
Methane (CH_4)	9-15	25	1,774 ppb
Nitrous Oxide (N_2O)	114	298	319 ppb
HFC-23	270	14,800	18 ppt
HFC-134a	14	1,430	35 ppt
HFC-152a	1.4	124	3.9 ppt
PFC: Tetrafluoromethane (CF_4)	50,000	7,390	74 ppt
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200	2.9 ppt
Sulfur Hexafluoride (SF_6)	3,200	22,800	5.6 ppt

Notes:
[1] Defined as the half-life of the gas.
[2] Compared to the same quantity of CO_2 emissions and is based on the Intergovernmental Panel On Climate Change (IPCC) 2007 standard, which is utilized in CalEEMod (Version 2016.3.2),that is used in this report (CalEEMod user guide: Appendix A).
Definitions: ppm = parts per million; ppb = parts per billion; ppt = parts per trillion
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

Regulatory Setting

The regulatory setting related to global climate change is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly as well as individually to reduce GHG emissions through legislation, regulations, planning, policy making, education, and a variety of programs. The agencies responsible for global climate change regulations are discussed below.

INTERNATIONAL

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change.

FEDERAL

The United States Environmental Protection Agency (EPA) is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce U.S. GHG intensity. These programs focus on energy efficiency, renewable energy, methane, and other non-CO_2 gases, agricultural practices and implementation of technologies to achieve GHG reductions. EPA implements several voluntary programs that substantially contribute to the reduction of GHG emissions.

STATE

California Air Resources Board (CARB) has proposed interim statewide CEQA thresholds for GHG emissions and released Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act, on October 24, 2008 that has been utilized by the SCAQMD's GHG Significance Threshold Stakeholder Working Group in their framework for developing SCAQMD's draft GHG emissions thresholds. California currently has no regulations that establish ambient air quality standards for GHGs. However, California has passed laws directing CARB to develop actions to reduce GHG emissions. The following is a listing of relevant state laws to reduce GHG emissions. A detail discussion of each law is presented in Appendix A.

- Executive Order B-30-15, Senate Bill 32 and Assembly Bill 197
- Assembly Bill 1493
- Executive Order S-3-05
- Assembly Bill 32
- Executive Order S-1-07
- Senate Bill 97
- Senate Bill 375
- Assembly Bill 341 and Senate Bills 939 and 1374
- California Code of Regulations (CCR) Title 24, Part 11

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. The SCAQMD is also responsible for GHG emissions for projects where it is the lead agency. However, for other projects in the SCAB where it is not the lead agency, it is limited to providing resources

to other lead agencies to assist them in determining GHG emission thresholds and GHG reduction measures.

CITY OF MISSION VIEJO

Local jurisdictions, such as the City of Mission Viejo, have the authority and responsibility to reduce GHG emissions through their police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of GHG emissions resulting from its land use decisions. In accordance with CEQA requirements and the CEQA review process, the City assesses the global climate change potential of new development projects, requires mitigation of potentially significant global climate change impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. To meet California GHG emissions reduction goals, the City has adopted the *Mission Viejo Sustainability Action Plan* (Mission Viejo SAP), March 2013. The Mission Viejo SAP details that future projects seeking to use CEQA tiering would need to demonstrate compliance with the SAP.

The SAP identifies only voluntary GHG reduction measures that would apply to different types of future projects. All SAP measures are essentially voluntary, relying on assumed levels of community participation to create communitywide GHG reductions. There is one measure that has a mandatory requirement, Measure 5A, which enforces the City's current development code that requires new developments to build TDM facilities. Measure 5A uses that ordinance to estimate TDM participation; it does not mandate participation in a TDM program. All the SAP measures would be tracked to monitor participatory rates.

To use these GHG reduction measures to enable CEQA streamlining for GHG environmental assessment, the City must incorporate them as mitigation measures on future discretionary projects found to be consistent with the General Plan.

If the City elects to facilitate this process, the City may develop a checklist of potential mitigation measures based on voluntary SAP measures. The City would use this checklist to evaluate applications for discretionary entitlements and identify binding and enforceable mitigation measures for future projects seeking to use CEQA tiering provisions, in accordance with CEQA Guidelines Section 15183.5(b)(2). Such mitigation measures may be identified in a Mitigated Negative Declaration, EIR, or EIR Addendum prepared for the subsequent project, and incorporated as conditions of approval. The project may then rely on consistency with the SAP and General Plan EIR to identify a less-than-significant impact to GHG emissions in its environmental document. If substantial evidence indicates that the GHG emissions of a proposed project may be cumulatively considerable, notwithstanding the project's compliance with specific measures in this SAP, an EIR must be prepared for the project. This provision would also apply to any project seeking to amend the General Plan.

SCAQMD Thresholds

The Mission Viejo SAP provides quantified baseline and future GHG emissions, identifies GHG reductions that would result from specific actions, and establishes a monitoring mechanism for the City. The General Plan EIR provides a threshold below which the contribution of GHG emissions would not be cumulatively considerable and provides environmental review of the SAP. Together, the Mission Viejo SAP, the City of Mission Viejo General Plan, and the EIR prepared and certified for the Mission Viejo SAP and the General Plan comprise a plan for the reduction of GHG emissions within the meaning of State CEQA Guidelines Section 15183.5.

The *City of Mission Viejo General Plan Program EIR*, prepared March 2013, relies on the SCAQMD's draft GHG emission threshold for determination of significance. In September 2018, SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides

a quantitative annual threshold of 3,000 $MTCO_2e$ for all land use projects. At this time, no further guidance has been provided by the state on establishing alternative GHG emission thresholds. Therefore, the proposed project would be considered to create a significant cumulative GHG impact if the proposed project would exceed the annual threshold of 3,000 $MTCO_2e$.

PROJECT IMPACTS

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

Less Than Significant Impact: The proposed project would consist of the development of a 91-unit multiple-family residential community. The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste disposal, water usage, and construction equipment. The project's GHG emissions have been calculated with the CalEEMod model based on the construction and operational parameters. A summary of the results is shown in Table 4.8-3, *Project Related Greenhouse Gas Annual Emissions*, and the CalEEMod model run is provided in Appendix A.

Table 4.8-3
Project Related Greenhouse Gas Annual Emissions

Category	Greenhouse Gas Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	1.53	0.00	0.00	1.57
Energy Usage[2]	103.81	0.00	0.00	104.38
Mobile Sources[3]	704.65	0.03	0.00	705.35
Solid Waste[4]	4.25	0.25	0.00	10.53
Water and Wastewater[5]	33.61	0.16	0.01	38.67
Construction[6]	26.09	0.00	0.00	26.22
Total GHG Emissions	**873.95**	**0.44**	**0.01**	**886.72**
SCAQMD Draft Threshold of Significance				**3,000**
Exceed Thresholds?				**No**

Notes:
[1] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscaping equipment.
[2] Energy usage consists of GHG emissions from electricity and natural gas usage.
[3] Mobile sources consist of GHG emissions from vehicles.
[4] Waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[5] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[6] Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.
Source: Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis*; May 6, 2020.

The data provided in Table 4.8-3 shows that the proposed project would create 886.72 $MTCO_2e$ per year. According to the SCAQMD draft threshold of significance, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations would exceed 3,000 $MTCO_2e$ per year. Therefore, a less than significant generation of greenhouse gas emissions would occur from development of the proposed project and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. The applicable plan for the proposed project is the Mission Viejo SAP, which is a comprehensive document to ensure that the City reduces communitywide GHG emissions. The SAP identifies voluntary GHG reduction measures that would apply to different types of future projects. The six measures listed in the Mission Viejo SAP are discussed below, along with an assessment of the project's consistency with the SAP measures.

1. Urban Forestry. The urban forestry measure uses street trees to capture and store carbon. It also reduces the cooling load of buildings, which decreases energy consumption.

    - Consistent. As shown above in Figure 3-7, *Conceptual Landscape Plan*, the proposed project includes planting of numerous trees, shrubs, and landscaping slopes within the project site.

2. Water Efficiency. The water efficiency measure promotes the efficient use and conservation of water in buildings and landscapes.

    - Consistent. The proposed project would be required to implementation of the 2016 CCR Title 24 Part 11 (CalGreen) and CCR Title 20, Section 1601-1608 that require all water fixtures to be low flow as well as requires the use of smart irrigation system controllers that are designed to provide an average water reduction of 30 percent.

3. Clean and Efficient Energy. The clean and efficient energy measure recommends ways to increase energy efficiency in existing buildings, enhance energy performance for new construction, and increase use of renewable energy.

    - Consistent. The proposed project would be required to meet the 2019 Title 24, Part 6 building energy efficiency standards that have been developed so that the average new home built in California would have zero-net-energy use. The 2019 Title 24, Part 6 standards require solar photovoltaic panels to be installed on all of the proposed homes as well as implementation of several energy efficiency measures that include enhanced insulation as well as high efficient lighting and appliances to meet the zero-net-energy use requirement.

4. Solid Waste Reduction. The solid waste reduction measure aims to increase waste diversion and recycling and reduce consumption of materials that otherwise end up in landfills.

    - Consistent. The proposed project would be required to adhere to the City's Construction and Demolition Ordinance, that requires a minimum of 75 percent of debris from landfills. In addition, operation of the project would include use of a waste haul company that is required to meet the AB341 requirements of either reducing, recycling or composting 75 percent of solid waste.

5. Alternative Transportation. The alternative transportation measure encourages carpooling, walking, and bicycling as viable transportation modes to decrease the need to drive.

    - Consistent. The proposed project is an infill development on El Toro Road that currently has sidewalks and Aliso Creek Bikeway is located within 300 feet of the project site that would promote the use of alternative transportation. In addition, the project would be required to be designed to meet Title 24, Part 10 California Green Building Standards that

require all new homes to include a dedicated circuit in the garage to be utilized for electric car charging that would promote the use of electric vehicles.

6. Traffic Management. The coordination of signals along arterial roadways would reduce vehicle idling and reduce fuel consumption.

    - Consistent. The Traffic Impact Analysis found that the proposed project would generate 666 daily trips, which is well below the 2,400 daily trips that is the threshold for the County's Congestion Management Program that would require the project to provide signal and other improvements. However, the proposed project would still be required to pay traffic improvement fees to the City that would be utilized for signal coordination as well as other traffic improvements within the City.

As shown above, the proposed project would be consistent with all of the voluntary GHG reduction measures for future projects within the City. As such, the proposed project would be consistent with the Mission Viejo SAP and would not conflict with the applicable plan adopted for reducing GHG emissions. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

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

Less Than Significant Impact: Title 22 of the California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, classifies hazardous materials into the following four categories based on their properties:

- Toxic (causes human health effects),
- Ignitable (has the ability to burn),
- Corrosive (causes severe burns or damage to materials), and
- Reactive (causes explosions or generates toxic gases).

Hazardous materials have been and are commonly used in commercial, agricultural and industrial applications as well as in residential areas to a limited extent. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. The health impacts of hazardous materials exposure are based on the frequency of exposure, the exposure pathway, and individual susceptibility.

The long-term operation of the proposed project would not be expected to involve the routine transport, use or disposal of hazardous materials in quantities or conditions that would pose a hazard to public health and safety or the environment. The operation of the proposed project could involve the use of cleaning products and occasional use of pesticide activities and herbicides for landscape maintenance. The materials would be common for general maintenance and would not be stored in large quantities that pose a health hazard to the public. Potential impacts would be less than significant.

The construction operations associated with the proposed project would involve the handling of incidental amounts of hazardous substances, such as solvents, fuels and oil. To avoid public exposure to hazardous materials, the proposed project would be required to comply with local, state and federal laws and regulations regarding the handling and storage of hazardous materials. With compliance with local, state and federal hazardous material laws and regulations and implementation of BMPs, potential hazardous impacts to the public would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. The construction operations associated with the proposed project would involve the handling of incidental amounts of hazardous substances, such as solvents, fuels and oil. The level of risk associated with the accidental release of hazardous substances would not be considered significant due to the small volume and low concentration of hazardous materials that would be utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid or minimize the potential for accidental release of hazardous substances into the environment. The most relevant measures would pertain to Material Delivery and Storage; Material Use; and Spill Prevention and Control. These measures would outline the required improvements and procedures for preventing impacts of hazardous materials to workers and the environment during construction. With compliance with local, state and federal hazardous material laws and regulations and implementation of Material Delivery and Storage; Material Use; and Spill Prevention and Control BMPs, potential hazardous impacts involving the accidental release of hazardous materials into the environment would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

No Impact: The project site is not located within one-quarter mile of a school. The nearest school to the project site would be Trabuco Hills High School (27501 Mustang Run, Mission Viejo, 92691) located approximately 0.78 miles to the south of the project site. Therefore, implementation of the proposed project would not emit hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or wastes within a 0.25-mile of an existing or proposed school. No impact would occur.

Mitigation Measures: No mitigation measures are required.

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

No Impact: State Water Resources Control Board GeoTracker search was conducted on the property to identify known or suspected environmental concerns or recognized environmental conditions that could be associated with the project site and if adjoining properties, and nearby locations are suspected sites of environmental contamination. As shown in Figure 4.9-1, *GeoTracker 2,000 Feet Radius Search*, the State Water Resources Control Board GeoTracker search did not identify any significant environmental concerns. The search did identify one completed cleanup program site case as of June 17, 2009. However, the listed address for that case (19812 El Toro Road, Lake Forest) is not located within or adjacent to the 2,000-foot project site radius. There is also a closed case, as of June 18, 1987, of a leaking underground storage unit at 20851 El Toro Road, Lake Forest, approximately 3,000 feet from the project site. Both do not pose any environmental concerns for the proposed project. Based on the regulatory status of the property, the site would not be considered a recognized environmental concern. Because the project site and immediate area is not included on any lists of hazardous waste sites, no potential impact would occur regarding creating a significant hazard to the public or the environment.

Mitigation Measures: No mitigation measures are required.

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 or excessive noise for people residing or working in the project area?

No Impact. The project site is not located within an airport land use plan and there are no public airports within two miles of the project site. The nearest airport would be John Wayne Airport, located approximately 13 miles from the project site. Therefore, no impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact: The City's General Plan Public Safety Element (City of Mission Viejo, 2009) outlines goals and policies aimed at reducing the potential risk of loss of life, injury, property damage, and economic and social dislocation resulting from a disaster, accident, or other hazards in Mission Viejo. Emergency events addressed in the Public Safety Element include those associated with landslides, earthquakes, flooding, hazardous materials exposure, fire, crime, and general emergency preparedness. As shown on Figure PS-6, City of Mission Viejo Emergency Facilities Map, of the General Plan Public Safety Element, the proposed project would take direct access on one of the City's emergency evacuation routes. City identified evacuation routes within the vicinity of the project site include Oso Parkway, Los Alisos Boulevard and El Toro Road, west of Toledo Way. The project would not include any features that would impair access to evacuation routes identified in the City, or otherwise conflict with an emergency response plan or emergency evacuation plan.

The construction activities for the proposed project would not involve any activities that would physically impair or interfere with emergency response plans for the project area. During construction, there could be the potential for temporary lane closures to allow for utility connections. However, the temporary lane closures would be for a short period of time and would be implemented in accordance with recommendations provided in the California Temporary Traffic Control Handbook to ensure that emergency access would be maintained all times. Potential impacts associated with conflicts to emergency response plans would be less than significant.

Mitigation Measures: No mitigation measures are required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact: According to the California Department Forestry and Fire Protection, the project site is not within a Very High Fire Hazard Zone. The area east of the Foothill Transportation Corridor (SR-241) has been designated as a Fire Hazard Area. The project site is currently vacant. The proposed project would be required to design, construct, and maintain structures and access ways in compliance with local, regional, state requirements related to emergency access. These standards would ensure that structural and nonstructural architectural elements of the building would not impede emergency egress for fire safety staffing/personnel, equipment, and apparatus, or hinder evacuation from a fire.

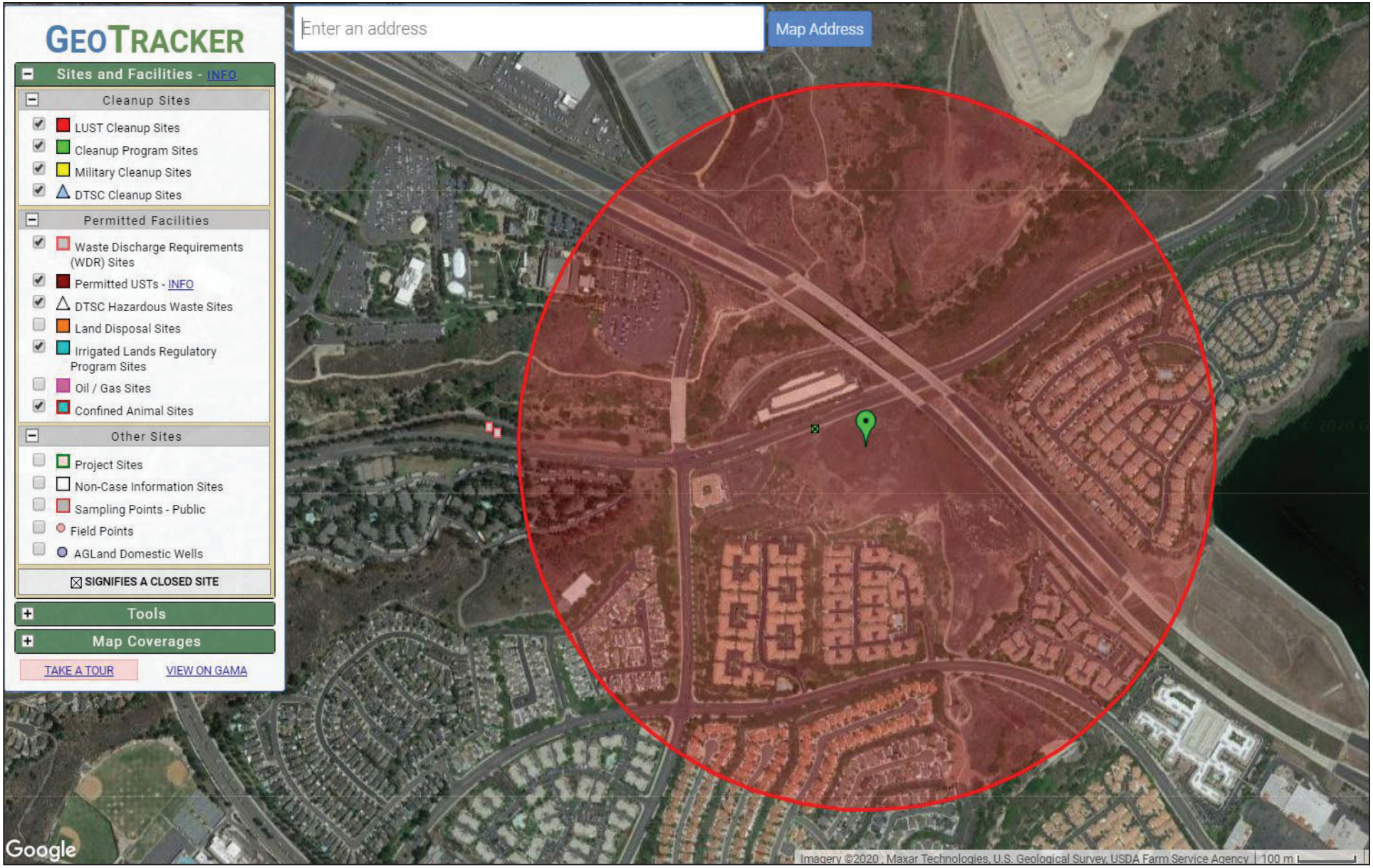
To reduce the risk of wildland fire impacts the proposed project would implement a Fuel Modification Plan. The Fuel Modification Plan is a vegetation management code that requires landscaped areas adjacent to new buildings be dedicated for permanent vegetation management activities. The Fuel Modification Plan program brings fire-safe landscaping and construction features together to improve community safety and reduce property loss during wildfire emergencies .Generally, the Fuel Modification Plan includes 20-foot Zone A Non-Combustible Zone that is only allowed for non-combustible construction and a 50 to150-foot Zone B Wet Zone extending from Zone A, that would consist of permanently irrigated fully landscaped drought tolerant, deep rooted high moisture plant material and a Restricted Plant Zone that prohibits groupings of trees.

The proposed project would also prepare a Fire Master Plan and submit it to the Orange County Fire Authority (OCFA) for approval. Fire Master Plans are general guidelines pertaining to the creation and maintenance of fire department access roadways, access walkways to and around buildings, and hydrant quantity and placement as required by the 2019 California Fire and Building Codes (CFC and CBC) and as amended by local ordinance. Fire Master Plans demonstrate the effectiveness of emergency response and firefighting operations are directly related to the proper installation and maintenance of fire access roadways, the proper sitting of hydrants, adequate water supply, and access to structures. Issues addressed in the Fire Master Plan include:

- Fire access roadway design
- Fire lane identification
- Premises identification
- Fire lane obstructions
- Access for residential development
- Alternative engineered fire access systems
- Access requirements in wildfire risk areas
- Hydrant quantity, spacing, placement, and identification
- Water availability and fire flow
- Access to structures
- Access during construction

The proposed project would be required to be reviewed by the Orange County Fire Authority and the City of Mission Viejo Building Department to ensure that building construction meets the minimum standards for fire safety as defined in the County Fire Codes and City Building Codes. Compliance with the City Building Codes and County Fire Codes would reduce the risk of wildland fire hazards to a less than significant level.

Mitigation Measures: No mitigation measures are required.



Source: State of California, State Water Resources Control Board GeoTracker; May 2020.
Note: One completed cleanup program site case as of June 17, 2009; however, the listed address for that case (19812 El Toro Road, Lake Forest) is not located within or adjacent to the 2000 ft project site radius. There is also a closed case, as of June 18, 1987, of a leaking underground storage unit at 20851 El Toro Road, Lake Forest, approximately 3000 feet from the project site.

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GeoTracker 2,000 Feet Radius Search

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4.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
1) Result in substantial erosion or siltation on- or offsite?	☐	☒	☐	☐
2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
3) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
4) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

Existing Setting

REGIONAL WATERSHED

The project site is located in the Aliso Creek Watershed. The Aliso Creek Watershed covers 30.4 square miles and includes portions of the cities of Aliso Viejo, Dana Point, Laguna Niguel, Laguna Woods, Laguna Beach, Lake Forest, and Mission Viejo. Its main tributary, Aliso Creek, originates in the Santa Ana Mountains inside the boundaries of the Cleveland National Forest. Smaller tributaries include Wood Canyon, Sulphur Creek, the Aliso Hills Channel, and English Canyon Channel. The creek ultimately discharges into the Pacific Ocean at Aliso Beach. Contributing tributaries to Aliso Creek include English Canyon, Sulphur Creek, and Wood Creek. The project site downstream receiving water bodies would include English Channel, Aliso Creek and Pacific Ocean.

ONSITE DRAINAGE CONDITIONS

The project consists of an approximate 13.4-acre hillside area. The project site is currently vacant and moderately vegetated and 100 percent impervious. Currently, there are existing catch basins and storm drains along El Toro Road with the pipe sizes varying from 18-inches to 36-inches. Flows along El Toro Road are from SR-241 Toll Road area flowing east to west towards Marguerite Parkway. The storm drains ultimately discharging downstream into Aliso Creek. Storm drain stubs are provided for the project site and are currently in use. The surface waters onsite generally flow from northeast to a southwest direction. The onsite flows from the eastern portion of the project site are collected via the small basin and then to the existing 24-inch storm drain stub and ultimately to the El Toro Road storm drain systems. Similar to the eastern portion of the project, the storm waters from the middle portion of the project site are collected and flow to the El Toro Road storm drain systems via the existing 24-inch storm drain stub. The western portion of the project consists of mainly the slope flows which drain to the existing v-ditches adjacent to the existing parking lot for the office building located at 20532 El Toro Road.

Regulatory Framework

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD BASIN PLAN

The downstream water bodies for the proposed project are located within the jurisdiction of the San Diego Regional Water Quality Control Board. The San Diego Region Basin Plan designates beneficial uses for surface waters, coast streams and coastal waters in the region that are required to be protected. Additionally, the Basin Plan identifies impaired water bodies and environmental sensitive areas within the region that afford additional protection.

Beneficial Uses

The San Diego Region Basin Plan (Basin Plan) designates beneficial uses for surface waters in Cañada Gobernadora, San Juan Creek and Doheny Beach. The beneficial uses include quantitative and narrative criteria for a range of water quality constituents that are applicable to certain receiving water bodies in order to protect the beneficial uses. The beneficial uses in the Basin Plan are described in Table 4.10-1, *Beneficial Use Descriptions*.

Table 4.10-1
Beneficial Use Descriptions

Abbreviation	Beneficial Use
GWR	Groundwater Recharge waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality or halting saltwater intrusion into freshwater aquifers.
REC 1	Water Contact Recreation waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water skiing, skin and scuba diving, surfing, whitewater activities, fishing and use of natural hot springs.
REC 2	Non-Contact Water Recreation waters are used for recreational activities involving proximity to water, but not normally body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing and aesthetic enjoyment in-conjunction with the above activities.

Abbreviation	Beneficial Use
WARM	Warm waters support warm water ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
LWARM	Limited Warm Freshwater Habitat waters support warm water ecosystems which are severely limited in diversity and abundance.
COLD	Cold Freshwater habitat waters support cold water ecosystems.
BIOL	Preservation of Biological Habitats of Special Significance waters support designated areas of habitats.
WILD	Wildlife Habitat waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
RARE	Rare, Threatened or Endangered Species (RARE) waters support habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened or endangered.
MUN	Municipal and Domestic Supply waters are used for community, military, municipal or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
AGR	Agricultural Supply waters are used for farming, horticulture or ranching. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
IND	Industrial Service Supply waters are used for industrial activities that do not depend primarily on water quality. These uses may include, but are not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection and oil well depressurization.
PROC	Industrial Process Supply waters are used for industrial activities that depend primarily on water quality. These uses may include, but are not limited to, process water supply and all uses of water related to product manufacture or food preparation.
NAV	Navigation waters are used for shipping, travel, or other transportation by private, commercial or military vessels.
POW	Hydropower Generation waters are used for hydroelectric power generation.
COMM	Commercial and sport fishing waters are used for commercial or recreational collection of fish or other organisms.
EST	Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish or wildlife.
WET	Uses of water that support wetland ecosystems including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.
MAR	Use of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish or wildlife.
MIGR	Uses of water that support habitats necessary for migration, acclimatization between fresh and saltwater, or other temporary activities by aquatic organisms, such as anadromous fish.
SPWN	Use of water that supports high-quality aquatic habitats suitable for reproduction and early development of fish.
SHELL	Use of water that supports habitats suitable for the collection of filter-feeding shellfish for human consumption, commercial or sports purposes.
Source: California Water Boards, *San Diego Basin Water Quality Control Plan*, updated June 2019.	

As shown in Table 4.10-2, *Study Area Water Body Beneficial Uses*, the Basin Plan identifies beneficial uses for the English Channel, Aliso Creek, Aliso Creek Mouth and Pacific Ocean.

Table 4.10-2
Study Area Water Body Beneficial Uses

Beneficial	English Channel	Aliso Creek	Aliso Creek Mouth	Pacific Ocean
AGR	E	E	NL	NL
IND	NL	NL	NL	E
NAV	NL	NL	NL	E
REC 1	P	P	E	E
REC 2	E	E	E	E
WARM	E	E	NL	NL
COMM	NL	NL	NL	E
BIOL	NL	NL	NL	E
WILD	E	E	E	E
RARE	NL	NL	E	E
MIGR	NL	NL	NL	E
SPAWN	NL	NL	NL	E
SHELL	NL	NL	NL	E
MAR	NL	NL	E	E

Abbreviations: E - Existing, P - Proposed, NL - Not Listed
Source: California Water Boards, *San Diego Basin Water Quality Control Plan*, updated June 2019.

Environmentally Sensitive Areas

The San Diego Regional Water Quality Control Board defines Environmentally Sensitive Areas (ESAs) as those areas that include, but are not limited to:

- All Clean Water Act (CWA) Section 303(d) impaired waters (see below).
- Areas designated as Areas of Special Biological Significance by the SWRCB in the Water Quality Control Plan for the San Diego Region (aka the Basin Plan).
- State Water Quality Protected Areas.
- Water bodies designated with the RARE Beneficial Use category by the SWRCB in the Basin Plan (RARE).
- Areas designated as preserves or their equivalent under the Natural Communities Conservation Planning Program (NCCP).
- Any other ESAs identified by the County.

The following are listing of ESA within Aliso Creek Watershed:

- English Canyon Creek
- Aliso Creek
- Aliso Creek Mouth
- Pacific Ocean Shoreline at Aliso Creek Mouth
- Pacific Ocean Shoreline at Aliso Beach Middle

Section 303(d) Water Bodies

Under Section 303(d) of the Clean Water Act, the SWRCB is required to develop a list of impaired water bodies. Each of the individual RWQCBs are responsible for establishing priority rankings and developing action plans, referred to as total maximum daily loads (TMDLs) to improve water quality of water bodies included in the 303(d) list. The Clean Water Act 303(d) listed pollutants in the Aliso Creek Watershed are shown in Table 4.10-3, *2010 303(d) Listings for the Aliso Creek Watershed*.

Table 4.10-3
2010 303(d) Listings for the Aliso Creek Watershed

Water Body	Pollutant
Aliso Creek	Indicator Bacteria, Phosphorous, Selenium, Total Nitrogen
Aliso Creek Mouth	Indicator Bacteria
Pacific Ocean Shoreline at Aliso Creek Mouth	Total Coliform, Fecal Coliform, Enterococcus
Pacific Ocean Shoreline at Aliso Beach Middle	Total Coliform, Enterococcus
English Canyon Creek	Benzo, Fluoranthene, Dieldrin, Sediment Toxicity, Selenium

Stormwater Management

Section 402 of the Clean Water Act established the National Pollution Discharge Elimination System (NPDES) to control water pollution by regulating point sources that discharge pollutants into Waters of the United States. In the State of California, the EPA has authorized the State Water Resources Control Board (SWRCB) to be the permitting authority to implement the NPDES program. The SWRCB issues two baseline general permits, one for industrial discharges and one for construction activities (General Construction Permit). Additionally, the NPDES Program includes the long-term regulation of storm water discharges from medium and large cities through the MS4 Permit Program.

Short-Term Storm Water Management

Storm water discharges from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or be covered by a General Construction Permit. Coverage under the General Construction Permit requires filing a Notice of Intent with the State Water Resources Control Board and preparation of Storm Water Pollution Prevention Plan (SWPPP). Each applicant under the Construction General Permit must ensure that a SWPPP would be prepared prior to grading and implemented during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction. BMPs include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution.

Long-Term Storm Water Management

The stormwater management regulatory requirements for the site include water quality requirements per the San Diego Regional Water Quality Board MS4 Permit, compliance with FEMA floodplain requirements, flood control requirements imposed by local jurisdictions, and jurisdictional water regulations from the

California Department of Fish and Wildlife (CDFW), San Diego Regional Water Quality Control Board (RWQCB), and United States Army Corps of Engineers (USACE).

The San Diego Regional Water Quality Control Board South OC MS4 Permit Order No. R9-2013-0001/NPDES No. CAS019266 designates the site as a redevelopment project that requires both water quality treatment and hydromodification mitigation. New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site) and consist primarily of one or more of the following uses:

- Parking Lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
- Streets, Roads, Highways, Freeways, and Driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

Under the South OC MS4 Permit, the site is required to treat the 85 percent 24-hour storm, 0.95 inches, at the site either by retention or biofiltration. Based on the findings of the geotechnical due diligence report, infiltration into native soils underlying the fill may be feasible if the groundwater level is low enough. If infiltration is not feasible, the Permit states that the site can instead treat 150 percent of the 85 percent volume via biofiltration.

Flood Management

The City of Mission Viejo General Plan identifies that the project site is not within a flood hazard area.

PROJECT IMPACTS

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact: The following analysis evaluates if the proposed project would conflict with beneficial uses or further impair any listed 303(d) Impaired Water Bodies established in the Regional Water Quality Control Board Basin Plan.

BENEFICIAL USES

The project site is expected to generate pollutants associated with roads, parking areas and landscaping. Expected pollutants of concern would include bacteria, viruses, nutrients, pesticides, sediments, trash and debris, oil and grease. During construction, there would be the potential that degraded surface water runoff generated from the construction site could be conveyed into local drainage facilities. Depending on the constituents in the surface water, the water quality of project area surface water bodies could be reduced, which could conflict with beneficial uses established for the project area surface water bodies. The proposed project would disturb more than one acre of area and would, therefore, be required to obtain a NPDES State General Construction Permit from the State Water Resources Control Board. In accordance with the State General Construction Permit, the project Applicant would be required to file a Notice of Intent (NOI) to the Storm Water Report Tracking System and obtain a waste discharger identification number from the State Water Resources Control Board. Additionally, the General Construction Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify Best Management Practices (BMPs) to minimize degraded surface water runoff impacts. Such measures would include a site map that shows the construction site perimeter, existing and proposed buildings, parking areas, roadways, storm drain collection and discharge points before and after construction. Additionally, structural BMPs placement of such sandbags or waddles near drainages, use of

rumble racks or wheel washers or other measures would be implemented to avoid sediment transport. Compliance with the NPDES short-term regulatory requirements would reduce short-term construction related impacts to water quality to a less than significant level.

The long-term operation of the proposed project would generate surface water runoff that could contain pollutants that could conflict with project area surface water beneficial uses. The proposed project would be regulated under NPDES Municipal Stormwater Permits issued by the San Diego Regional Water Quality Control Board. The proposed project would be required to comply with City of Mission Viejo Stormwater Program requirements to reduce the amount of impervious areas and capture and treat or infiltrate stormwater runoff. The Stormwater Program's specific water pollutant control elements are documented in the Drainage Area Management Plan (DAMP). The DAMP satisfies the NPDES permit conditions for creating and implementing a stormwater management program. The intent of the DAMP is to reduce pollutant discharges to the maximum extent practicable for the protection of water quality and beneficial uses at receiving water bodies. DAMP contains guidance on both structural and non-structural BMPS's for meeting these goals. With implementation of the DAMP requirements, the proposed project would be required to prepare a WQMP in accordance with the requirements of the non-point source NPDES Permit for Waste Discharge Requirements. The WQMP prepared for the proposed project would treat onsite low flows with modular wetland bioretention systems. Additionally, non-structural and structural BMP's would be implemented to maintain water quality, non-structural BMP's could include education of residents, common area landscape management, litter control, catch basin inspection, and street and parking lot sweeping. Structural BMP's could include storm drain system stenciling, design outdoor hazardous material storage areas to reduce pollutant introduction, design trash enclosures to reduce pollutant introduction. Compliance with WQMP non-structural and structural and treatment control measures would reduce long-term operation impacts to water quality to a less than significant level.

SECTION 303(d) IMPAIRED WATER BODIES

As shown previously in Table 4.10-3, *2010 303(d) Listings for the Aliso Creek Watershed*, Total Maximum Daily Loads (DMDLs) have been established or are in preparation for the project's receiving water bodies. It is unlikely that the construction and operation of the proposed project would generate elevated levels of pollution constituents as shown in Table 4.10-3 that would be discharged or conveyed into the English Channel, Aliso Creek or the Pacific Ocean. During construction, the proposed project would be required to implement a SWPPP in accordance with the State Water Resources Control Board to maintain water quality. Additionally, non-structural, structural and treatment control measures would be implemented in accordance with the project Water Quality Management Plan requirements. Compliance with SWRCB General Construction Permit requirements in conjunction with the implementation of the project WQMP would avoid further impairment to downstream impaired water bodies.

Mitigation Measures: No mitigation measures are required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact: The project area is not within an area that has a managed groundwater basin. The proposed project would have no activities that would extract groundwater or interfere with groundwater recharge activities.

Mitigation Measures: No mitigation measures are required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

1) Result in substantial erosion or siltation on- or offsite?

Less Than Significant Impact With Mitigation Incorporated: During earthwork activities, there would be the potential that uncovered soils on the project site could be exposed to water erosion and/or wind erosion impacts. Additionally, there would be the potential that construction vehicles and construction equipment could transport sediment onto local streets and into local drainage systems. The proposed project would disturb more than one acre of area and would be required to obtain a General Construction Permit from the State Water Resources Control Board. The General Construction Permit would require preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) to avoid erosion and sediment transfer impacts. With the implementation of Mitigation Measure HYDRO-1, potential erosion and sediment transfer impacts would be less than significant.

Mitigation Measures:

HYDRO-1: Prior to issuance of a grading permit, the Applicant would obtain coverage under a general construction permit issued from the State Water Resources Control Board. The General Construction Permit would require the filing of a Notice of Intent with the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant Impact: The project site is currently undeveloped and drains southerly and westerly to existing drainage channels. The construction of the proposed project would result in an increase in impervious area over the current condition, which would increase the existing rate of surface water generated from the site. Under the developed condition, the storm water runoff generated along internal private drives would flow into proposed catch basins located throughout the project site and would connect to the El Toro Road storm drain. According the Hydrology Study prepared for the proposed project, the proposed drainage system would be able to accommodate increased surface water flows generated from the project site. A proposed onsite underground modular wetland system would treat storm and nuisance water flows before they are discharged offsite to the existing storm drain along El Toro Road by way of "A" drive. Storm water runoff along the west downslope would be collected and diverted to the El Toro Storm drain to prevent runoff from entering the adjacent property. The El Toro storm drain outlets would drain into Aliso Creek before draining into the ocean. The drainage system would be developed in accordance with County of Orange Flood Control District Standards. With implantation of the project drainage plan, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite. Potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

3) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact: Implementation of the proposed project would not exceed the capacity of planned and/or existing stormwater drainage facilities. Onsite surface water would be collected, retained and treated onsite in accordance with the Priority Development Projects for New Development as identified in San Diego Regional Water Quality Control Board No. R9-2013-0001. To meet the City water quality requirements, the project has prepared a Water Quality Management Plan that proposes an onsite underground modular wetland system that would treat storm and nuisance water flows before they are discharged offsite to the existing storm drain along El Toro Road. Two areas on the project site have been identified to construct water quality treatment facilities. Water quality treatment facilities would be constructed in the residential building area and along "A" Drive.

Surface water from the residential area would be conveyed by the proposed storm water system within the private streets to a proposed diversion structure. A diversion structure would convey water quality and non-storm water flows to a Modular Wetland System (MWS) device and storm flows to an underground detention vault to detain for hydromodification impacts. The proposed MWS device would be located near the high point of "A" Drive and would treat the project's required water quality flows for the anticipated pollutants of concern. The underground detention vault would be approximately 15,000 cubic feet in size and would be located near the high point of "A" Drive as well. Water detained in the vault would be released into the storm drain system in "A" Drive by flow controlling orifices.

A second stormwater drainage facility and water quality treatment area would be constructed along "A" Drive. Higher flow storm water flows would be conveyed by street gutters to the proposed catch basin inlets. Low flow surface water flows would be captured in flow-by MWS catch basin units. Treated flows from the modular wetland units and the run off volumes that enter the proposed catch basin units are proposed to be detained in a 60-inch diameter reinforced concrete pipe approximately 90 feet in length located west of the main entry and parallel to El Toro Road. The sites treated water and storm flows would then be released into existing offsite stormwater pipe, by flow controlling orifices.

Manufactured slopes that surround the development area would capture slope run off via concrete v-ditches and down drains. Water captured within the v-ditch would be considered treated from passing through the sloped vegetation and landscape areas, therefore, a mechanical device or detention vault is not required. Water from the slopes is then piped into existing storm drains located in El Toro Road.

With compliance with the project Water Quality Management Plan, the project would not create runoff that exceeds existing or planned storm water systems or provide additional sources of pollution. Potential water quality impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

4) Impede or redirect flood flows?

Less Than Significant Impact: As shown on Figure 4.10-1, *National Flood Hazard Map* (FEMA FIRM 06059C0317J effective December 3, 2009), the project site is within Flood Zone X and not within a flood hazard zone. All onsite flows would be retained and treated before being conveyed

to regional flood control facilities. Implementation of the proposed project would not impede or redirect flows and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact: According to the City Mission Viejo General Plan, the project site is not susceptible to flooding associated with dam failure, potential inundation from any stored water body or within a tsunami run up area that would increase the risk for the release of pollutants. Potential impacts associated with release of pollutants from a flood hazard would be less than significant.

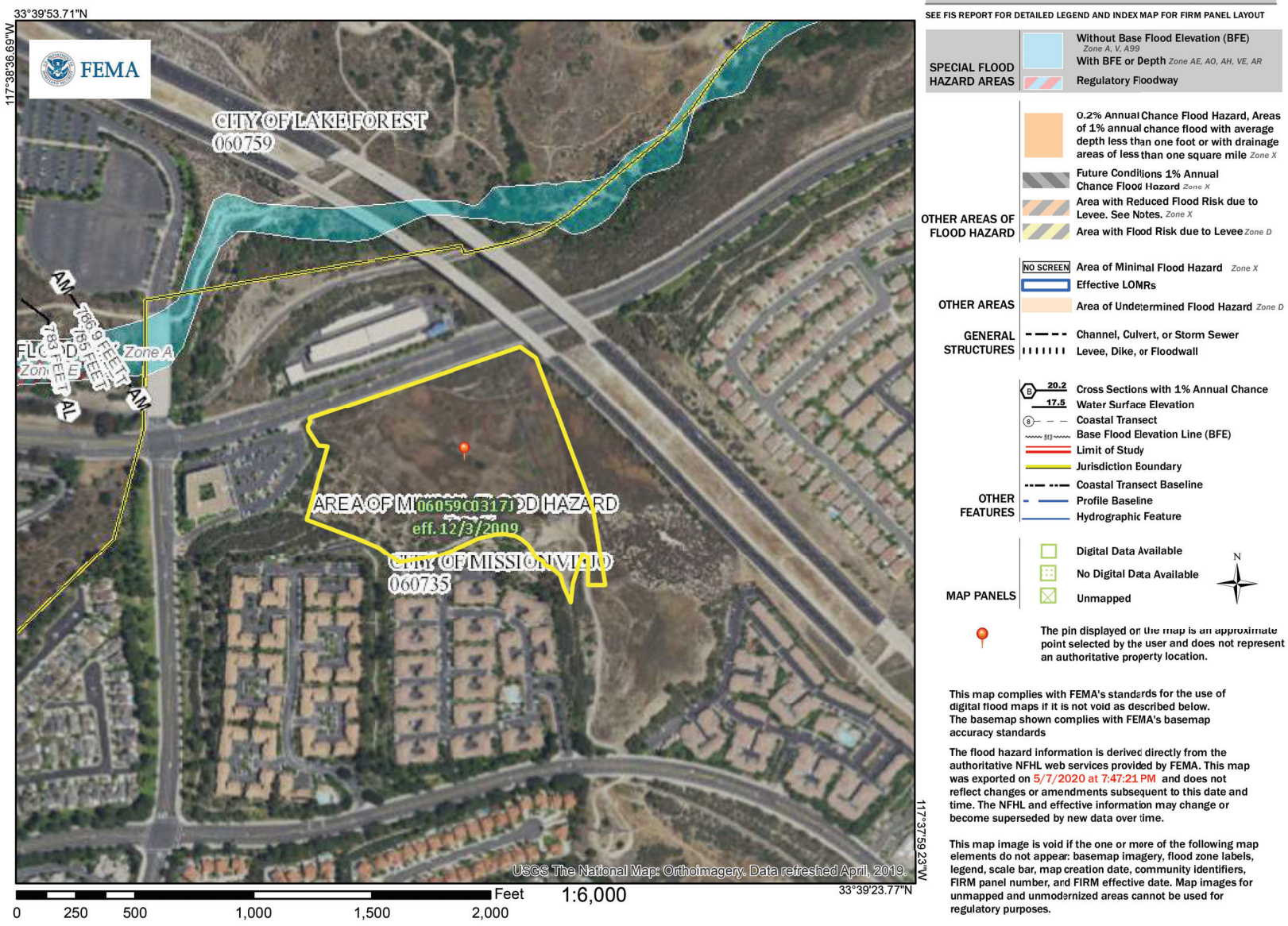
Mitigation Measures: No mitigation measures are required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact: Implementation of the proposed project would not conflict with beneficial uses established for receiving water bodies for the project, would not conflict with water quality objectives or further impair and existing impaired water bodies. The proposed project would implement SWPPP, WQMP BMPs and would treat onsite low flows to protect beneficial uses for surface waters identified in the San Diego Water Quality Control Board Basin.

The California Sustainable Groundwater Management Act (SGMA) was passed in 2014. The law provides increased authority for local agencies to manage groundwater and requires that most groundwater basins be under sustainable management within 20 years in a manner that would be maintained without causing undesirable results. The project site is not within an area that has a managed groundwater basin. Therefore, implementation of the proposed project would not conflict or obstruct implementation of a sustainable groundwater management plan.

Mitigation Measures: No mitigation measures are required.



Source: Federal Emergency Management Agency (FEMA); May 7, 2020.
- approximate Project Site Boundary

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

National Flood Hazard Map

VCS Environmental

Figure 4.10-1

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4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

a) Physically divide an established community?

No Impact: The project site is currently undeveloped and situated within a suburban setting. The project site is bounded by higher density multiple-family land uses to the south, southeast and south west. Additionally, west of SR-241 are medium density residential uses. The property site is physically and visually buffered from adjacent land uses by large manufacture landscaped slopes. The proposed project would develop 91 dwelling units that would be consistent with surrounding residential land uses and would not result in any adverse land use compatibility impacts. The project would not divide an established community, would not redirect through existing residential neighborhoods or would not introduce any physical barriers between the project site and surrounding area. Therefore, no impacts would occur in regard to physically dividing an established community.

Mitigation Measures: No mitigation measures are required.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact: The project proposes the development of 91-unit residential community. The City of Mission Viejo General Plan Land Use Element currently designates the project site Open Space/Recreation. According to the City of Mission Viejo General Plan, the Open Space/Recreation designation allows both public and private recreational uses necessary to meet the active and passive recreational needs of residents. The Open Space/Recreation designation does not permit the development of residential land uses. The proposed project involves a General Plan Amendment that would redesignate portions of project site from Open Space/Recreation to Planned Residential Development 30. With approval of the General Plan Amendment, the project would be consistent with the General Plan Land Use Element. The proposed General Plan Amendment would not result in the development of incompatible land uses that would result adverse impacts to the environment.

Implementation of the proposed project would reduce the overall amount of open space in the City of Mission Viejo by 6.79 acres. The existing open space on the project site is currently private and not accessible to the proposed project. While the site provides a visual landscape element, it currently does not provide for public recreation opportunities. Additionally, over 75 percent of the property consists of non-native weeds which provide minimal biological value. As shown in Table 4.11-1, *City of Mission Viejo Open Space*, there is over 800 acres of various types of public open space in the City. The amount of open

space converted to residential uses from the proposed project would represent less than one percent of the overall amount of public open space currently provided for in the City.

Table 4.11-1
City of Mission Viejo Open Space

Open Space/Recreation	Acres
Mini Parks	2.3
Neighborhood Parks	17.4
Community Parks	141.0
Recreation Center	27.3
Open Space	592.7
Proposed Public Open Space	29
Total	**806.7**

The proposed project would involve the development of a 91-unit residential community. As part of the evaluation for the project, the City would need to determine if the project itself would be consistent with the General Plan. Table 4.11-2, *General Plan Land Use Consistency*, evaluates the consistency with the proposed project with relevant goals and policies from the City's General Plan.

Table 4.11-2
General Plan Land Use Consistency

General Plan Goal/Policy	Consistency Analysis
Land Use Element	
Goal 1: *Maintain a balanced distribution of land uses to meet the needs of residents and the business community.*	
Police 1.5: Maintain a variety of housing types that complements the employment opportunities in the community and encourages a 1 to 1 jobs/housing balance.	**Consistency:** The project has been designed to offer housing choices for a wider market segment and includes two configuration alternatives (three-story townhome living and flat living), a variety of floorplans and a range of square footages. This design enables housing prices that are more attainable for more buyers, which responds to housing market demands and moreover, promotes household-type diversity and buyer preference.
Goal 2: *Maintain a balanced growth management and development program which avoids adverse public service, environmental or fiscal effects.*	
Policy 2.4: Require development to contribute its share of the cost of providing necessary public services and facilities.	**Consistency:** The project would pay development impact and processing fees to contribute towards the funding of City public services and facilities.
Housing Element	
Goal 1: *Expand upon the present range of housing types to meet future needs of residents.*	
Policy 1.1: Continue to provide a variety of dwelling unit types for all segments the population.	**Consistency:** The project has been designed to offer housing choices for a wider market segment and includes two configuration alternatives (three-story townhome living and flat living), a variety of floorplans and a range of square footages.

General Plan Goal/Policy	Consistency Analysis
Goal 4: *Provide for housing that is sensitive to environmental and social needs.*	
Policy 4.1: Balance future increases in population growth with existing and projected community resources.	**Consistency:** The proposed project would slightly increase the City's housing stock. The projected growth from the project would not create a need for additional public services or facilities.
Policy 4.2: Evaluate residential proposals within hillside areas in terms of potential impacts to landform and viewsheds.	**Consistency:** The project site is adjacent to residential land uses that are buffered physically and visually by large landscaped manufactured slopes. The project would maintain the landscape slopes between the project site and adjacent land uses.
Policy 4.3: Evaluate residential development proposals in terms of energy conservation measures provided.	**Consistency:** The project has been designed and would comply with state and local energy requirements.
Policy 4.4: Ensure compatibility of new residential development with existing development to enhance the city's residential neighborhoods.	**Consistency:** The project has been designed similar in scale to existing residential uses in the surrounding area and has been designed to be visually compatible with similar architectural elements of Spanish traditional influences that are common in Mission Viejo.
Goal 4: *Maintain open space resources for the purpose of providing recreational opportunities, protecting the public from safety hazards and conserving natural resources.*	
Policy 4.1: Provide for the preservation of significant scenic areas, and natural open space areas and corridors within the City.	**Consistency:** The project preserves sensitive vegetation on the project site and proposes to restore and replace sensitive vegetation effected by the project. Additionally, the project includes measures for non-native weed control on the preserved open space areas.
Policy 4.3: Utilize sensitive grading and project design techniques to reduce impacts associated with development of constrained lands.	**Consistency:** To maintain slopes around the project site, the grading design for the project proposes a combination of landscaped setbacks, landscaped slopes and multiple retaining walls that would be terraced along the slopes and spaced with heavy landscaping.
Open Space Conservation Element	
Goal 1: *Protect and enhance the significant ecological and biological resources within and surrounding the community.*	
Policy 1.1: Preserve and protect important natural plant and animal communities and their associated habitats, 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, revegetation, and soil management practices and other resource management techniques.	**Consistency:** Biological studies have been conducted on the project site and has identified a series of mitigation measures that avoids and minimizes impacts to biological resources. Additionally, the project would restore and replace biological resources affected by the project to ensure that there would be no net loss of resources.
Policy 1.2: Utilize a development proposal review process to mitigate the impacts of development on sensitive lands such as steep slopes, wetlands, cultural resources, oak woodlands and sensitive habitats.	**Consistency:** Biological studies have been conducted on the project site and has identified a series of mitigation measures that avoids and minimizes impacts to biological resources. Additionally, the project would restore and replace biological resources affected by the project to ensure that there would be no net loss of resources.

General Plan Goal/Policy	Consistency Analysis
Goal 3: *Provide for the orderly development of exceptional recreation programs, recreation facilities, parks, and open space areas in the City.*	
Policy 3.3: Ensure that new residential development provides some onsite passive recreation and/or park land or in-lieu fees as specified in the City of Mission Viejo Subdivision Code using the established standard of five acres of park land per 1,000 population.	**Consistency:** The proposed project proposes onsite recreation amenities, including a pool area, recreation center, courtyards and walking paths. Additionally, the project would pay park in-lieu park fees to support existing and expand recreational facilities within the City.
Policy 3.13: Encourage and implement architectural and landscape improvements that are consistent with City design standards, guidelines and criteria.	**Consistency:** The project has been designed similar in scale to existing residential uses in the surrounding area and has been designed to be visually compatible with similar architectural features.
Noise Element	
Goal 2: *Minimize the effects of noise through proper land use planning.*	
Policy 2.2: Require the inclusion of design features in development and reuse/revitalization projects to reduce the impact of noise on residential development.	**Consistency:** As part of the environmental planning, the project was evaluated for land use noise compatibility for both future residents and surrounding residential areas. The surrounding slopes around the project would attenuate and noise from the project where it would not be discernable to adjacent land uses. Additionally, the project has been designed to meet the City's Noise Ordinance interior and exterior noise standards.
Policy 2.3: Ensure proposed development meets noise insulation standards for construction and residential development.	**Consistency:** As part of the environmental planning, the project was evaluated for land use noise compatibility for both future residents and surrounding residential areas. The surrounding slopes around the project would attenuate and noise from the project where it would not be discernable to adjacent land uses. Additionally, the project has been designed to meet the City's Noise Ordinance interior and exterior noise standards.
Circulation Element	
Goal 4: *Preserve the residential character of local neighborhoods by minimizing through traffic and regulating vehicular speed.*	
Policy 4.1: Design local and collector streets to discourage their use as through traffic routes.	**Consistency:** Access to the project would be from a private driveway off of El Toro Road. The project would not redirect any traffic through existing residential neighborhoods.
Goal 21: *Preserve and provide landscaped transportation routes which accentuate the beauty of the existing settings in order to provide pleasant and beneficial driving environments while maintaining safety.*	
Policy 21.1: Visually enhance the appearance of city roadways through design techniques and landscaping, with particular attention to streetscape design.	**Consistency:** The project fronts along El Toro Road and includes landscape setbacks, landscape slopes and terracing of retaining walls. The spacing between the retaining walls would be landscaped with various tree species, shrubs and groundcover to enhance the streetscape visual appearance.

GENERAL PLANS CONSISTENCY DETERMINATION

With approval of the General Plan Amendment, the proposed project would no longer conflict with the General Plan. The reduction in open space would be minimal compared to the overall amount of open space in the City. The project would provide onsite restoration and offsite restoration through the purchase of mitigation credits to compensate for impacts to open space areas that have higher biological values to ensure that there would be no net loss of sensitive biological resources. Additionally, as demonstrated above, the proposed project would be consistent with relevant policies from the City of Mission Viejo General Plan. The approval of the proposed project would not substantially conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect within the City and potential land use impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?	☐	☐	☐	☒

ENVIRONMENTAL ANALYSIS

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?

No Impact: According to the City of Mission Viejo's General Plan Conservation and Open Space Element, there are no known mineral resources of value to the region located in the City of Mission Viejo. The project site is not planned for mineral resource extraction and has not historically been associated with mineral resources. Implementation of the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.

Mitigation Measures: No mitigation measures are required.

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?

No Impact: As discussed above, no known valuable mineral resources exist within or near the project site, and no mineral resource extraction activities occur on the site. According to the City of Mission Viejo's General Plan Conservation and Open Space Element, there is no managed production of mineral resources in the City. The project site is not identified as a locally-important mineral resource recovery site delineated on a local general, specific plan, or other land use plan. Therefore, the proposed project would not result in the loss of availability of a locally-important mineral resource recovery site.

Mitigation Measures: No mitigation measures are required.

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4.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Noise Study* prepared by Birdseye Planning Group in April 2020. The report is presented in its entirety in Appendix E.

Background

NOISE LEVELS

Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). Sound pressure level is measured on a logarithmic scale with the 0 B level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of three dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a three dBA change in community noise levels is noticeable, while a one to two dB change is generally not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range.

SOUND ATTENUATION

Noise levels typically attenuate (or drop off) at a rate of six dBA per doubling of distance from point sources (i.e., industrial machinery). Additionally, noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about five dBA, while a solid wall or berm reduces noise levels by approximately seven dBA. The manner in which older homes in California were constructed (approximately 30 years old or older) generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-

interior reduction of newer residential units and office buildings construction to California Energy Code standards is generally 30 dBA or more (Harris, Miller, Miller and Hanson, 2006).

NOISE METRICS

One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measuring period, and Lmin is the lowest RMS sound pressure level within the measuring period. The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10 dBA penalty for noise occurring during nighttime (10:00 PM to 7:00 AM) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a five dBA penalty for noise occurring from 7:00 PM to 10:00 PM and a 10 dBA penalty for noise occurring from 10:00 PM to 7:00 AM Noise levels described by Ldn and CNEL usually do not differ by more than one dB. Daytime Leq levels are louder than Ldn or CNEL levels; thus, if the Leq meets noise standards, the Ldn and CNEL are also met.

Regulatory Programs

FEDERAL

The Federal Noise Control Act (1972) addressed the issue of noise as a threat to human health and welfare. To implement the Federal Noise Control Act, the U.S. Environmental Protection Agency (EPA) undertook a number of studies related to community noise in the 1970s. The EPA found that 24-hour averaged noise levels less than 70 dBA would avoid measurable hearing loss, levels of less than 55 dBA outdoors and 45 dBA indoors would prevent activity interference and annoyance (EPA 1972). The U.S. Department of Housing and Urban Development (HUD) published a Noise Guidebook for use in implementing the Department's noise policy. In general, HUD's goal is exterior noise levels that are less than or equal to 55 dBA Ldn. The goal for interior noise levels is 45 dBA Ldn.

STATE

Title 24 of the California Code of Regulations (CCR) establishes standards governing interior noise levels that apply to all new single-family and multiple-family residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing Ldn exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that would limit maximum Ldn levels to 45 dBA in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted a Ldn of 45 as an upper limit on interior noise in all residential units.

In addition, the State of California General Plan Guidelines (OPR 2003) provides guidance for noise compatibility. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

LOCAL

City of Mission Viejo General Plan

The City of Mission Viejo has adopted noise referral zones as the criterion for assessing the compatibility of residential land uses with transportation related noise sources. The 60 dBA CNEL contour represents the noise referral zone for which any proposed noise sensitive land use within this zone should be examined on a project specific basis. This includes projects that may require mitigation to meet City or State (Title 25) standards. For Mission Viejo, the 60 dBA CNEL contour represents zones where residential development may require noise mitigation as part of the project. Typical noise standards for sensitive land uses include a 65 dBA CNEL for exterior areas and 45 dBA CNEL for interior areas.

City of Mission Viejo Municipal Code Noise Ordinance

The City of Mission Viejo Municipal Code Section 6.35.040 and 6.35.050 addresses exterior and interior noise standards for residential properties. The thresholds are shown in Table 4.13-1, *City of Mission Viejo Sound Level Limits*.

Table 4.13-1
City of Mission Viejo Sound Level Limits

Noise Level	Time Period
Exterior Standards	
55 dBA	7:00 AM to 10:00 PM
50 dBA	10:00 PM to 7:00 AM
Interior Standards	
55 dBA	7:00 AM to 10:00 PM
45 dBA	10:00 PM to 7:00 AM

Construction noise is addressed in Section 6.35.060 of the Municipal Code. Per Section 6.35.060(5), noise sources associated with construction, repair, remodeling or grading of any real property, and delivery or repair of construction and grading equipment are exempt from the noise ordinance, provided such activities do not take place between the hours of 8:00 PM to 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a federal holiday.

Existing Noise Setting

The project area is located in an urbanized portion of the City of Mission Viejo. Nearby sensitive receptors are the multiple-family residences abutting the site to the south and across Marguerite Parkway to the west. The project would also be a sensitive receptor at completion.

The most common and primary sources of noise in the project site vicinity are motor vehicles (e.g., automobiles and trucks) on Marguerite Parkway, El Toro Road and SR-241 which abuts the site to the east. Other noise sources in the area are primarily associated with common residential activities (i.e., landscape maintenance equipment); however, these sources do not noticeably contribute to the ambient noise environment.

To gather data on the general noise environment at the project site, weekday morning 15-minute noise measurements were taken on April 23, 2020. Site 1 is located near the northwest corner of the site. Site 2 is located near the middle of the site generally between the southern-most project units and the adjacent

California Court Condominiums. Monitoring locations are shown in Figure 4.13-1, *Noise Monitoring and Receiver Locations*.

Table 4.13-2, *Noise Monitoring Results*, identifies the noise measurement location and measured noise levels. As shown in Table 4.13-2, the Leq was 64.7 dBA at Site 1 and 58.2 dBA at Site 2. The monitoring data sheet is provided as Appendix A in the *Noise Study*. Measured noise levels reflect the fact that traffic on El Toro Road dominates the noise environment at the site. It is understood that measurements were taken during the "stay at home" order issued on March 19, 2020 to address the COVID-19 pandemic. The noise measurements were taken to calibrate the noise model and are not relied on herein to assess project related noise impacts. However, based on measurements taken in the field relative to those conducted at other times of the year and the level of acoustic energy required to cause a noticeable change (+/- 3 dBA) in noise levels, measured conditions are likely similar to ambient conditions during typical traffic operations.

Table 4.13-2
Noise Monitoring Results

Measurement Location	Primary Noise Source	Sample Time	Leq (dBA)
1. Northwest corner of project site fronting El Toro Road	Traffic on El Toro Road	Weekday Morning	64.7
2. South center of project site near California Court Condominiums	Traffic on SR-241 and El Toro Road	Weekday Morning	58.2

Note: Field visit using ANSI Type II Integrating sound level meter.
Source: Birdseye Planning Group, *Nuvo El Toro Residential Project Noise Study*; April 2020.

PROJECT IMPACTS

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact With Mitigation Incorporated: Implementation of the proposed project would generate construction noise impacts and long-term operation noise impacts.

TEMPORARY CONSTRUCTION NOISE IMPACTS

The main sources of noise during construction activities would include heavy machinery used during clearing the site and grading as well as equipment used for building construction. Table 4.13-3, *Typical Construction Equipment Noise Levels*, shows the typical noise levels associated with heavy construction equipment. Construction noise estimates are based upon noise levels reported by the FTA, Office of Planning and Environment, and the distance to nearby sensitive receptors. Reference noise levels from that document were used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of six dB per doubling of distance. As shown in Table 4.13-3, average noise levels associated with the use of heavy equipment at construction sites would range from about 81 to 95 dBA at 25 feet from the source, depending upon the types of equipment in operation at any given time and phase of construction. The anticipated equipment used onsite would include an excavator, backhoe/tractor and a grader. Due to size of the site (i.e., 6.46 gross acres), multiple pieces of equipment would be working on the site simultaneously but likely spread out over the entire site and likely only used for specific operations. Construction nearest the west and southern boundaries would be closest to the neighboring residences.

Source: Birdseye Planning Group; April 2020.
- approximate Project Site Boundary

TRUMARK RESIDENTIAL PROJECT
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Noise Monitoring and Receiver Locations

VCS Environmental

Figure 4.13-1

Table 4.13-3
Typical Construction Equipment Noise Levels

Equipment Onsite	Typical Level (dBA) 25 Feet from the Source	Typical Level (dBA) 50 Feet from the Source	Typical Level (dBA) 100 Feet from the Source
Air Compressor	84	78	64
Backhoe	84	78	64
Bobcat Tractor	84	78	64
Concrete Mixer	85	79	73
Bulldozer	88	82	76
Jack Hammer	95	89	83
Pavement Roller	86	80	74
Street Sweeper	88	82	76
Man Lift	81	75	69
Dump Truck	82	76	70

Notes:
1. Noise levels based on FHWA Roadway Construction Noise Model (2006) Users Guide Table 1.
2. Noise levels based on actual maximum measured noise levels at 50 feet (Lmax).
3. Noise levels assume a noise attenuation rate of 6 dBA per doubling of distance.
Source: Birdseye Planning Group, *Nuvo El Toro Residential Project Noise Study*; April 2020.

The estimated construction noise levels from the project site are shown in Table 4.13-4, *Typical Maximum Construction Noise Levels at Various Distances from Project Construction*. If during site preparation and grading, a bulldozer, (82 dBA), a backhoe (78 dBA) and a dump truck (82 dBA) were working simultaneously generally in the same area over an eight-hour work-day, the eight-hour Leq would be approximately 86 dBA at 50 feet. Construction noise levels estimated at the nearest residences could cause noise levels as high as 75 dBA Leq at the southern property line. However, the intervening hillside and grade difference would provide approximately 10 dBA of additional attenuation, reducing the estimated noise level to 65 dBA, which would be under the EPA's recommended 70-dBA maximum noise level. Additionally, the City of Mission Viejo Municipal Code exempts noise sources associated with construction, repair, remodeling or grading of any real property and delivery or repair of construction and grading equipment from the noise ordinance, provided such activities do not take place between the hours of 8:00 PM to 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a federal holiday. The proposed project would be required to restrict construction activities to the hours between 7:00 AM to 8:00 PM Monday through Saturday, in compliance with the City's Noise Ordinance. With the implementation of Mitigation Measures N-1, N-2 and N-3, temporary construction noise impacts would be less than significant.

Table 4.13-4
Typical Maximum Construction Noise Levels at Various Distances from Project Construction

Distance from Construction	Maximum Noise Level at Receptor (dBA)
25 feet	88
50 feet	85
100 feet	72
250 feet	66
500 feet	60

Source: Birdseye Planning Group, *Nuvo El Toro Residential Project Noise Study*; April 2020.

LONG TERM OPERATIONAL NOISE IMPACTS

Long-term operation noise associated with the proposed project would be traffic related. The primary source would be traffic on El Toro Road with secondary noise generated from traffic on Marguerite Parkway. Additionally, SR-241 would remain a background source of ambient noise. Because ambient conditions would exceed the 55 dBA daytime thresholds, impacts are addressed herein based on whether the change in traffic volumes between existing conditions and project conditions would noticeably increase noise levels. A noticeable increase would be three dBA Leq increase which would result from a doubling of peak hour traffic volumes.

Exterior Traffic Noise

Traffic would be the primary noise source that would be generated by the proposed project. As shown in Table 4.13-4, existing measured noise levels would exceed the City's 55 dBA daytime standard along the northern property line which borders El Toro Road. A substantial noise increase would occur if the proposed project traffic would increase the noise to three dBA above existing ambient noise levels or would exceed the 45 dBA interior standard.

Traffic volumes for peak hour existing and project operation on El Toro Road and Marguerite Parkway were obtained from the *Traffic Impact Assessment* (Linscott, Law and Greenspan, Inc.; April 2020). Traffic volumes for the segment of SR-241 east of the site were obtained from the California Department of Transportation counts. Peak hour project trips were incorporated into the noise model to determine baseline noise conditions. Project trips were then added to the baseline trips to determine whether the Leq at neighboring receivers would noticeably change or exceed the thresholds referenced above. The proposed project is forecasted to generate a total of 666 daily trips, including 42 trips during the AM peak hour and 51 trips during the PM peak hour. The higher PM peak hour trips were used in the analysis. As shown in Figure 4.13-1, *Noise Monitoring and Receiver Locations*, noise levels were calculated at the following receivers and were intended to represent conditions at multiple receivers within proximity to these locations:

1. Project Site – northeast corner;
2. Project Site – northwest corner;
3. Project Site – southwest corner;
4. California Court Condominiums – northwest corner abutting Marguerite Parkway; and
5. Residences at northern terminus of Primrose Lane, west side of Marguerite Parkway.

As shown in Table 4.13-5, *Modeled Noise Levels*, the daytime hourly average (Leq) would exceed the 55 dBA standard at four of the five receivers modeled under baseline conditions. Existing noise levels along El Toro Road would be 66.9 (Receiver 1) and 65.5 (Receiver 2) at locations on the project site that would represent where the project units would front El Toro Road. Evening peak hour project traffic (51 trips) was distributed evenly on El Toro Road and Marguerite Parkway. The addition of 51 peak hour trips would have no effect on noise levels at receivers surrounding the site or those for construction as part of the project (i.e., Receivers 1, 2 and 3). To cause a significant noise impact, the project related traffic would have to cause the existing Leq at one or more of the existing receivers to exceed the 55 dBA standard. Where the standard would be already exceeded, the project traffic would have to cause a noticeable three dBA increase. As shown in Table 4.13-5, traffic associated with the project would have no noticeable effect at the receivers modeled. Ambient noise conditions on the site would continue to be dominated by El Toro Road and potential long-term operational noise impacts would be less than significant.

Table 4.13-5
Modeled Noise Levels

Receptor	Existing Leq	Exceed 55 dBA Standard?	With Project Leq	dBA Change	Significant Impact
Site 1	63.9	Yes	64.0	+0.1	No
Site 2	60.8	Yes	60.8	0.0	No
Site 3	59.6	Yes	59.6	0.0	No
Site 4	57.5	Yes	57.5	0.0	No
Site 5	54.5	No	54.5	0.0	No
Source: Birdseye Planning Group, *Nuvo El Toro Residential Project Noise Study*; April 2020.					

INTERIOR TRAFFIC NOISE IMPACTS

California Energy Code Title 24 standards specify construction methods and materials provided in accordance with Title 24 result in up to a 30-dBA reduction in exterior noise levels (assuming windows are closed). This includes operation of mechanical ventilation (e.g., heating and air conditioning), in combination with standard building construction that includes dual-glazed windows with a minimum Sound Transmission Class (STC) rating of 26 or higher. When windows are open, the insertion loss drops to about 10 dBA. Assuming windows are closed, interior noise levels at sensitive properties along the northern property line, the portion of the site where traffic noise would be highest, would range from 31 to 34 dBA and less at residences located interior to the project site. This would be below the 45 dBA interior standard. In all cases modeled, the existing interior noise levels would not noticeably change with the addition of project traffic. Interior noise levels at existing residences along Marguerite Parkway would be unaffected by project related traffic noise and long-term operational noise impacts would be less than significant.

Mitigation Measures:

N-1: Construction Plans and Specifications for the project shall reflect that construction activities would be limited to the hours between 7:00 AM to 8:00 PM Monday through Saturday, in compliance with City's Noise Ordinance.

N-2: The project shall ensure all contractors implement construction best management practices to reduce construction noise levels. Best management practices would include the following:

- All construction equipment shall be equipped with muffles and other suitable noise attenuation devices (e.g., engine shields).
- Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), to the maximum extent feasible.
- If feasible, electric hook-ups shall be provided to avoid the use of generators. If electric service is determined to be infeasible for the site, only whisper-quiet generators shall be used (i.e., inverter generators capable of providing variable load).
- Use electric air compressors and similar power tools rather than diesel equipment, where feasible.

- Locate staging area, generators and stationary construction equipment as far from the adjacent residential homes as feasible.
- Construction related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact: Vibration is a unique form of noise as the energy is transmitted through buildings, structures and the ground whereas audible noise energy is transmitted through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as peak particle velocity (PPV) in inches per second and is referenced as vibration decibels (VdB) for the purpose of evaluating the potential for adverse construction related impacts. The vibration velocity level threshold of perception for humans is a PPV of approximately 0.01 inches/second which equates to 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

The City of Mission Viejo Municipal Code and General Plan do not provide vibration standards for the purpose of addressing potential environmental impacts. The Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (September 2018) provides thresholds that are commonly used for the purpose of environmental impact assessment. The FTA uses a threshold of 65 VdB for buildings where low ambient vibration is essential for interior operations. These buildings include hospitals and recording studios. A threshold of 72 VdB is used for residences and buildings where people normally sleep (i.e., hotels and rest homes). A threshold of 75 VdB is used for institutional land uses where activities occur primarily during the daytime (i.e., churches and schools). The threshold used for the proposed project is 72 VdB. The term threshold as used herein is not intended to indicate that vibration levels above the threshold would cause an adverse impact. Rather, the thresholds indicate that vibration levels above the threshold could be temporarily felt or perceived by occupants during construction activities occurring in proximity to sensitive properties. With respect to potential ground-borne vibration impacts on structures, the FTA states that ground-borne vibration levels in excess of PPV 0.2 inches/second (100 VdB) could damage fragile buildings and levels in excess of PPV 0.12 inches/second (95 VdB) could damage extremely fragile historic buildings. To conservatively estimate potential vibration impacts on neighboring residences, a PPV of 0.2 inches per second (100 VdB) is used herein.

POTENTIAL VIBRATION IMPACTS

Long-term activities associated with proposed residential uses would not generate vibration impacts. Therefore, this analysis focuses on temporary vibration caused by construction.

Construction activities such as blasting, pile driving, demolition, deep excavation and drilling have the potential to generate the highest level of ground vibration. Because of the terrain, the project would require extensive grading to create the development area. It is presumed that once the rough development pads are created, excavation and compaction of soils to a depth of five feet below grade for building foundations and eight to 10 feet below grade for utility installation would be required. Table 4.13-6, *Vibration Source Levels for Construction Equipment*, identifies the estimated vibration levels for various pieces of construction equipment.

Table 4.13-6
Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	79	77	75
Loaded Trucks	86	80	78	76	74
Jackhammer	79	73	71	69	67
Small Bulldozer	58	52	50	48	46
Source: Birdseye Planning Group, *Nuvo El Toro Residential Project Noise Study*; April 2020.					

The closest residences to the site are approximately 250 feet south of the development area. Based on the information presented in Table 4.13-6, vibration levels from operation of a large bulldozer would be approximately 87 VdB (0.089 inches/second) or less at 25 feet (Caltrans 2013). The proposed project would not require blasting, pile driving, demolition of any existing structures or drilling. Grading would be required to create building pads, install utilities and street corridors, which would result in localized vibration impacts. The grading activities would be moving around the site rather than in a stationary position. Noise and vibration energy at the property line would fluctuate depending on where the equipment is operating. At a distance of approximately 250 feet to the closest residential use, the vibration energy would be less than the 72 VdB threshold referenced above. As discussed, a PPV of 0.2 inches/second (100 VdB) would be the vibration energy required to damage fragile historic buildings. While vibration from grading may be perceived at neighboring residences south of the site, the vibration energy would be below that required to cause structural damage and temporary vibration impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

No Impact: The project site is not located within an airport influence area and is not within an airport land use compatibility plan. There are no public airports or private airstrips within two miles of the project site. The nearest airport would be John Wayne Airport, located approximately 12 miles from the project site. The project site would not be exposed to excessive overhead aircraft noise impacts.

Mitigation Measures: No mitigation measures are required.

4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

ENVIRONMENTAL ANALYSIS

a) Induce substantial unplanned 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)?

Less Than Significant Impact: The proposed project would construct a 91-unit attached residential development on a site that is currently vacant and zoned for recreational use. According to the 2019 Southern California Association of Governments (SCAG) Local Profiles Report, the average household size in the City of Mission Viejo is 2.8 persons. For purposes of this analysis, it is conservatively assumed that the proposed 91-unit residential project would provide housing for approximately 255 persons and that all residents would be new to the City of Mission Viejo, which had a total population of 95,987 in 2018 (SCAG, 2019). Between 2014 and 2018, the City of Mission Viejo's population increased by 0.6 percent. The proposed project would represent a negligible increase (approximately 0.3 percent) in Mission Viejo's total population and would not require additional facilities or infrastructure. Therefore, the project would not induce substantial unplanned population growth in the area, either directly or indirectly and potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact: The existing project site is vacant. Therefore, implementation of the proposed project would not displace any existing housing or require replacement housing. The construction of the proposed project would generate short-term employment opportunities. The short-term employment opportunities would most likely be filled by the local labor pool and would not necessitate the construction of new housing.

Mitigation Measures: No mitigation measures are required.

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4.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1) Fire protection?	☐	☐	☒	☐
2) Police protection?	☐	☐	☒	☐
3) Schools?	☐	☐	☒	☐
4) Parks?	☐	☐	☒	☐
5) Other public facilities?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

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

1) Fire protection?

Less Than Significant Impact: The proposed project would construct 91 attached dwelling units on a previously undeveloped site. According to the California Department of Forestry and Fire Protection Map for the City of Mission Viejo, the project site is not in a Very High Fire Hazard Severity Zone. The construction and occupancy of the proposed project would potentially increase the demand for fire protection and/or emergency services calls over the current condition because the project site is currently undeveloped. The Orange County Fire Authority (OCFA) would provide fire protection and emergency services for the proposed project. The closest fire stations to the project site include OCFA Station No. 54 (located at 19811 Pauling, Lake Forest), approximately two miles north of the project site and Fire Stations No. 31 and No. 42, approximately 2.1 miles from the project site. In addition to these stations, resources and personnel may be dispatched from other OCFA stations as necessary to respond to fire and emergency medical calls. Due to Fire Station No. 54's proximity to the project site, this station would be likely to service the project site. Fire Station No. 54 is staffed with three Fire Captains, three Fire Apparatus Engineers, three Firefighters, and apparatus includes California Task Force 5, Paramedic Assessment Unit Engine 54 (OCFA, 2020). According to OCFA Standards of Coverage, the project site is located in an area that is considered to be an urban/suburban area. The first unit performance goal for urban/suburban areas is to reduce the response time to less than 6:58 minutes. The project site area currently has

a response time of less than 6:58 minutes. The increase in fire service demand generated by the proposed project would not increase the response for protection services or require the construction of a new fire station or improvements to existing station to maintain response times. The project would be required to comply with applicable OCFA and City of Mission Viejo codes, ordinances, and regulations regarding fire prevention and suppression measures; fire hydrants and sprinkler systems; emergency access; and other similar requirements. Compliance with these codes and standards would reduce potential fire protection impacts to less than significant.

Mitigation Measures: No mitigation measures are required.

2) Police protection?

Less Than Significant Impact: The City of Mission Viejo contracts with the Orange County Sheriff's Department (OCSD) and is within the Southeast Operations jurisdiction for police services. The closest Sheriff's station would be the Saddleback Station, located at 20202 Windrow Lake Forest, California 92630, approximately 1.6 miles northwest of the proposed project site. The Southeast Operations Division provides law enforcement services to more than 280,753 residents and employs approximately 223 staff members, 168 of whom are sworn peace officers. This Division deploys approximately 65 patrol cars during each 24-hour period (OCSD, 2020). Consequently, the current officer-to-resident ratio for the Southeast Operation Division is approximately 0.6 officers per 1,000 residents. The proposed project would increase the demand for police protection services since the project site is currently undeveloped. According to the City of Mission Viejo General Plan Safety Element, Mission Viejo was rated in 2008 as the second safest City in the United States due to the low crime rate. It would be unlikely there would be an increased number of police protection calls that would trigger the need for new or expanded Orange County Sheriff's Department facilities. In accordance with the Safety Element of the City of Mission Viejo General Plan, the proposed project would be encouraged to implement programs and development practices that reduce criminal activity. Based on current police staffing levels and Prevention Programs and Practices, potential police protection impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

3) Schools?

Less Than Significant Impact: The proposed project would develop a 91-unit residential community within the Saddleback Valley Unified School District (SVUSD). It is likely that the proposed project would incrementally increase the enrollment of students and the use of SVUSD facilities. The proposed project could potentially increase the enrollment of students within the SVUSD by 37 students across all school levels, as shown in Table 4.15-1, *SVUSD Generation Factors for Multiple-Family Attached Units*. The SVUSD assesses a Developer Fee of $3.79 per square foot of assessable space for new residential construction to offset the increase of enrollment.

Table 4.15-1
SVUSD Generation Factors for Multiple-Family Attached Units

School Level	Student Generation Factors	Number of Students*
Elementary	0.2315	21
Intermediate	0.0595	5
High School	0.1222	11
Total		**37 Students**

*Based on the proposed 91 units.
Source: SVUSD Residential Development School Fee Justification Study, April 24, 2018.

The proposed project would be required to pay development fees prior to issuance of a building permit to offset the cost of providing school services and facilities. With the payment of development fees, there would be less than significant impacts to local school district facilities.

Mitigation Measures: No mitigation measures are required.

4) Parks?

Less Than Significant Impact: The City's Recreation and Community Services Department operates and manages parks and recreation facilities throughout the City of Mission Viejo. According to the City's General Plan Conservation and Open Space Element, Mission Viejo has a parkland policy of a minimum of five usable acres of parkland for every 1,000 persons living in the City (City of Mission Viejo, 2013). Parkland includes mini-parks, neighborhood parks, community parks, open space linkages, regional parks, joint-use schools, and trails. The closest parks to the project site include the Aliso Creek Riding and Hiking Trail (entrance 0.3 miles west), the Whiting Ranch Wilderness Park (entrance at 0.3 miles west at the Aliso Creek Riding and Hiking Trail), and the Lake Forest Sports Park (1.7 miles northwest) (Google Earth, 2020). The proposed project would not contribute to a substantial increase in the overall population, necessitating either construction or expansion of park facilities. The proposed project would pay in-lieu parkland fees to help fund the maintenance of an existing park and recreation facilities to ensure the recreational needs of the residents of the proposed project and City are met. Additionally, the project would provide onsite recreation facilities which would reduce the demand for existing park facilities. With the payment of in-lieu park fees and the provision of onsite park facilities potential impacts to parks would be less than significant.

Mitigation Measures: No mitigation measures are required.

5) Other public facilities?

Less Than Significant Impact: The proposed project would not contribute to a substantial increase in the overall population, necessitating either construction or expansion of a hospital, community-based clinic, or other health services facility or program. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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4.16 Recreation

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

a) 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?

Less Than Significant Impact: The proposed project includes onsite recreation amenities for residents, including a pool, spa, picnic area, tot-lot and bluff top walk. The amenities would be in close distance to residential uses which would make them easily assessable and would discourage residents to seek other recreation facilities located outside of the community. These onsite recreation facilities would reduce the proposed project's demand for existing recreation facilities in the area. The project is within the vicinity of several recreational facilities, including Limestone Canyon Park, Whiting Ranch Wilderness Park and O'Neill Regional Park. Additionally, Aliso Creek Bikeway is within the immediate vicinity of the project site that provides an 18.4-mile cycling trail that extends from Aliso-Wood Canyons Wilderness Park in Laguna Niguel to Whiting Ranch Wilderness Park. Implementation of the proposed project could potentially increase the use of these recreation facilities. However, it is unlikely that the amount of new residents generated from the proposed would substantially increase the use of these facilities to where accelerated physical deterioration would occur. Therefore, potential impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact: The proposed project proposes the construction of outdoor recreation facilities for future residents. Potential impacts associated with the construction of the proposed recreation facilities have been evaluated as part of the proposed project and with the incorporation of City codes and regulations and project mitigation measures, potential impacts associated with the project including the proposed recreation facilities would be less then significant.

Mitigation Measures: No mitigation measures are required.

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4.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☒	☐	☐

ENVIRONMENTAL ANALYSIS

The following analysis is based on the *Traffic Impact Analysis Report* prepared by Linscott, Law and Greenspan, Engineers (LLG). The report is presented in its entirety in Appendix F.

Background

Traffic impacts within this analysis are evaluated by three methods, Intersection Capacity Utilization (ICU), Volume to Capacity (V/C) Ratio Method of Analysis (Roadway Segments) and Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections).

INTERSECTION CAPACITY UTILIZATION (ICU)

The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time and thus capacity, required by existing and/or future traffic per the requirements of the City of Mission Viejo and the City of Lake Forest, AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the *Intersection Capacity Utilization (ICU)* method.

For both the City of Mission Viejo and the City of Lake Forest, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation. The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in Table 4.17-1, *Level of Service ICU*.

Table 4.17-1
Level of Service ICU

Level of Service (LOS)	Intersection Capacity Utilization (ICU)	Level of Service Description
A	<0.60	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.61-0.70	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71-0.80	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.81-0.90	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.91-1.00	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>1.00	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

VOLUME TO CAPACITY (V/C) RATIO METHOD OF ANALYSIS (ROADWAY SEGMENTS)

In conformance with City of Mission Viejo and City of Lake Forest requirements, daily operating conditions for the key study roadway links have been investigated according to the Volume to Capacity (V/C) ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the City's classification roadways and the *Orange County Master Plan of Arterial Highways* (MPAH). *S*ix qualitative categories of Level of Service have been defined along with the corresponding Volume to Capacity (V/C) value range, ranging from LOS A through LOS F, with LOS A representing free flow conditions, and LOS F representing severe traffic congestion.

HIGHWAY CAPACITY MANUAL (HCM) METHOD OF ANALYSIS (SIGNALIZED INTERSECTIONS)

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections is shown in Table 4.17-2, *Level of Service HCM Criteria*.

Table 4.17-2
Level of Service HCM Criteria

LOS	Control Delay Per Vehicle (Seconds/Vehicle)	Description
A	<10	This level of service occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	10-20	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	20-35	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35-55	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55-80	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent occurrences.
F	>80	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.
Source: LLG, *Traffic Impact Analysis Report*; May 1, 2020		

Traffic Impact Criteria

The following is the criteria to determine if a project or activity could potentially result in a significant traffic impact.

CITY OF MISSION VIEJO

Impacts to local and regional transportation systems located in the City of Mission Viejo are considered significant if:

Intersections

- An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. The City of Mission Viejo considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections.
- The project increases traffic demand at the study intersection by one percent (1%) of capacity (ICU increase ≥ 0.010), causing or worsening LOS E or LOS F (ICU > 0.900).

Roadway Segment

- An unacceptable daily Level of Service (LOS) at any of the key roadway segments is projected. LOS D (V/C not to exceed 0.90) is the minimum performance standard that has been adopted for the

study area circulation system by the City of Mission Viejo which adheres to the Orange County Highway Design Manual.

- The project increases traffic demand at the roadway segment by one percent (1%) of capacity (V/C increase ≥ 0.010), causing or worsening LOS E or LOS F (V/C > 0.900).

CITY OF LAKE FOREST

Impacts to local and regional transportation systems located in the City of Lake Forest are considered significant if:

Intersections

- An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. The City of Lake Forest considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections.
- The Project increases traffic demand at the study intersection by one percent (1%) of capacity (ICU increase ≥ 0.010), causing or worsening LOS E or LOS F (ICU > 0.900).

Roadway Segment

- An unacceptable daily Level of Service (LOS) at any of the key roadway segments is projected. LOS D (V/C not to exceed 0.90) is the minimum performance standard that has been adopted for the study area circulation system by the City of Lake Forest which adheres to the Orange County Highway Design Manual.
- The project increases traffic demand at the roadway segment by one percent (1%) of capacity (V/C increase ≥ 0.010), causing or worsening LOS E or LOS F (V/C > 0.900).

Existing Traffic Conditions

The Foothill Toll Road (SR-241) provides primary regional access to the proposed project. The SR-241 Toll Road runs in the northwest-southeast direction, east of the project site. The principal local network of streets serving the project site consists of Portola Parkway, Santa Margarita Parkway, El Toro Road, Marguerite Parkway, and Glenn Ranch Road. Figure 4.17-1, *Existing Roadway Conditions and Intersection Controls*, presents an inventory of the existing roadway conditions within the study area that are evaluated in this report. The number of travel lanes and intersection controls for the key area study intersections and roadway segments are identified.

EXISTING TRAFFIC VOLUMES

Due to the State of California "Stay at Home" order as a result of the COVID-19 Coronavirus Pandemic, historical counts were collected at the five (5) key study intersections and the six (6) key roadway segments evaluated in this report. Specifically, the traffic counts for key study intersections #1, #2, #4, and #5 were conducted in Year 2018, while the traffic counts for key study intersection #3 were conducted in Year 2019. These Year 2018 and Year 2019 traffic counts were factored up by the City-approved growth factor of one percent (1%)per year (i.e., two percent (2%) total growth for the Year 2018 counts and one percent (1%) total growth for the Year 2019 counts) to reflect current Year 2020 existing baseline traffic conditions. Similarly, historical counts were collected for the six (6) key roadway segments. Specifically, the traffic counts for key roadway segment E were conducted in Year 2017, the traffic counts for key roadway segment D were conducted in Year 2018, and the remaining key roadway segments were collected in Year 2020 (i.e., segments A, B, C, and F). The Year 2017 and Year 2018 traffic counts were factored up by the City-approved growth factor of one percent (1%) per year (i.e., three percent (3%) total growth for the Year

2017 counts, two percent (2%) total growth for the Year 2018 counts, and no growth for the Year 2020 counts) to reflect current Year 2020 existing baseline traffic conditions. Figure 4.17-2, *Existing AM Peak Hour Traffic Volumes*, and Figure 4.17-3, *Existing PM Peak Hour and Daily Traffic Volumes*, present the existing AM and PM peak hour traffic volumes, respectively, for the five (5) key study intersections. Figure 4.17-3 also presents the existing daily traffic volumes for the six (6) key study roadway segments.

PROJECTED YEAR 2023 TRAFFIC VOLUMES

The proposed project is expected to be completed and fully occupied by the Year 2023. Near-term horizon year, traffic growth estimates have been calculated using an ambient growth factor. The ambient growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The application of the one percent (1%) annual growth rate to baseline Year 2020 traffic volumes results in a three percent (3%) growth in existing baseline volumes at the five (5) key study intersections and six (6) key roadway segments to horizon Year 2023.

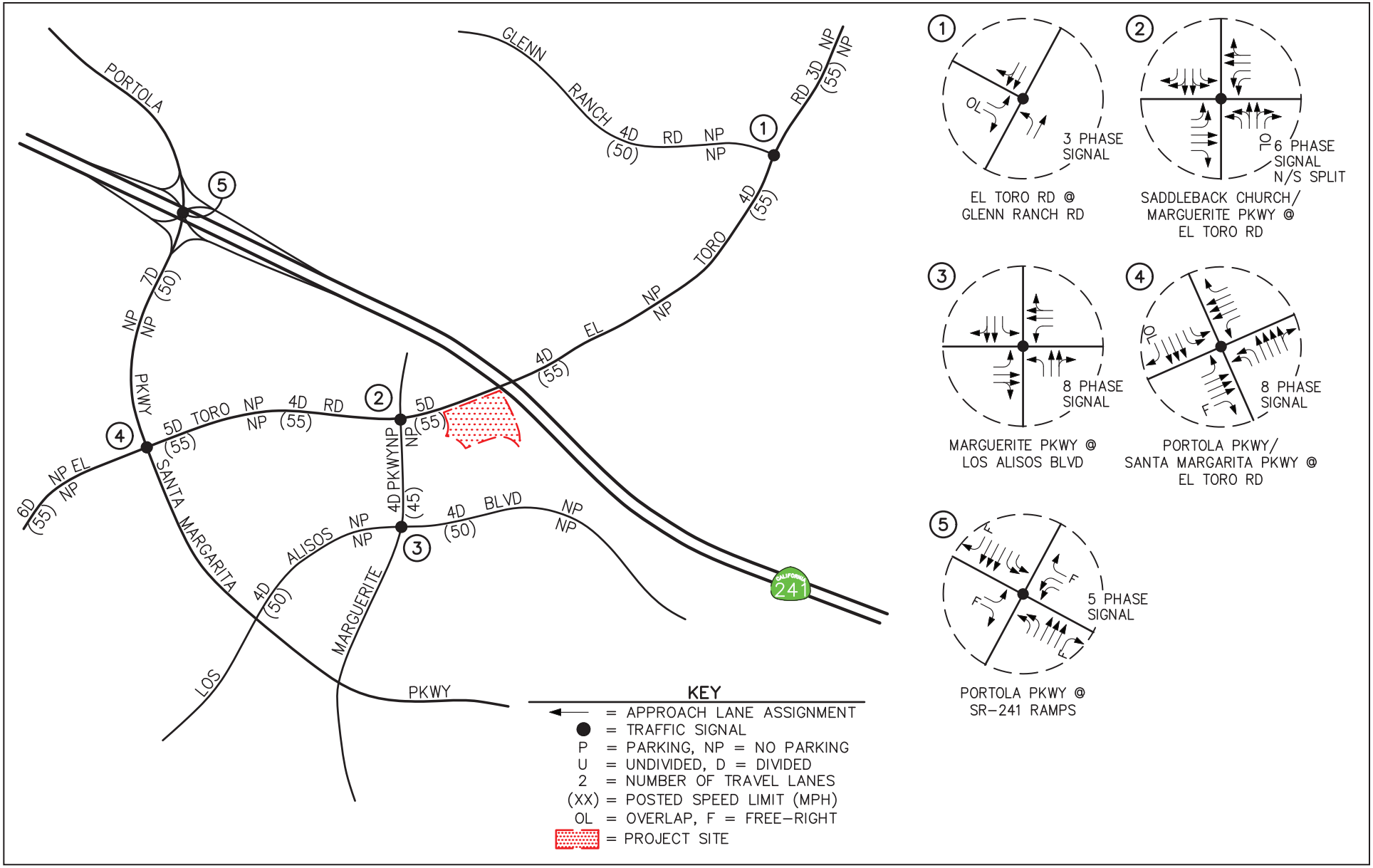
In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed project, the status of other known development projects (cumulative projects) in the vicinity of the proposed project has been researched at the County of Orange and the Cities of Mission Viejo, Lake Forest, and Rancho Santa Margarita. With this information, the potential impact of the proposed project was evaluated within the context of the cumulative impact of all ongoing development. As shown in Table 4.17-3, *Cumulative Project List*, there are two (2) cumulative projects in the City of Mission Viejo, two (2) cumulative projects in the County of Orange, and two (2) cumulative projects in the City of Lake Forest within the vicinity of the project site. There were no cumulative projects identified by the City of Rancho Santa Margarita in the vicinity of the project site. These six (6) planned and/or approved cumulative projects have been included as part of the cumulative background setting.

Table 4.17-3
Cumulative Project List

Description	Daily Two Way	AM Peak In	PM Peak Out	Total	AM Peak In	PM Peak Out	Total
City Lane Townhomes	439	6	22	28	21	13	34
Mission Foothills Shopping Center	862	15	46	61	49	29	78
Saddleback Crest	780	16	42	58	49	29	78
Red Rock Chateau	174	0	0	0	67	10	77
Nakase Property	8,789	503	699	1,202	521	358	879
Portola Center	10,395	194	526	720	628	422	1,050
Source: City of Mission Viejo, *Cumulative Projects List*; April 2020.							

PROJECTED YEAR 2045 TRAFFIC VOLUMES

Potential traffic impacts were also evaluated under a future Year 2045 condition. The relative impacts of the added project traffic volumes generated by proposed project during the AM and PM peak hours was evaluated based on analysis of future Year 2045 operating conditions at the five (5) key study intersections, with and without the proposed project. The previously discussed capacity analysis procedures were utilized to investigate the future ICU and V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the project at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this analysis.



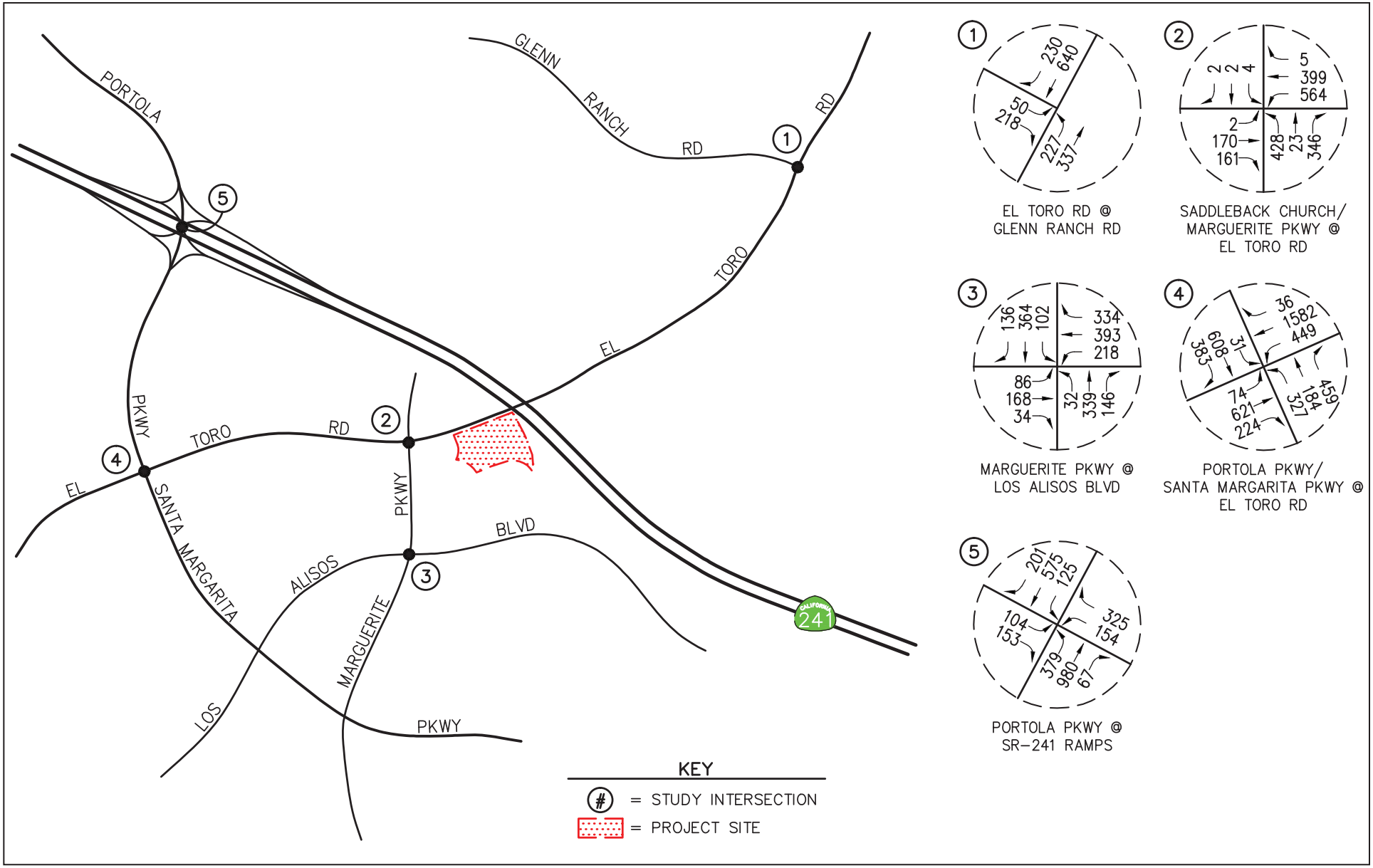
Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Existing Roadway Conditions and Intersection Controls

VCS Environmental

Figure 4.17-1



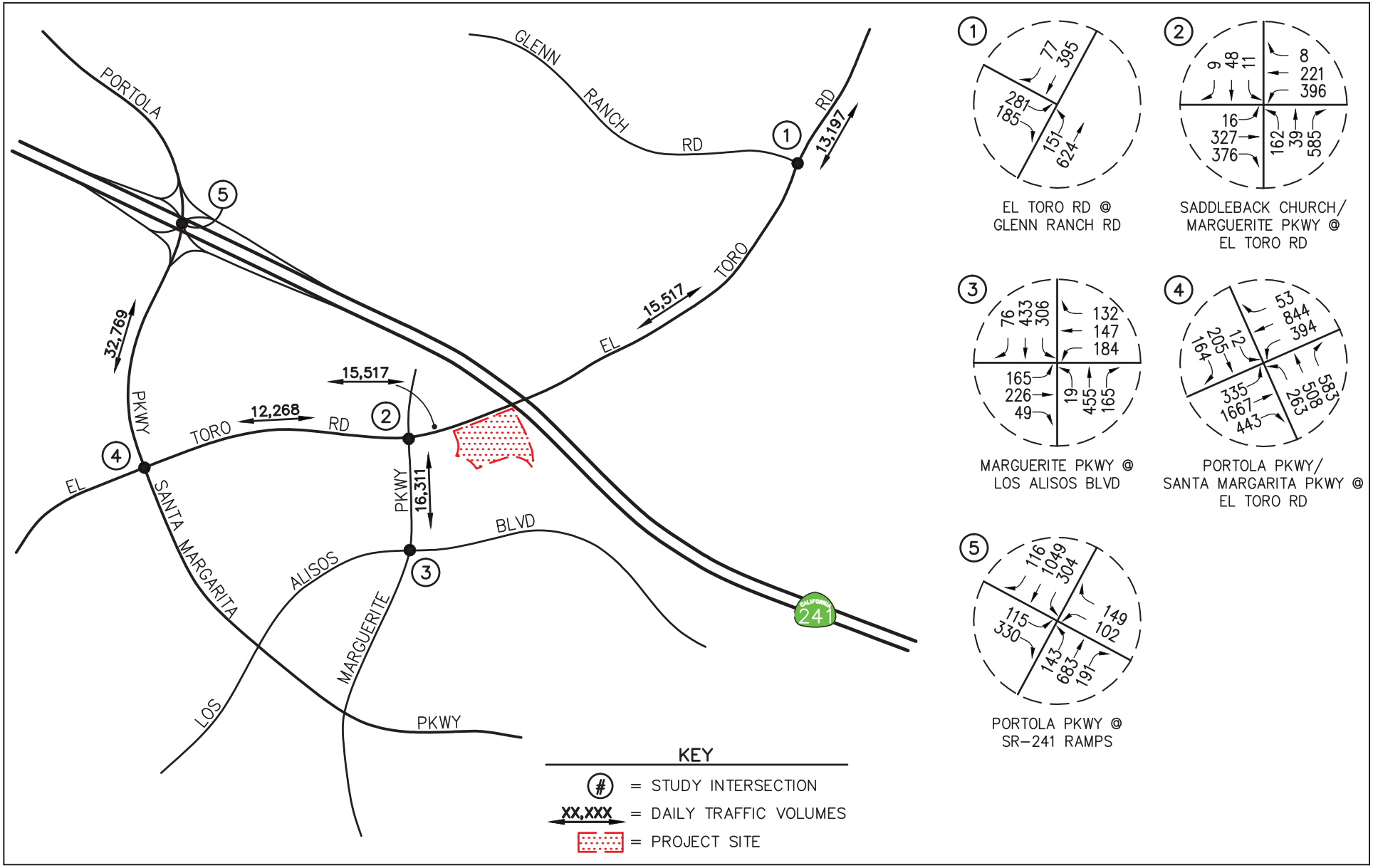
Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Existing AM Peak Hour Traffic Volumes

VCS Environmental

Figure 4.17-2



Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Existing PM Peak Hour and Daily Traffic Volumes

PROJECT IMPACTS

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact With Mitigation Incorporated: Implementation of the proposed project would generate additional vehicle trips within the project. Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation rates used in the traffic forecasting procedure are found in the Tenth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2017]. A summary of the trip generation rates used in forecasting the vehicular trips generated by the proposed project is shown in Table 4.17-4, *Project Traffic Generation*. The table presents the forecasted daily and peak hour project traffic volumes for a "typical" weekday. The trip generation potential for the proposed project was forecast using ITE Land Use Code 220: Multifamily Housing Low-Rise trip rates. As shown in Table 4.17-4, the proposed project would be expected to generate 666 daily trips (one half arriving and one half departing), with 42 trips (10 inbound, 32 outbound) produced in the AM peak hour and 51 trips (32 inbound, 19 outbound) produced in the PM peak hour on a "typical" weekday.

Table 4.17-4
Project Traffic Generation

Land Use	Amount	Unit	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
Trip Rates									
220: Multiple family Housing Low-Rise		DU	23%	77%	0.46	63%	37%	0.56	7.32
Trip Generation									
Multiple-Family Dwellings	91	DU	10	32	42	32	19	51	666

Abbreviations: ADT - Average Daily Traffic, DU - Dwelling Units
Source: LLG, *Traffic Impact Analysis Report*; May 1, 2020.

PROJECT TRAFFIC DISTRIBUTION

As shown in Figure 4.17-4, *Project Traffic Distribution Pattern*, the general directional traffic distribution pattern for the proposed project. Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- Directional flows on the freeways in the immediate vicinity of the project site (i.e., SR-241).
- The site's proximity to major traffic carriers (i.e., El Toro Road).
- Expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals.
- Ingress/egress availability at the project site.
- Input from City of Mission Viejo staff.

The anticipated AM and PM peak hour project traffic volumes associated with the project are presented in Figure 4.17-5, *AM Peak Hour Project Traffic Volumes*, and Figure 4.17-6, *PM Peak Hour and Daily Project Traffic Volumes*, respectively. Figure 4.17-6 also presents the daily project traffic volumes. The traffic volume assignments presented in Figure 4.17-5 and Figure 4.17-6 reflect the traffic distribution characteristics shown in Figure 4.17-4 and the traffic generation forecast presented in Table 4.17-4.

Year 2023 ICU Traffic Impact Analysis

The relative impacts of the added project traffic volumes generated by proposed project during the AM and PM peak hours was evaluated based on analysis of future Year 2023 operating conditions at the five (5) key study intersections, with and without the proposed project, including the list of cumulative projects. A summary of the AM and PM peak hour Level of Service results at the five (5) key study intersections for Year 2023 traffic conditions is shown in Table 4.17-5, *ICU Project Traffic Impacts*. As shown in Table 4.17-5, the proposed project would not significantly impact any of the five (5) key study intersections when compared to the LOS standards and significant impact criteria. All five (5) key study intersections are forecast to continue to operate at an acceptable LOS D or better during the AM and PM peak hours with the addition of project generated traffic in the Year 2023 and potential impacts would be less than significant.

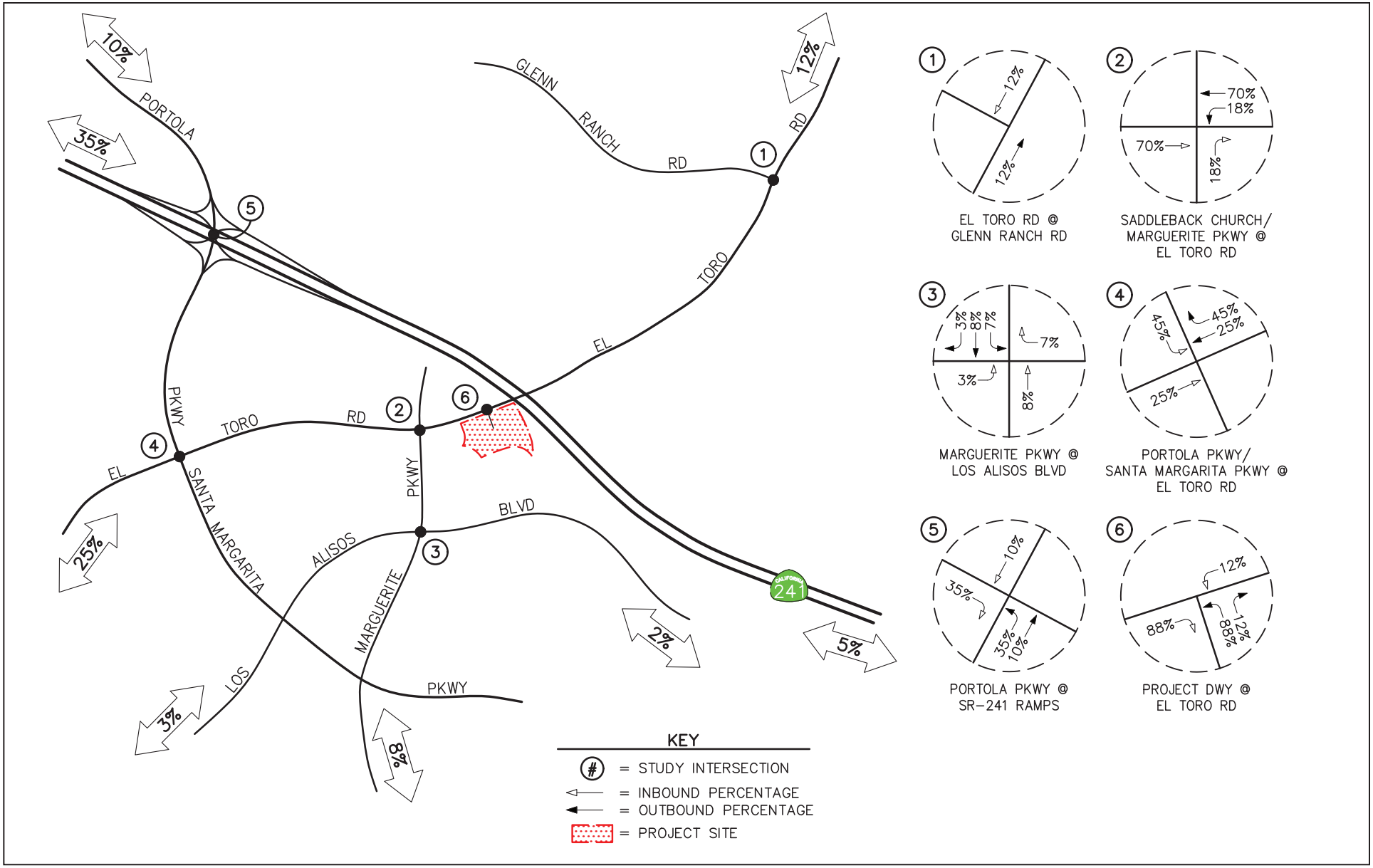
Table 4.17-5
ICU Project Traffic Impacts

Int No.	Intersection Location	Existing				Year 2023 With Project				Difference/ Significant Impact	
		AM		PM		AM		PM			
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
1	El Toro Road at Glenn Ranch Road	0.46	A	0.58	A	0.52	A	0.65	B	0.000/ No	0.001/ N0
2	Marguerite Parkway/ Saddleback Church at El Toro Road	0.43	A	0.62	B	0.49	A	0.73	C	0.002/ No	0.004/ No
3	Marguerite Parkway at Los Alisos Boulevard	0.51	A	0.60	B	0.57	A	0.68	B	0.002/ No	0.002/ No
4	Santa Margarita Parkway/ Portola Parkway at El Toro Road	0.71	C	0.77	C	0.77	C	0.82	D	0.001/ No	0.006/ NO
5	Portola Parkway at SR-241	0.38	A	0.39	A	0.42	A	0.44	A	0.003/ No	0.003/ No

Source: LLG, *Traffic Impact Analysis Report*; May 1, 2020.

ROADWAY SEGMENT TRAFFIC ANALYSIS

A summary of the roadway segment level of service results at the six (6) key roadway segments for Year 2023 traffic conditions is shown in Table 4.17-6, *Roadway Segment Traffic Impacts*. The table shows the increase in V/C ratio value due to the added daily project trips and indicates whether the traffic associated with the project would not have a significant impact based on the LOS standards and significant impact criteria. The six (6) key roadway segments are forecast to continue to operate at an acceptable LOS A on a daily basis with the addition of project generated traffic in the Year 2022 traffic condition potential impacts would be less than significant.



Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

TRUMARK RESIDENTIAL PROJECT
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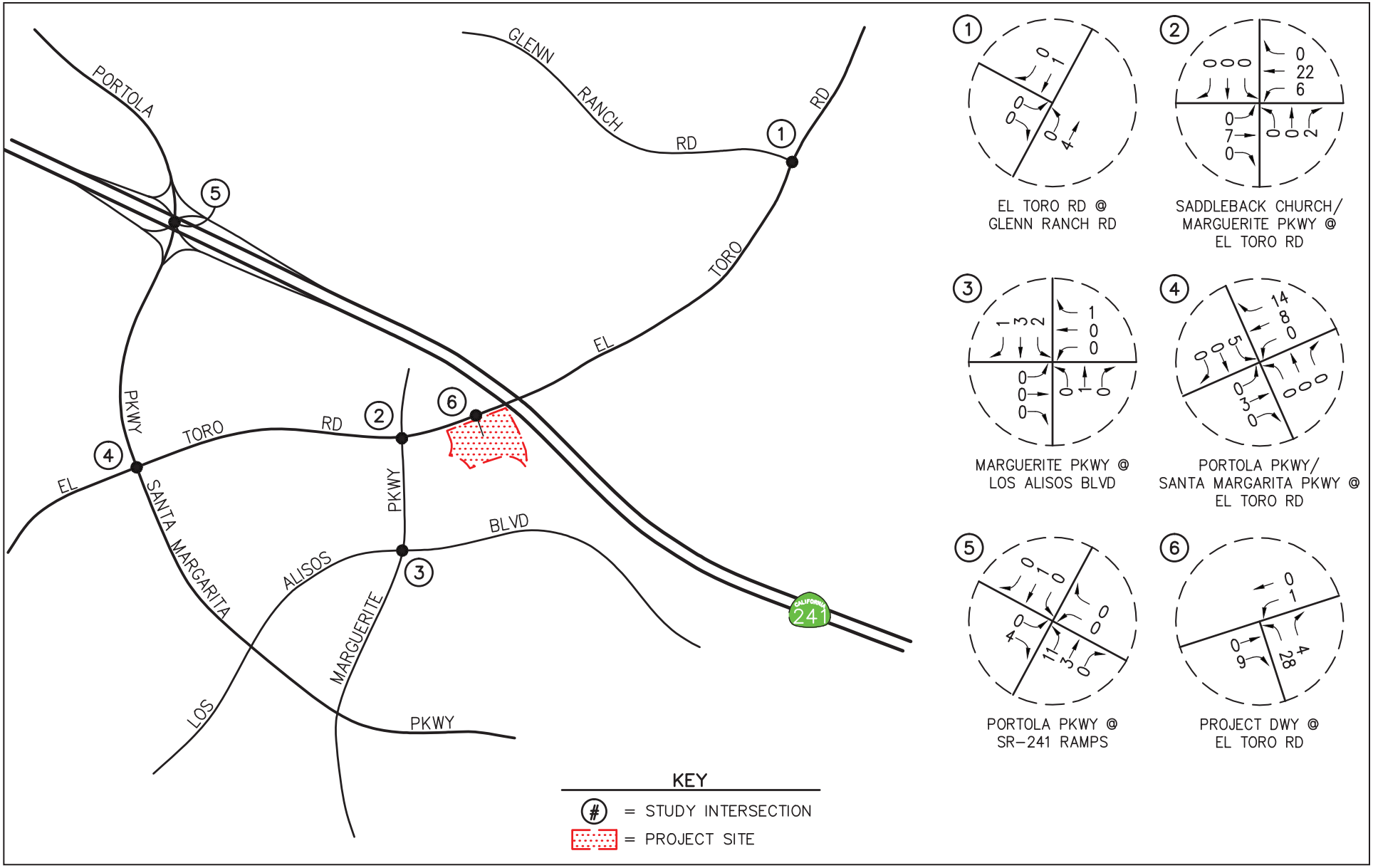
Project Traffic Distribution Pattern



Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

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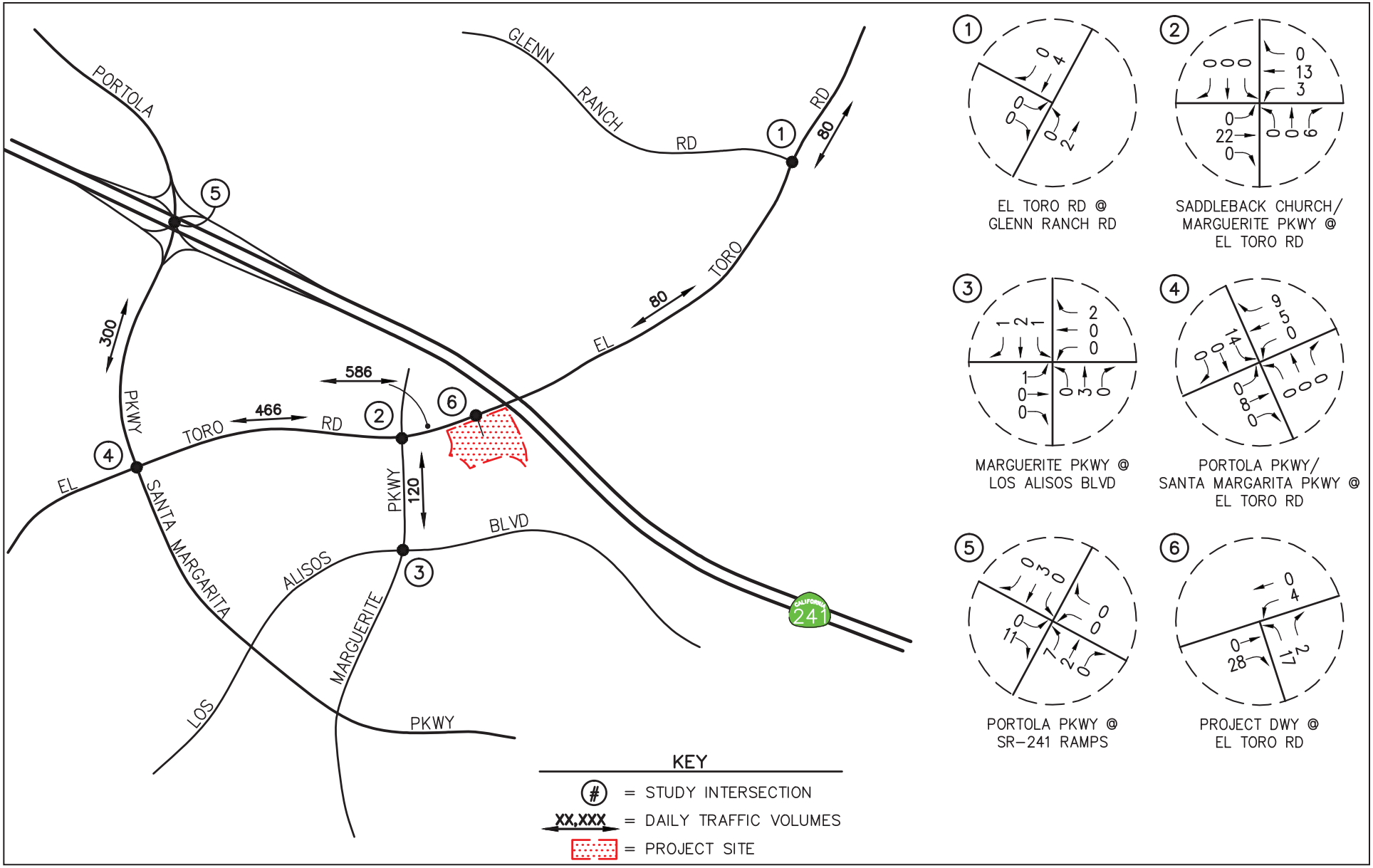
AM Peak Hour Project Traffic Volumes

VCS Environmental

Figure 4.17-5



Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

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PM Peak Hour and Daily Project Traffic Volumes

Table 4.17-6
Roadway Segment Traffic Impacts

Int. No.	Intersection Location	Existing				Year 2023 With Project				Increase/Significant	
		Capacity	Daily Volume	V/C	LOS	Capacity	Daily Volume	V/C	LOS	Increase	Significant
1	El Toro Road Between Glen Ranch Road and Cielo Entrada	28,100	13,197	0.47	A	28,100	14,634	0.52	A	0.003	No
2	El Toro Road between Project Driveway and Glen Ranch Road	37,500	15,517	0.41	A	37,500	17,658	0.47	A	0.002	No
3	El Toro Road between Marguerite Parkway between Saddleback Church and Project Driveway	46,900	15,517	0.33	A	46,900	18,164	0.38	A	0.012	No
4	El Toro Road Between Santa Margarita Parkway/Saddleback Church	37,500	12,268	0.32	A	37,500	14,897	0.39	A	0.012	No
5	Portola Parkway between SR-241 Ramps and El Toro Road	65,600	32,769	0.50	A	65,600	36,582	0.55	A	0.005	No
6	Marguerite Parkway between El Toro Road and Los Alisos Boulevard	37,500	16,311	0.43	A	37,500	17,693	0.47	A	0.003	No

Source: LLG, *Traffic Impact Analysis Report*; May 1, 2020.

2045 Traffic Impact Analysis

The relative impacts of the added project traffic volumes generated by proposed project during the AM and PM peak hours, was evaluated based on analysis of future Year 2045 operating conditions at the five (5) key study intersections, with and without the proposed project, including the list of cumulative projects.

Year 2045 ICU Traffic Impact Analysis

A summary of the AM and PM peak hour Level of Service results at the five (5) key study intersections for Year 2045 traffic conditions is shown in Table 4.17-7, *2045 ICU Analysis*. The table shows that the traffic associated with the proposed project would not significantly impact any of the five (5) key study intersections, when compared to the LOS standards and significant impact criteria specified in this analysis. Although the intersection of El Toro Road at Glenn Ranch Road is forecast to operate at unacceptable LOS F during the PM peak hour with the addition of project traffic, the project is expected to add less than the allowable threshold to the ICU value. The remaining four (4) key study intersections are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of project generated traffic in the Year 2045 potential impacts would be less than significant.

Table 4.17-7
2045 ICU Analysis

Int No.	Intersection Location	Existing				Year 2045 With Project				Difference/ Significant Impact	
		AM		PM		AM		PM			
		ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
1	El Toro Road at Glenn Ranch Road	0.46	A	0.58	A	0.76	C	1.00	F	0.000/ No	0.001/ No
2	Marguerite Parkway/Saddleback Church at El Toro Road	0.43	A	0.62	B	0.58	A	0.84	D	0.002/ No	0.004/ No
3	Marguerite Parkway at Los Alisos Boulevard	0.51	A	0.60	B	0.66	B	0.72	C	0.002/ No	0.003/ No
4	Santa Margarita Parkway/Portola Parkway at El Toro Road	0.71	C	0.77	C	0.81	D	0.87	D	0.002/ No	0.006/ NO
5	Portola Parkway at SR-241	0.38	A	0.39	A					0.006/ No	0.003/ No

Source: LLG, *Traffic Impact Analysis Report*; May 1, 2020.

ROADWAY SEGMENT ANALYSIS

A summary of the roadway segment level of service results at the six (6) key roadway segments for Year 2045 traffic condition is shown in Table 4.17-8, *Roadway Segment Analysis*. Review of Table 4.17-8 indicates that traffic associated with the proposed project would not significantly impact any of the six (6) key roadway segments when compared to the LOS standards and significant impact criteria specified in this analysis. The six (6) key roadway segments are forecast to continue to operate at an acceptable LOS A on daily basis with the addition of project generated traffic in the Year 2045, therefore, traffic condition potential impacts would be less than significant.

Table 4.17-8
2045 Roadway Segment Analysis

Int. No.	Intersection Location	Existing				Year 2023 With Project				Increase/Significant	
		Capacity	Daily Volume	V/C	LOS	Capacity	Daily Volume	V/C	LOS	Increase	Significant
1	El Toro Road Between Glen Ranch Road and Cielo Entrada	28,100	13,197	0.47	A	28,100	16,636	0.59	A	0.003	No
2	El Toro Road between Project Driveway and Glen Ranch Road	37,500	15,517	0.41	A	37,500	18,537	0.49	A	0.002	No
3	El Toro Road between Marguerite Parkway between Saddleback Church and Project Driveway	46,900	15,517	0.33	A	46,900	19,043	0.40	A	0.012	No
4	El Toro Road Between Santa Margarita Parkway/Saddleback Church	37,500	12,268	0.32	A	37,500	15,619	0.41	A	0.013	No

Int. No.	Intersection Location	Existing				Year 2023 With Project				Increase/Significant	
		Capacity	Daily Volume	V/C	LOS	Capacity	Daily Volume	V/C	LOS	Increase	Significant
5	Portola Parkway between SR-241 Ramps and El Toro Road	65,600	32,769	0.50	A	65,600	38,396	0.58	A	0.004	No
6	Marguerite Parkway between El Toro road and Los Alisos Boulevard	37,500	16,311	0.43	A	37,500	18,572	0.49	A	0.003	No
Source: LLG, *Traffic Impact Analysis Report*; May 1, 2020.											

STATE ROUTE 241 (SR-241) TRAFFIC IMPACTS

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the one (1) state-controlled study intersection within the study area has been evaluated using the *Highway Capacity Manual 6th Edition* (HCM 6) operations method of analysis. The only state-controlled intersection within the study area would be Portola Parkway at SR-241 Ramps.

A summary of the peak hour *Highway Capacity Manual* level of service results at the Portola Parkway at SR-241 Ramps study intersection for Year 2023 traffic conditions is shown in Table 4.17-9, *2023 HCM Analysis*. As shown in Table 4.17-9, the Portola Parkway at SR-241 Ramps study intersection would continue to operate at an acceptable LOS B during the AM and PM peak hours with the addition of project generated traffic to Year 2023, cumulative traffic potential impacts would be less than significant.

Table 4.17-9
2023 HCM Analysis

Intersection	Time Period	Existing HCM	Existing LOS	Year 2023 With Project HCM	Year 2023 With Project LOS	Significant Impact
Portola Parkway at SR-241	AM	17.7 s/v	B	18.6 s/v	B	No
Portola Parkway at SR-241	PM	15.8 s/v	B	16.8 s/v	B	No

A summary of the peak hour *Highway Capacity Manual* level of service results at the Portola Parkway at SR-241 Ramps study intersection for Year 2045 traffic conditions is shown in Table 4.17-10, *2045 HCM Analysis*. As shown in Table 4.17-10, the proposed project would not significantly impact the Portola Parkway at SR-241 Ramps study intersection under "Existing With Project", "Year 2023 With Project" and "Year 2045 With Project" traffic conditions. As there are no significant impacts, no traffic mitigation measures are required or recommended for the one (1) state-controlled study intersection.

Table 4.17-10
2045 HCM Analysis

Intersection	Time Period	Existing HCM	Existing LOS	Year 2045 With Project HCM	Year 2045 With Project LOS	Significant Impact
Portola Parkway at SR-241	AM	17.7 s/v	B	19.0 s/v	B	No
Portola Parkway at SR-241	PM	15.8	B	18.0	B	No

COUNTY OF ORANGE CONGESTION MANAGEMENT PROGRAM

This analysis is consistent with the requirements and procedures outlined in the current *Orange County Congestion Management Program (CMP).* The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). Per the CMP guidelines, this number is based on the desire to analyze any impacts that will be three percent (3%) or more of the existing CMP highway system facilities' capacity. However, as noted in this traffic study, the proposed project is expected to generate 666 daily trips, and thus does not meet the criteria required for a CMP traffic analysis. Therefore, it is concluded that the proposed project would not have any significant traffic impacts on the Congestion Management Program Highway System.

CONSTRUCTION TRAFFIC IMPACTS

A summary of the forecast construction peak hour and daily traffic volumes for each of the three construction components is shown in Table 4.17-11, *Project Construction Traffic*. As shown in Table 4.17-11, the site grading/excavation construction phase would be expected to generate 640 daily trips with 89 trips produced during the AM peak hour and 89 trips produced during the PM peak hour. The building foundation/framing/construction phase would be expected to generate 204 daily trips with 42 trips produced during the AM peak hour and 42 trips produced during the PM peak hour. The paving/concrete/ landscaping construction phase would be expected to generate 108 daily trips with 33 trips produced during the AM peak hour and 33 trips produced during the PM peak hour.

Table 4.17-11
Project Construction Traffic

Construction Activity	Daily	AM Enter	AM Exit	Total	PM Enter	PM Exit	Total
Site Grading Phase							
Construction Trucks (100)	200	12	11	23	11	12	23
Passenger Car Equivalent	3	3	3	3	3	3	3
Subtotal	*600*	*36*	*33*	*69*	*33*	*36*	*69*
Employees	40	20	0	20	0	20	20
Total Site Grading & Related Trip Potential	***640***	***56***	***33***	***89***	***33***	***56***	***89***
Building Foundation/Framing Phase							
Construction Trucks (26)	52	3	3	6	3	3	6
Passenger Car Equivalent	3	3	3	3	3	3	3
Subtotal	*156*	*9*	*9*	*18*	*9*	*9*	*18*
Employees (24)	48	24	0	24	0	24	24
Total Building Foundation & Related Trip Potential	***204***	***33***	***9***	***42***	***9***	***33***	***42***
Paving/Concrete/Landscaping Phase							
Construction Trucks (10)	20	2	1	3	1	2	3
Passenger Car Equivalent	3	3	3	3	3	3	3
Subtotal	*60*	*6*	*3*	*9*	*3*	*6*	*9*
Employees	48	24	0	24	0	24	24
Total Paving/Concrete/Landscaping & Related Trip Potential	***108***	***30***	***3***	***33***	***3***	***30***	***33***

Construction related trips associated with trucks and employees traveling to and from the site in the morning and afternoon could result in some minor traffic delays. However, the potential traffic interference caused by construction vehicles would be a temporary/short-term impact to vehicles using El Toro Road in the morning and afternoon hours and the number of construction workers would vary depending on the specific construction activities over time. Traffic impacts to the adjacent roadway network would be minimal and not long-term. Although the trip generation potential of the site grading/excavation construction component would be greater than the trip generation potential of the proposed project, it can be qualitatively concluded that this construction component would not significantly impact any of the five (5) key study intersections as these intersections currently operate at acceptable LOS C or better during the AM and PM peak hours and the site grading phase would not degrade these intersections into an unacceptable level of service. Nevertheless, to minimize the impact of construction related traffic upon the local circulation system, Mitigation Measure T-1 would be recommended which requires the implementation of a Construction Management Plan.

Mitigation Measures:

T-1: To ensure impacts to the surrounding street system are kept a minimum, it is recommended that a Construction Management Plan for the proposed project be developed. The Construction Management Plan should be developed in coordination with the City of Mission Viejo and at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Specify the hours during which transport activities can occur and methods to mitigate construction related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads would be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport would be allowed during nighttime hours, weekends or federal holidays.
- Use of local streets shall be prohibited.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the Applicant would be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction related parking and staging of vehicles would be kept out of the adjacent public roadways and would occur onsite.

- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of Mission Viejo requirements.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less Than Significant Impact: The 2019 CEQA Guidelines include an updated Appendix G Checklist and a new section (15064.3) that significantly changes how transportation impacts are evaluated under CEQA. Delay-based levels of service are no longer considered a significant impact under CEQA, although the new guidelines do not preclude local agencies from continuing to utilize LOS for roadway planning and project evaluation. Section 15064.3 recommends that a project's transportation impacts be evaluated using vehicle miles traveled (VMT). VMT is simply a calculation of the project's trip generation times the average trip length for a project in that area. Per Section 15064.3(c), local agencies have until July 1, 2020 to fully implement the use of VMT for evaluation of transportation impacts. The IS/MND for the proposed project was prepared prior to July 2020 and is based LOS impact criteria.

Mitigation Measures: No mitigation measures are required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact: Vehicular access for the proposed project would be from a proposed new full access unsignalized driveway on El Toro Road. Per direction from the City of Mission Viejo, the following project feature and driveway configuration options have been evaluated in this report to ensure that adequate and safe ingress and egress to the project site is provided. The selected site access options below would be constructed by the proposed project.

Project Feature *(this improvement would be assumed for both options)*: Reconfigure the median to convert the existing eastbound left-turn pocket (providing access to the existing Storage West facility located directly across El Toro Road from the project site) into a two-way-left-turn (TWLT) lane connecting to the existing TWLT lane east of the Storage West facility driveway. Reconfigure the existing raised median west of the project driveway to provide an acceleration lane for northbound left-turning vehicles exiting the project site onto westbound El Toro Road.

- Option 1: Restripe the No. 3 eastbound through lane along El Toro Road (from Marguerite Parkway to the project driveway) into an exclusive eastbound right-turn lane with a 300-foot striped deceleration lane for eastbound right-turning vehicles entering the project site. Restripe the No. 3 eastbound through lane along El Toro Road, east of the project driveway, to provide a 200-foot protected acceleration lane for northbound right-turning vehicles exiting the project site onto eastbound El Toro Road. This site access option would remove one (1) existing eastbound through lane along El Toro Road across the project frontage and may require coordination with OCTA regarding a Master Plan of Arterial Highways (MPAH) Amendment for El Toro Road.

- Option 2: Widen El Toro Road to provide a 300-foot deceleration lane, with a 120-foot transition, for eastbound right-turning vehicles entering the project site. Widen El Toro Road to provide a 200-foot eastbound acceleration lane, with a 120-foot transition, for northbound right turning vehicles exiting the project site onto eastbound El Toro Road. This site access option would continue to provide three (3) eastbound through lanes along El Toro Road across the project frontage.

The El Toro Road project feature improvement and Project Driveway Concept Channelization Plan for Option #1 is shown in Figure 4.17-7, *Conceptual Improvement Striping Plan*. A summary of the levels of service at the project driveway for Year 2023 With Project and Year 2045 With Project traffic conditions for both site access Options #1 and #2 is shown in Table 4.17-12, *Driveway Peak Hour Capacity Analysis*. The

operations analysis for the project driveway is based on the *Highway Capacity Manual 6* (HCM 6) methodology for unsignalized intersections. For the purposes of this site access driveway analysis, an unsignalized facility is considered to be unacceptable if the project causes an intersection operating at LOS D or better to degrade to LOS E or LOS F, and the traffic signal warrant analysis determines that a traffic signal is justified.

Table 4.17-12
Driveway Peak Hour Capacity Analysis

Driveway	Time Period	Year 2023 With Project HCM	Year 2023 With Project LOS	Year 2045 With Project HCM	Year 2045 With Project LOS
Option 1					
Project Driveway at El Toro Road	AM	14.3 s/v	B	17.1 s/v	C
Project Driveway at El Toro Road	PM	19.2 s/v	C	28.0 s/v	D
Option 2					
Project Driveway at El Toro Road	AM	14.5 s/v	B	17.5 s/v	C
Project Driveway at El Toro Road	PM	23.5 s/v	C	38.4 s/v	E

As shown in Table 4.17-12, the project driveway would operate at acceptable LOS C or better during the AM and PM peak hours under the Year 2023 With Project traffic conditions for both site access Options #1 and #2.

The project driveway would operate at acceptable LOS D or better during the AM and PM peak hours under the Year 2045 With Project traffic conditions for both site access Options #1 and #2, except for site access Option #2 during the PM peak hour under Year 2045 With Project traffic conditions; refer to Table 4.17-12. It should be noted that the delay reported for the intersection of Project Driveway at El Toro Road under Option #2 represents a minor street approach and it would not be uncommon for unsignalized private driveways to have direct access to primary arterials, such as El Toro Road, to operate at an unacceptable LOS due to the limited gaps in traffic and the high volume of traffic on the major street, but technically does not operate as a congested facility similar to a public street intersection since there would be no traffic impact to the transportation network. Furthermore, the peak driveway queue could be accommodated entirely within the driveway throat. Based on these considerations, the adverse level of service would not be considered significant.

TRAFFIC SIGNAL WARRANT

Per the City's requirements, the level of service analysis at the unsignalized Project driveway is supplemented with an assessment of the need for signalization of the driveway. This assessment was made on basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization was based on the peak-hour traffic signal warrant, Warrant #3, described in the *California Manual on Uniform Traffic Control Devices (MUTCD).* Warrant #3 has two parts:

- Part A evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay.
- Part B evaluates peak-hour traffic volumes on the major and minor streets.

Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

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Conceptual Improvement Striping Plan

VCS Environmental

Figure 4.17-7

This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels would justify installation of a traffic signal. Other traffic signal warrants are available; however, they cannot be checked under future conditions (background without and with Project) because they rely on data for which forecasts are not available (such as accidents, pedestrian volume, and four- or eight-hour vehicle volumes). The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered, and further analysis performed when one or more of the warrants is met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal would have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

Table 4.17-13, *Project Driveway Traffic Signal Warrant Analysis Summary*, presents the Year 2023 With Project and Year 2045 With Project traffic signal warrant analysis results for the proposed project driveway along El Toro Road for Options 1 and 2. The results indicate that the unsignalized project driveway, for both site access Options #1 and #2, does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and/or Part B for the AM or PM peak hour for Year 2023 or 2045 With Project traffic conditions.

Table 4.17-13
Project Driveway Traffic Signal Warrant Analysis Summary

Driveway	Time Period	Option 1 Part A Warrant 3 Satisfied	Option 1 Part B Warrant 3 Satisfied	Option 2 Part B Warrant 3 Satisfied	Option 2 Part B Warrant 3 Satisfied
Year 2023 With Project					
Project Driveway at El Toro Road	AM	No	No	No	No
Project Driveway at El Toro Road	PM	No	No	No	No
Year 2045 With Project					
Project Driveway at El Toro Road	AM	No	No	No	No
Project Driveway at El Toro Road	PM	No	No	No	No

INTERNAL CIRCULATION

The onsite circulation was evaluated in terms of vehicle-pedestrian conflicts by the project traffic engineer. Based on review of the preliminary site plan, the overall layout would not create significant vehicle-pedestrian conflict points and the driveway throat lengths would be sufficient such that access to residential driveways would not be impacted by internal vehicle queuing/stacking. Project traffic would not be anticipated to cause significant queuing/stacking on the project driveway. The onsite circulation would be acceptable based on the proposed site plan. The alignment, spacing and throat length of the project driveway would also be adequate. Turning movements into and out of the project site at the project driveway would be anticipated to operate at an acceptable service level. The proposed throat length at the project driveway would be adequate for storing potential queuing vehicles. As such, motorists entering and exiting the project site from this driveway would be able to do so comfortably, safely, and without undue congestion.

SIGHT DISTANCE

A sight distance analysis was prepared for the proposed project driveway along El Toro Road using the City of Mission Viejo Standard Plan No. 315 – *Intersection Sight Distance*. Minimum left and right turn out and

cross traffic sight distance was utilized for this evaluation and is defined as the distance required by the driver of a vehicle, traveling at a given speed, to bring his vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-feet high on the roadway. For this analysis, although El Toro Road would consist of only five lanes in the vicinity of the project driveway, the six-lane Major Roadway criteria was utilized to provide for a conservative analysis since the City of Mission Viejo Standard Drawing No. 315 does not provide a minimum sight distance for a five-lane roadway. Based on the criteria set forth in Standard Drawing No. 315, a minimum sight distance of 660 feet would be recommended for the proposed project driveway on El Toro Road. A schematic of the sight distance analysis depicting the actual sight distance and corresponding limited use areas, at the proposed project driveway along El Toro Road is shown in Figure 4.17-8, *Sight Distance Analysis*. As shown, adequate sight distance would be provided at the proposed Project driveway along El Toro Road.

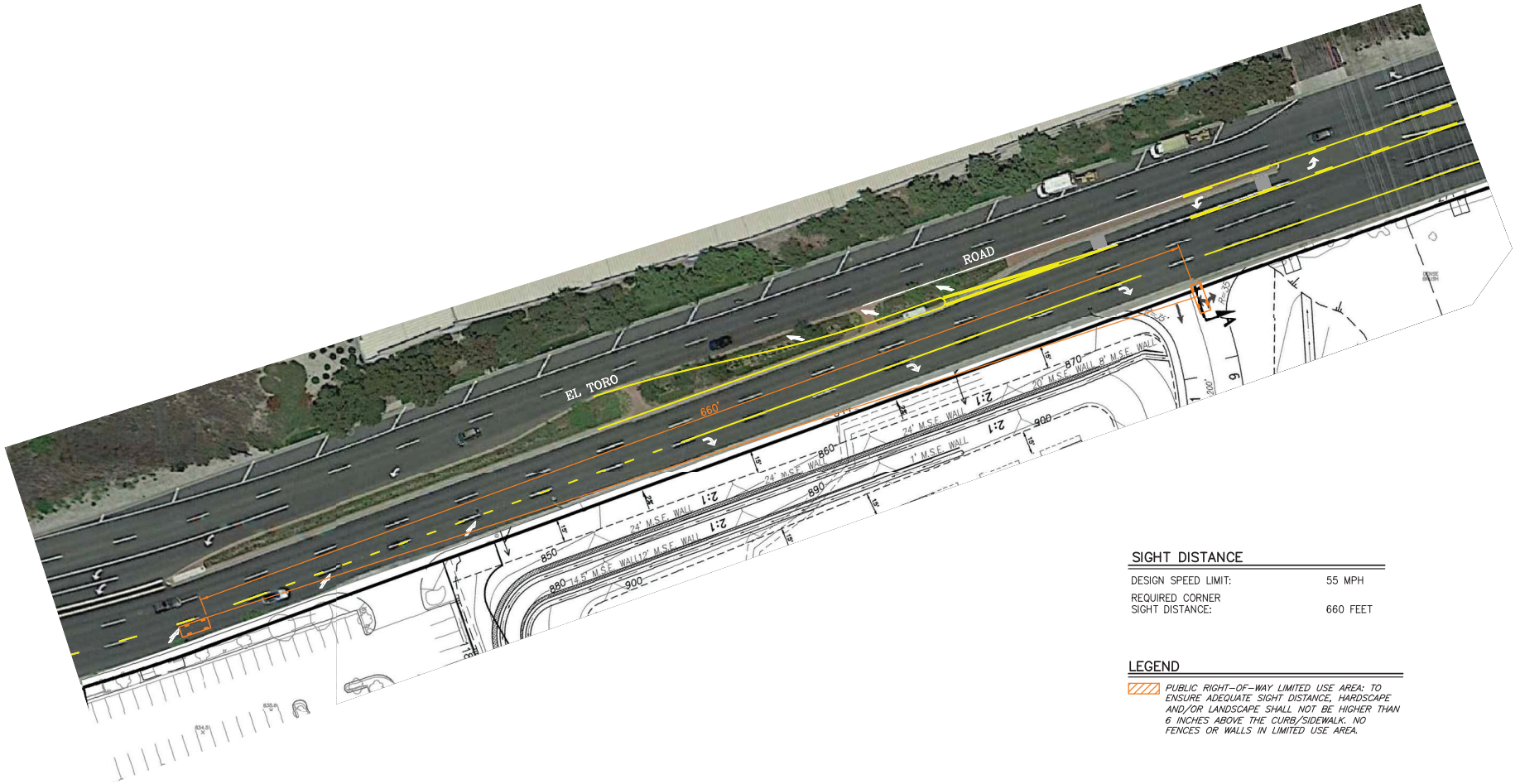
Mitigation Measures: No mitigation measures are required.

d) Result in inadequate emergency access?

Less Than Significant Impact With Mitigation Incorporated: The proposed project would involve the construction of new structures and access ways. The project would be required to design, construct and maintain structures and access ways in compliance with local, regional, state requirements related to emergency access. OCFA would review and ensure that adequate emergency access and adequate emergency response times are maintained. Compliance with local, regional, state requirements related to emergency access and implementation of the project's emergency evacuation procedures and protocols would ensue that the proposed project would have adequate emergency access.

Temporary activities associated with construction of project driveways and with the extension of infrastructure into the project site could result in temporary partial lane closures along El Toro Road which could hinder emergency access. As indicated above, the project would be required to implement Mitigation Measure T-1 which requires implementation of a Construction Management Plan. That would ensure the safe movement of vehicles and pedestrians and adequate emergency access is maintained at all times.

Mitigation Measures: Mitigation Measure T-1 is required.



Source: Linscott, Law & Greenspan, Engineers; May 1, 2020.

TRUMARK RESIDENTIAL PROJECT
Initial Study/Mitigated Negative Declaration

Sight Distance Analysis

VCS Environmental

Figure 4.17-8

4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☒	☐
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

ENVIRONMENTAL ANALYSIS

Because this project is a CEQA action, it requires an offer of tribal consultation under Assembly Bill 52 (Public Resources Code Section 21080.3.1). The project also requires a General Plan amendment and is therefore subject to the statutory requirements of Senate Bill 18 Tribal Consultation Guidelines (Government Code Section 65352.3) that are initiated with this notification.

AB 52 Tribal Consultations: California Assembly Bill 52 (AB52) established a formal consultation process for California tribes within the CEQA process. AB52 specifies that any project that may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project" and that requests consultation. Section 21074 of AB52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource. Tribes have 30 days from the date on which they receive notification to request consultation unless a shorter timeframe has been agreed to by the tribe.

SB18 Consultation: The intent of Senate Bill 18 (SB18) is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation unless a shorter timeframe has been agreed to by the tribe.

SACRED LANDS RECORD SEARCH

A search of the Native American Heritage Commission's (NAHC's) Sacred Lands File (SLF) was completed for the Proposed Amendments to determine the potential for Native American Sacred Lands to be present within the City. The record search identified that there are known sacred lands sites within the City and vicinity. The NAHC provided a list of tribes that should be consulted as part of the AB52 and SB18 consultation. Table 4.18-1, *List of Tribes Consulted*, is a listing of tribes that have been consulted in accordance with AB52 and SB18 consultation requirements.

Table 4.18-1
List of Tribes Consulted

Contact	Title	Tribe
AB52/SB18		
Matias Belardes	Chairperson	Juaneño Band of Mission Indians Acjachemen Nation - Belardes
Sonia Johnston	Chairperson	Juaneño Band of Mission Indians
Teresa Romero	Chairperson	Juaneño Band of Mission Indians Acjachemen Nation - Romero
Fred Nelson	Chairperson	La Jolla Band of Luiseño Indians
Bo Mazzetti	Chairperson	Rincon Band of Luiseño Indians
Cheryl Madrigal	Tribal Historic Preservation Officer	Rincon Band of Luiseño Indians
San Luis Rey Tribal Council		San Luis Rey Band of Mission Indians
Scott Cozart	Chairperson	Soboba Band of Luiseño Indians
AB52		
Patricia Garcia-Plotkin	Director	Agua Caliente Band of Cahuilla Indians
Paul Macarro	Cultural Resources Director	Pechanga Band of Luiseño Indians
SB18		
Andrew Salas	Chairperson	Gabrieleño Band of Mission Indians – Kizh Nation
Anthony Morales	Chairperson	Gabrieleno/Tongva San Gabriel Band of Mission Indians
Robert Dorame	Chairperson	Gabrielino Tongva Indians of California Tribal Council
Sandonne Goad	Chairperson	Gabrielino/Tongva Nation
Charles Alvarez	Tribal Chair	Gabrielino-Tongva Tribe
Heidi Lucero	Cultural Resources Director	Juaneño Band of Mission Indians Acjachemen Nation – Romero
Shasta Gaughen	Tribal Historic Preservation Officer	Pala Band of Mission Indians
Temet Aguilar	Chairperson	Pauma Band of Luiseño Indians

A listing of 17 tribal individuals representing 15 tribes were consulted as part of AB52/SB18 consultation. A total of 13 tribal individuals provided responses to the consultation request, of which seven indicated they did not want to consult and six indicating that they wanted to consult. The tribes that requested to consult include; Juaneño Band of Mission Indians Acjachemen Nation, Juaneño Band of Mission Indians Acjachemen Nation Romero Group, Juaneño Band of Mission Indians Acjachemen Nation Belardes Group, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Nation and Gabrieleño Band of Mission Indians Kizh Nation. Ongoing consultation is currently underway with these tribes. A total of four tribes, after multiple attempts of coordination have not yet respond to the consultation request.

PROJECT DESIGN FEATURE

Based information received through AB52/SB18 consultation along with a record search conducted for the project, the project site would be considered sensitive for cultural resources. In response the proposed project includes a project design feature that would require archaeological and Native American monitoring to ensure proper protocol is followed if resources are unearthed during ground disturbing activities.

PROJECT IMPACTS

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less Than Significant Impact: The proposed project is not listed nor eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

Mitigation Measures: No mitigation measures are required.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact With Mitigation Incorporated: A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on March 23, 2020. The review consisted of an examination of the U.S. Geological Survey's (USGS') El Toro 7.5-minute quadrangle map to evaluate the project site for any cultural resources sites that are recorded or cultural resources studies that have been prepared for properties within and near the project site. The project site is located within a general area of high sensitivity for cultural resources, as it is located within the southern end of the Upper Aliso Creek Archaeological District, and the grading activities associated with construction of the proposed project would encounter native soils and could have the potential to encounter unknown Native American cultural resources. The project would be required to comply with Mitigation Measure CR-1 and CR-2 , which requires the Applicant to provide written evidence to the City of Mission Viejo that the Applicant has retained a Native American monitor to observe ground disturbing

activities and recover archaeological resources as necessary and compliance California Health and Safety Code Section 7050.5 if unknow burial remains are encountered. With compliance to Mitigation Measure CR-1 and CR-2, potential impacts to Native American tribal resources would be less than significant.

Mitigation Measures:

CR-1: Prior to the issuance of grading permits, the Applicant shall provide written evidence to the City of Mission Viejo that the Applicant has retained a qualified Archaeologist and Native American monitor to observe ground disturbing activities and recover archaeological resources, as necessary. The Archaeologist and Tribal monitors would attend the pre-grade conference where the Archaeologist would establish procedures for archaeological monitoring and shall establish procedures and protocols to temporarily halt ground disturbing activities to permit sampling, evaluation, and recovery of any discovery. If a discovery is determined to be a historical resource, unique archaeological resource, or Tribal Cultural Resource, additional excavations or treatment may be necessary to ensure that any impacts to them are mitigated to a less than significant level.

CR-2: Project related earth disturbance has the potential to unearth previously undiscovered human remains, resulting in a potentially significant impact. Pursuant to Section 7050.5 of the *California Health and Safety Code*, if human remains are encountered during excavation activities, all work shall halt, and the County Coroner shall be notified. The Coroner would determine within two working days whether a cause of death investigation is necessary. If the Coroner determines that the remains are Native American, she/he would contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would then, pursuant to *California Public Resources Code,* §5097.98, immediately identify the most likely descendant (MLD), who may inspect the remains and site of discovery and make recommendations for the treatment and/or disposition of the remains. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human, preservation in place, and deeding the remains to the MLD for treatment. If no MLD is identified, the MLD fails to make a recommendation, or the landowner rejects the recommendation, the landowner shall rebury the remains with appropriate dignity on the property in a location that would not be subject to further subsurface disturbance.

4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☒	☐	☐
c. 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?	☐	☒	☐	☐
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

ENVIRONMENTAL ANALYSIS

a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact: Implementation of the proposed project would require adding onsite utilities since the project site is currently undeveloped. As part of the construction activities for the proposed project, new onsite utility service systems would be constructed, and they would connect to existing utility systems currently provided in the project area. Construction connections to offsite utility systems would involve some minor trenching. Potential impacts would be short-term and construction BMPs would be in place to minimize construction related impacts. Each utility service provider would coordinate on the design/installation and would ensure that utility service would comply with construction standards and that adverse impacts to the environment are avoided.

Mitigation Measures: No mitigation measures are required.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact With Mitigation Incorporated: Water service to the project site would be provided by the Santa Margarita Water District (SMWD). Implementation of the proposed project would incrementally increase the demand for water. As shown in Table 4.19-1, *Project Water Demands*, the proposed project (Multiple-Family Residential) would have a water demand of 15,925 gallons per day.

Table 4.19-1
Project Water Demands

Land Use	Units	Demand Factor	Gallons Per Day (gpd)
Multi-Family Residential	91	175 gpd/unit	15,925
		Total	**15,925**
Source: Santa Margarita Water District, *Demand Standards*, accessed March 2020.			

The SMWD prepares and updates every five years an Urban Water Management Plan (UWMP) that identifies the water demands and available water supplies within the service area under normal, single dry, and multiple dry years. The water demand projects are based on current General Plan land uses. The UWMP identifies that the service area would have 17,894, 13,363, and 11,356 acre-feet of water supply for normal, single dry, and multiple dry years. As part of the final design, the proposed project would be required to coordinate with SMWD through their new development process, which would provide a more detailed demand analysis and identify measures to enhance water conservation. Prior to construction, the proposed project would be required to secure a Will Serve Letter from SMWD which would indicate that the SMWD would have the ability to provide adequate water service to the proposed project. With the implementation of Mitigation Measure U-1, potential adverse water supply impacts would be avoided.

Mitigation Measures:

U-1: Prior to construction, the project would be required to secure a Will Serve Letter from the Santa Margarita Water District (SMWD) which would indicate that SMWD would have the ability to provide adequate water service to the proposed project.

c) 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?

Less Than Significant Impact With Mitigation Incorporated: The SMWD utilizes 2.25 million gallons per day (MGD) of the 13 MGD capacity from the J.B. Latham wastewater treatment plant, which is owned and operated by Southern Orange County Wastewater Authority (SOCWA) and serves a majority of the City of Mission Viejo. The wastewater demand is included in the overall water demands for the proposed project. Therefore, SMWD would be able to meet the wastewater demands for the proposed project and would not require the expansion of any existing wastewater treatment facilities or require construction of a new facility. As part of the final design, the proposed project would be required to coordinate with SMWD through their new development process, which would provide a more detailed demand analysis. Prior to construction, the proposed project would be required to secure a Will Serve Letter from SMWD which would indicate that the SMWD would have the ability to provide adequate wastewater service to the proposed project.

Mitigation Measures: Mitigation Measure U-1 is required.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact: The construction of the proposed project would generate various types of debris during the grading and the construction of the new buildings. Once operational, the proposed project would generate approximately 1,113 pounds per day of solid waste as shown in Table 4.19-2, *Project Generated Solid Waste (Operational)*.

Table 4.19-2
Project Generated Solid Waste (Operational)

Land Use	Units	Demand Factor	Pounds Per Day
Residential	91	12.23 per unit per day	1,113
		Total	**1,113**
Source: CalRecycle, *Estimated Solid Waste Generation Rates*, accessed March 2020.			

Solid waste disposal service would be provided by Waste Management of Orange County. As required by Assembly Bill 939 (AB939), the solid waste generated by the project would be required to be recycled by the waste disposal service and the materials that cannot be recycled would be hauled to one of the three landfills in the County. The nearest landfill, Frank R. Bowerman Landfill, is located at 11002 Bee Canyon Access Road, Irvine, approximately 9.3 miles north of the project site. This facility does not allow for public dumping of solid waste, therefore, solid waste produced from the proposed project would be transported by Waste Management of Orange County. Frank R. Bowerman is permitted for 11,500 tons per day (tpd) maximum and is expected to be in service until approximately 2053.

If the public chooses to dump or recycle solid waste, the next closest landfill that allows the public is the Prima Deshecha Landfill which located approximately 15.5 miles south of the project site at 32250 Avenida La Pata, San Juan Capistrano. Prima Deshecha has a permitted daily capacity of 4,000 tpd and is expected to be in service until approximately 2102. This landfill is also home to a landfill gas-to-energy plant, which powers 7,500 homes and is managed by the Fortistar Methane Group. A recycling facility operated by CR&R Recycling is one of the four Free Household Hazardous Waste Collection and Materials Exchange Centers that also operates on the Prima Deshecha Landfill site.

Solid waste generated would consist mostly of typical household trash from residents, visitors, and workers. Solid waste would be disposed of in a proper facility depending on the type of solid waste. Based on availability and remaining capacity of local landfills, it is unlikely that the volume of solid waste generated from the proposed project would exceed landfill capacity, therefore, the potential for solid waste disposal impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact: The proposed project would produce solid waste associated with the construction stages as well as during operation. The closest landfill for solid waste disposal would be the Frank R. Bowerman Landfill with the second being the Prima Deshecha Landfill. Based on availability and remaining capacity of both landfills, it would be unlikely that the volume of solid waste generated from the proposed project could exceed landfill capacity. In accordance with California Department of Resources Recycling and Recovery disposal requirements, Best Management Practices would be employed to reduce solid waste

disposal such recycling of all plastic bags, containers, and green waste composting, chipping, and shredding. With implementation of the Best Management Practices and compliance with California Department of Resources Recycling and Recovery disposal requirements, potential solid waste disposal impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

ENVIRONMENTAL ANALYSIS

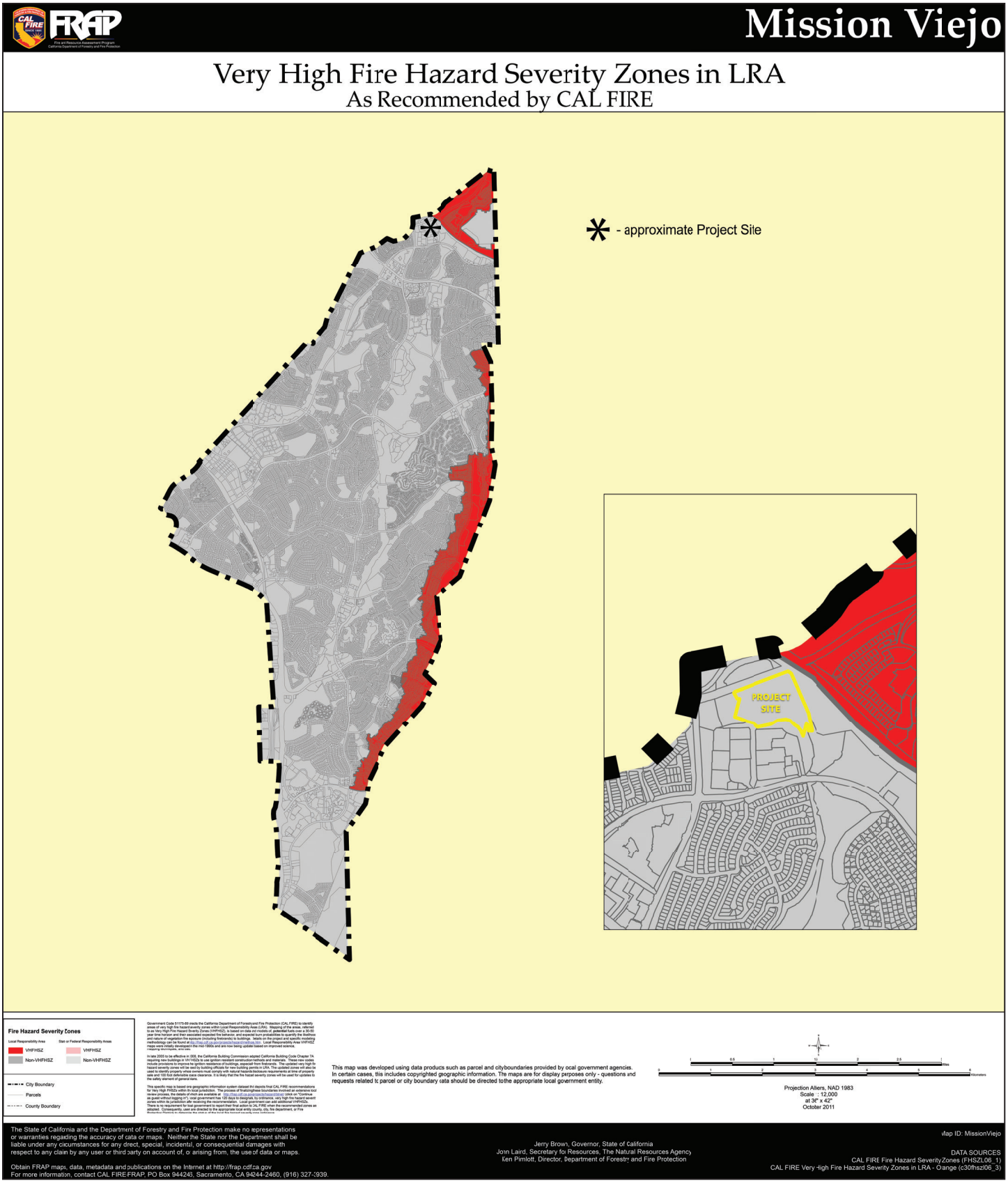
A wildland fire is a non-structural fire that occurs in vegetative fuels. Wildland fires can occur in undeveloped areas and spread to urban areas where the landscape and structures are not designed and maintained to be ignition resistant. The potential for wildland fires represents a hazard where development is adjacent to open space or within proximity to wildland fuels or designated Fire Hazard Safety Zones. According to the California Department of Forestry and Fire Protection, the project site is not within a High Fire Hazard Area or State Responsibility Area; refer to Figure 4.20-1, *Fire Hazard Severity Zones*. As shown in Figure 4.20-1, the State's Very High Fire Severity Zone ends at SR-241. Therefore, the project site is not contiguous to wildland slope areas that could act as a conduit for wildland fires. SR-241 would function as a fire break. Additionally, the proposed project would have surrounding roadways and driveways and fuel modification zones which would also act as fire breaks and reduce the risk for wildland fires to spread to the project site.

PROJECT IMPACTS

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact: According to the California Department of Forestry and Fire Protection, the project site is not identified as a High Fire Hazard Area or near a State Responsibility Area. Therefore, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

Mitigation Measures: No mitigation measures are required.



Source: California Department of Forestry and Fire Protection (CALFIRE); January 2020.

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Fire Hazard Severity Zones

VCS Environmental

Figure 4.20-1

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact: According to the California Department of Forestry and Fire Protection, the project site is not identified as a High Fire Hazard Area or near a State Responsibility Area. Therefore, the proposed project would not exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Mitigation Measures: No mitigation measures are required.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact: According to the California Department of Forestry and Fire Protection, the project site is not identified as a High Fire Hazard Area or near a State Responsibility Area. Therefore, the proposed project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

Mitigation Measures: No mitigation measures are required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact: According to the California Department of Forestry and Fire Protection, the project site is not identified as a High Fire Hazard Area or near a State Responsibility Area. Therefore, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Mitigation Measures: No mitigation measures are required.

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4.21 Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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. 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)?	☐	☒	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

ENVIRONMENTAL ANALYSIS

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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?

Less Than Significant Impact With Mitigation Incorporated: A biological evaluation of the project site identified one special status wild species, California gnatcatcher (*Polioptila californica californica*), on the project site and two additional species, the Crotch bumble bee (*Bombus crotchii*) and the southern California rufous-crowned sparrow with at least moderate potential to occur on the project site. Additionally, one special status plant, intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), also was identified to having the potential to occur on the project site. Sensitive vegetation communities and jurisdictional waters were also identified on the project site. To avoid significant impacts and to ensure the project does not cause sensitive plant, wildlife and vegetation communities to drop below self-sustaining levels, Mitigation Measures BIO-1 to BIO-4 have been incorporated into the project.

Portions of the project site are culturally sensitive. There could be the potential that cultural resources could be encountered during excavation activities. To avoid impacts to unknown cultural resources that could be present on the project site, the proposed project would be required to comply with Mitigation Measure CR-1 which would ensure that an archaeologist observe grading activities, salvage and catalogue archaeological resources as necessary, and establish procedures for archaeological resources surveillance

as well as procedures for temporarily halting or redirecting work. Additionally, Mitigation Measures PALEO 1 and PALEO-2 would ensure that a paleontologist observe grading activities, salvage and catalogue fossils as necessary, and establish procedures for paleontological resource surveillance as well as procedures for temporarily halting or redirecting work. Also, Mitigation Measure CR-2 would reduce potential impacts to tribal cultural resources, in the unlikely event that unknown human remains are encountered during construction. Implementation of Mitigation Measures CR-1, CR-2, PALEO-1 and PALEO-2 would reduce potential impacts to unknown cultural resources to a less than significant level and would ensure that important examples of the major periods of California history or prehistory are not eliminated.

b) 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)?

Less Than Significant Impact With Mitigation Incorporated: A cumulative impact may be significant if a project's incremental effect, though individually limited, is cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects. Cumulative impacts can occur as a result of the intersections of the interactions of environmental change from multiple projects that could affect the same environmental resources, such as traffic, noise and air quality.

A summary related projects in the vicinity of the of the project site which was used in the cumulative analysis is presented in Table 4.21-1, *Related Cumulative Projects*.

Table 4.21-1
Related Cumulative Projects

Description	Location/Address	Size
City Mission Viejo		
City Lane Townhomes	Northwest corner of W. Los Alisos Boulevard and SR-241	60 Multiple-Family Dwelling Units
Mission Foothills Shopping Center	Northwest corner Los Alisos Boulevard and SR-241	
County of Orange		
Saddleback Crest	North of Santiago Canyon Road and west of Ridgeline Road	65 Single-Family Dwellings
Red Rock Chateau	17521 E. Santiago Canyon Road	200 Guest Wedding Venue
City Lake Forest		
Nakase Property	South of Bake Parkway and west of Rancho Parkway	675 Single-Family Dwellings 101 Senior Affordable Dwelling Units 1,000 Student Elementary School
Source: City of Mission Viejo, *Cumulative Projects List*, April 2020.		

The analysis provided in Section 4.0, *Environmental Analysis*, identifies that no impacts would occur to agriculture and forestry resources and mineral resources. Therefore, the proposed project would not contribute considerably to cumulative impacts.

The analysis determined that potential impacts to energy, greenhouse house gas emissions, land use and planning, population and housing, public services, recreation, utilities and service systems and wildfire

would be less than significant. Therefore, while the project would contribute to cumulative impacts, the project contribution would not be considerable.

Impacts related to aesthetics light and glare, air quality construction emissions, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise and tribal resources were determined to be potentially significant, and would require Standard Conditions and/or Mitigation Measures to reduce impacts to a less than significant level. Therefore, the proposed project could contribute considerably to significant cumulative impacts in these environmental issue areas. These environmental issue areas are discussed in further detail below.

AESTHETICS

The proposed project would have the potential to introduce new sources of light and glare into the project area. To ensure spillover lighting impacts onto adjoining properties are avoided, the proposed project would be required to implement Mitigation Measure AES-1 which would ensure that all exterior lighting would be confined to the project site, avoiding spillover lighting impacts to adjoining properties. With implementation of Mitigation Measure AES-1, potential light and glare impacts would be less than significant, and the proposed project would not result in a cumulatively considerable contribution to impacts related to light and glare spillover impacts. Related cumulative projects in the project area would be evaluated for potential aesthetic impacts and would be required to comply with applicable site development and design standards to minimize potential aesthetic impacts. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative aesthetic impacts.

AIR QUALITY

The context for assessing cumulative air impacts from short-term construction activities includes quantifying emissions and comparing the emissions to the applicable SCAQMD screening thresholds. As discussed in Section 4.3, *Air Quality*, the proposed project's construction emissions would be below SCAQMD thresholds. Further, the proposed project would be required to implement SCAQMD Fugitive Dust Rule 403, which would require dust suppression techniques to prevent fugitive dust from creating a nuisance offsite. With implementation of Fugitive Dust Rule 403, short-term construction air emissions would be less than significant, and the proposed project would not result in a cumulatively considerable contribution to impacts related to short-term air quality emissions. Related cumulative projects in the project area would be evaluated for potential air quality impacts and would be required to implement fugitive dust control measures and where needed, other measures to minimize air quality impacts. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative air quality impacts.

BIOLOGICAL RESOURCES

No special status plant species were observed on the project site. However, based on the onsite habitat conditions and surrounding vicinity, there would be low to moderate potential for intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*) to be present on the project site. The project would be required to implement Mitigation Measure BIO-1, which would require a focused rare plant survey be conducted to identify any late blooming species. If the species is identified during the late season survey and if it is located in an impact area, mitigation would be required that would require harvesting the individual plant bulbs identified during the survey and relocating them to a suitable habitat in the open space portion of the site prior to project grading. With implementation of Mitigation Measure BIO-1 potential impacts to special status plant species would be avoided.

One special status wildlife species, California gnatcatcher (*Polioptila californica californica*), was observed on the project site. Additionally, two additional species, the Crotch bumble bee (*Bombus crotchii*) and the southern California rufous-crowned sparrow have been identified to have at least moderate potential to occur on the project site. The project would be required to implement Mitigation Measures BIO-2 and BIO-3, which requires pre-construction surveys prior to the start of construction and BIO-5, which requires consultation with USFWS. Additionally, the project includes Mitigations Measure BIO-4, which requires implementation of Best Management Practices to special status wildlife species and their habitat.

Potential impacts to sensitive vegetation communities as identified in Mitigation Measures BIO-6, BIO-7 and BIO-8, would be compensated by a combination of onsite restoration and in-lieu fee payment, which would ensure no net loss of sensitive vegetation communities. The implementation of avoidance measures and mitigation measures would reduce potential direct and indirect impacts to a less than significant level.

Therefore, the proposed project would not considerably contribute to impacts that would result in cumulative impacts to biological resources. Related cumulative projects would be required to comply with state and federal laws that provide for the protection of biological resources and where needed would need to implement measure to minimize impacts to biological resources. Compliance with local, state and federal laws would reduce the potential impacts to less than significant. Therefore, the proposed project considered with the related projects would not result in significant cumulative impacts to biological resources.

CULTURAL/PALEONTOLOGICAL RESOURCES

The context for assessing cumulative impacts to local archeological and paleontological resources is to determine whether the project would result in a loss of these resources that could diminish or eliminate important information relevant to the history of the project area. The proposed project would be required to comply with Mitigation Measures CR-1, PALEO-1 and PALEO-2 which would require an archaeologist/paleontologist to evaluate any discovered potential archaeological/paleontological resources, and appropriate steps to preserve or curate the artifact and halt or redirect work. This would eliminate any potential loss of important archaeological or paleontological information that may be buried under the project site. With regard to a potential discovery of human remains during construction, the project would be required to comply with Mitigation Measure CR-2, which requires grading and construction activities to cease pursuant to State Health and Safety Code Section 7050.5 until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Section 5097.98 of the California Public Resources Code. Therefore, the proposed project would not result in a cumulatively considerable contribution to impacts related to a cumulative loss of important archaeological or paleontological resources, and/or disturbed human remains. Related cumulative projects in the project area would be evaluated for potential impacts to cultural resources and would be required to implement measures to reduce impacts to cultural resources. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative impacts to cultural resources.

GEOLOGY AND SOILS

Like other areas in southern California, the proposed project could be subject to seismic shaking impacts. The proposed residential uses would be required to be designed to meet the City's construction development standards and the seismic design parameters of the California Uniform Building Code. The proposed project would be required to implement geotechnical design measures recommended in the project geotechnical report to ensure the stability of the project and implement erosion control measures. With compliance of the California Uniform Building Code, geotechnical design measures and erosion control measures, potential geologic impacts would be less than significant. Therefore, the proposed project would not contribute to a cumulatively considerable impact with regards to geologic impacts.

Related cumulative projects would be required to comply with California Building Code requirements to minimize potential geologic and seismic impacts and would be required to implement erosion control plans to minimize potential erosion and sedimentation impacts. Therefore, the proposed project considered with the related projects would not result in significant cumulative geologic impacts.

HAZARDS AND HAZARDOUS MATERIALS

The proposed project would involve the use of incidental amounts of hazardous substances, such as fuel, oil and solvents. To ensure hazardous substances are not inadvertently released into the environment, the project would be required to comply with local, state and federal laws regarding the handling, storage and transporting of hazardous substances and would be required to spill prevention and clean-up BMPs during construction. With compliance with local, state and federal laws and implementation of BMPs, the potential handling of hazardous materials would be less than significant. Therefore, the proposed project would not contribute to a cumulatively considerable impact with regards to the release of hazardous materials into the environment. Related cumulative projects would be evaluated for potential hazards and potential release of hazardous substances into the environment. The related projects would be required to comply with local, state and federal laws and regulations regarding the handling, storage and transporting of hazardous materials. Compliance with local, state and federal laws would reduce the potential impacts to less than significant. Therefore, the proposed project considered with the related projects would not result in significant cumulative hazard or hazardous material impacts.

HYDROLOGY AND WATER QUALITY

Construction activities associated with the proposed project could have the potential to generate degraded surface water impacts which could adversely affect downstream receiving water bodies. The proposed project would be required to adhere to the NPDES MS4 Storm Water Permit requirement, which would be obtaining a State General Construction Permit, filing a Notice of Intent (NOI) to the Storm Water Report Tracking System and obtain a waste discharger identification number from the State Water Resources Control Board. Additionally, the General Construction Permit would require the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify Best Management Practices (BMPs) to minimize degraded surface water runoff impacts. Therefore, the proposed project would not contribute to a cumulatively considerable impact with regards to hydrology and water quality. Related cumulative projects would be evaluated for potential hydrology impacts and would be required to ensure they are not within a flood hazard area or would impede flood flows. Additionally, related projects would be required to comply with County of Orange NPDES MS4 Storm Water Permit requirements to maintain water quality. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative hydrology or water quality impacts.

NOISE

The proposed project's long-term operational mobile and stationary noise impacts were determined to be less than significant. The proposed project would result in a temporary increase in noise levels during construction activities. The proposed project would be required to implement Mitigation Measures N-1 and N-2, which would reduce construction noise impacts to a less than significant level. Therefore, the proposed project's short-term noise contribution would not be considerable. Related cumulative projects would be required to comply with applicable noise and vibration standards, and regulations to minimize noise and vibration impacts. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative noise impacts.

TRANSPORTATION

As discussed in Section 4.17, *Transportation*, the project would increase traffic within the study area. As part of the traffic analysis, a cumulative long-term Year 2045 analysis was completed to evaluate traffic impacts on the project area circulation system. The project's long-term cumulative traffic impacts on project roadway segments, intersections, and freeway ramps were determined to be less than significant. Therefore, the proposed project would not contribute considerably to significant cumulative traffic impacts. Related cumulative projects would be required to prepare traffic studies to evaluate potential traffic impacts and would have to comply with the applicable traffic design standards, regulations, and mitigation measures on a project-by-project basis to ensure significant cumulative traffic impacts do not occur. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative traffic impacts.

TRIBAL CULTURAL RESOURCES

To avoid significant impacts to unknown tribal cultural resources that could be present on the project site, the proposed project would be required to comply with Mitigation Measure CR-1, which requires project monitoring by a Native American and proper consultation with Native American Tribes and Native American Heritage Commission if subsurface tribal cultural resources are found during construction, excavation, and/or other construction activities in the area. This would eliminate any potential loss of important tribal cultural resources that may be discovered at the project site. Compliance with Mitigation Measure CR-1 would ensure that a cumulative loss of tribal cultural resources from the project construction activities would not occur. Therefore, the proposed project would not result in a cumulatively considerable contribution to impacts related to tribal cultural resources, and impacts would be less than significant. Related cumulative projects in the area would be required to comply with the provisions of AB52, which would reduce cumulative impacts regarding impact to tribal cultural resources. Therefore, the proposed project considered with the related cumulative projects would not result in significant cumulative impacts to cultural tribal resources.

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact With Mitigation Incorporated: Potential impacts that could cause substantial adverse effects on human beings were analyzed in this Initial Study/Mitigated Negative Declaration include, but are not limited to; air quality, greenhouse gas emissions, geology hazards, hazardous materials, seismic hazards, hydrology/water quality, noise and wildfire. Each issue area found that there would be either no impacts, impacts would be less than significant, or impacts would be less than significant with mitigation incorporated. The proposed project would comply with local and regional planning programs, applicable codes, and ordinances, federal and state laws and regulations, and mitigation measures to ensure that long-term operation activities and short-term construction activities associated with the proposed project would not result in direct, or indirect adverse impacts to human beings.

4.22 References

The following references were utilized during preparation of this Initial Study/Mitigated Negative Declaration. These documents are available for review at the City of Mission Viejo Community Development Department located at 200 Civic Center, Mission Viejo, California 92691.

Birdseye Planning Group, Nuvo El Toro Residential Project Noise Study, April 2020.

California Code of Regulations. Accessed March 2020.

California Department of Conservation, Farmland Mapping and Monitoring Program. Accessed March 2020.

California Department of Forestry and Fire Protection. Very High Fire Hazard Severity Zone Map, Mission Viejo. Accessed March 2020.

California Department of Transportation, State Scenic Highway Program. Accessed March 2020.

California Water Boards, San Diego Basin Water Quality Control Plan, updated June 2019.

CalRecycle, Estimated Solid Waste Generation Rates. Accessed March 2020.

City of Mission Viejo General Plan, August 2013.

City of Mission Viejo Zoning Code.

Codified Ordinances of the City of Mission Viejo (City Municipal Code), updated December 31, 2019.

Cooperative Strategies, Saddleback Valley Unified School District Residential Development School Fee Justification Study. April 24, 2018.

Google Earth, 2020.

LGC Geotechnical, Preliminary Geotechnical Investigation Report; July 2019.

Linscott, Law and Greenspan, Engineers, Traffic Impact Analysis Report. May 1, 2020.

Orange County Fire Authority, Operations. Accessed March 2020.

Orange County Sheriff's Department, Southeast Operations. Accessed March 2020.

Saddleback Valley Unified School District, School Locator Map. Accessed March 2020.

Saddleback Valley Unified School District Adjustment In Developer Fees. Effective July 9, 2018.

Santa Margarita Water District, Demand Standards. Accessed March 2020.

Southern California Association of Governments, Local Profiles Report, Mission Viejo. Accessed March 2020.

VCS Environmental, Biological Technical Report, May 2020.

VCS Environmental, Cultural Resources Technical Memorandum, May 14, 2020.

Vista Environmental, Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis, May 6, 2020.

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5.0 INVENTORY OF MITIGATION MEASURES

AESTHETICS

AES-1: The project shall demonstrate that all exterior lighting has been designed and located so that all direct rays are confined to the property.

BIOLOGICAL RESOURCES

BIO-1: A late spring/early summer focused rare plant survey would be completed to identify any late blooming species including intermediate mariposa lily. If the species is identified during the late season survey and if it is located in an impact area, mitigation would include harvesting the individual plant bulbs identified during the survey (or future survey conducted during an appropriate season) and relocating them to suitable habitat in the open space portion of the site prior to project grading. However, if no intermediate mariposa lily is observed during the survey, then no direct impacts are expected to occur as result of project implementation and no additional mitigation is recommended.

BIO-2: A Crotch bumble bee focus survey will be required prior to grading and an ITP would be processed prior to grading with CDFW should the species be present.

BIO-3: Removal of any trees, shrubs or any other potential nesting habitat would be conducted outside of the nesting season (February 15 to September 1) to the extent practical. A nesting bird survey should be conducted within three days prior to start of work if work occurs during the nesting bird season (January 1 – September 1). If vegetation removal occurs outside of nesting season or if no nesting birds are found, no further action is required. If active nests are identified, the biologist would establish appropriate buffers around the area (typically 500 feet for raptors and sensitive species, 200 feet for non-raptors/non-sensitive species). All work within these buffers would be halted until the nesting effort is finished (i.e., the juveniles are surviving independent from the nest). The onsite biologist would review and verify compliance with these nesting boundaries and would verify the nesting effort has finished. Work can resume within the buffer area when no other active nests are found. Alternatively, a qualified biologist may determine that certain work can be permitted within the buffer areas and would develop a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). If vegetation clearing is not initiated within 72 hours of a negative survey during nesting season, the nesting survey must be repeated to confirm the absence of nesting birds.

BIO-4: To avoid attracting predators of the species of concern, the Project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).

BIO-5: To address impacts to the California gnatcatcher, consultation with USFWS is necessary. The Applicant shall mitigate impacts to 0.445 acres of occupied California sagebrush scrub CAGN habitat through the planting of a minimum of a 2:1 ratio of California sagebrush scrub habitat onsite. The onsite mitigation requirements would be established in an approved Habitat Mitigation and Monitoring Plan (HMMP). A qualified biologist shall be onsite to monitor all activities that result in the clearing of sensitive habitat including California sagebrush scrub as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas. The biological monitor would halt construction activities within 500 feet of nesting gnatcatchers. This distance may be reduced if a qualified CAGN biologist determines that

activities are not negatively affecting the gnatcatcher and full-time biological monitoring is conducted.

BIO-6: Prior to the issuance of a grading permit, the Applicant shall provide evidence to the City that the following permits have been obtained: a RWQCB Section 401 Permit, a Section 1600 Streambed Alteration Agreement, a USACE Section 404 Permit, and a U.S. Fish and Wildlife Section 7 Consultation.

BIO-7: Permanent impacts to non-concreted jurisdictional waters of the U.S. and State totaling approximately 0.027 acres shall be compensated for at a minimum ratio of 2:1 at an agency-approved mitigation bank, such as Soquel Canyon Mitigation Bank, with an in-lieu fee program, onsite, or at an offsite permittee sponsored location.

BIO-8: California sagebrush scrub provides suitable habitat for sensitive wildlife species known to occupy the site, or with potential to occupy the site including Crotch bumble bee and southern California rufous-crowned sparrow. A total of 0.77 acres of California sagebrush scrub would be impacted by project implementation, of which only 0.445 acres is considered occupied by CAGN. Mitigation for the California sagebrush scrub habitat type, as described above, would mitigate for the potential presence of associated California sagebrush scrub wildlife species including Crotch bumble bee and southern California rufous-crowned sparrow.

CULTURAL RESOURCES

CR-1: Prior to the issuance of grading permits, the Applicant shall provide written evidence to the City of Mission Viejo that the Applicant has retained a qualified Archaeologist and Native American monitor to observe ground disturbing activities and recover archaeological resources, as necessary. The Archaeologist and Tribal monitors would attend the pre-grade conference where the Archaeologist would establish procedures for archaeological monitoring and shall establish procedures and protocols to temporarily halt ground disturbing activities to permit sampling, evaluation, and recovery of any discovery. If a discovery is determined to be a historical resource, unique archaeological resource, or Tribal Cultural Resource, additional excavations or treatment may be necessary to ensure that any impacts to them are mitigated to a less than significant level.

CR-2: Project related earth disturbance has the potential to unearth previously undiscovered human remains, resulting in a potentially significant impact. Pursuant to Section 7050.5 of the *California Health and Safety Code*, if human remains are encountered during excavation activities, all work shall halt, and the County Coroner shall be notified. The Coroner would determine within two working days whether a cause of death investigation is necessary. If the Coroner determines that the remains are Native American, she/he would contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would then, pursuant to *California Public Resources Code,* §5097.98, immediately identify the most likely descendant (MLD), who may inspect the remains and site of discovery and make recommendations for the treatment and/or disposition of the remains. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human, preservation in place, and deeding the remains to the MLD for treatment. If no MLD is identified, the MLD fails to make a recommendation, or the landowner rejects the recommendation, the landowner shall rebury the remains with appropriate dignity on the property in a location that would not be subject to further subsurface disturbance.

GEOLOGY AND SOILS

GEO-1: Final grading plans would incorporate design recommendations provided in the geotechnical evaluation prepared by LGC Geotechnical, July 2019. All grading shall be in accordance with City of Mission Viejo Grading Code and Manual.

HYDRO-1: Prior to issuance of a grading permit, the Applicant would obtain coverage under a general construction permit issued from the State Water Resources Control Board. The General Construction Permit would require the filing of a Notice of Intent with the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

PALEO-1: Prior to the issuance of any grading permit, the project Applicant shall provide written evidence to the City of Mission Viejo, that the Applicant has retained a County certified paleontologist to observe grading activities and salvage and catalogue fossils, as necessary. The paleontologist shall be present at the pre-grade conference, shall establish procedures for paleontological resource surveillance, and shall establish, in cooperation with the Applicant and City, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils. If the paleontological resources are found to be significant, the paleontologist shall determine appropriate actions, in cooperation with the Applicant, which ensure proper exploration and/or salvage.

PALEO-2: After completion of the project, the Applicant shall submit the paleontologist's follow-up report for approval by the City. The report shall include the period of inspection, a catalogue and analysis of the fossils found, and the present repository of the fossils. The Applicant shall prepare excavated material to the point of identification. The Applicant shall offer excavated finds for curatorial purposes to the City of Mission Viejo, or its designee, on a first refusal basis. These actions, as well as final mitigation and disposition of the resources, shall be subject to approval by the City of Mission Viejo. Applicant shall pay curatorial fees for the storage of these resources in perpetuity.

HYDROLOGY AND WATER QUALITY

HYDRO-1: Prior to issuance of a grading permit, the Applicant would obtain coverage under a general construction permit issued from the State Water Resources Control Board. The General Construction Permit would require the filing of a Notice of Intent with the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

NOISE

N-1: Construction Plans and Specifications for the project shall reflect that construction activities would be limited to the hours between 7:00 AM to 8:00 PM Monday through Saturday, in compliance with City's Noise Ordinance.

N-2: The project shall ensure all contractors implement construction best management practices to reduce construction noise levels. Best management practices would include the following:

- All construction equipment shall be equipped with muffles and other suitable noise attenuation devices (e.g., engine shields).

- Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), to the maximum extent feasible.
- If feasible, electric hook-ups shall be provided to avoid the use of generators. If electric service is determined to be infeasible for the site, only whisper-quiet generators shall be used (i.e., inverter generators capable of providing variable load).
- Use electric air compressors and similar power tools rather than diesel equipment, where feasible.
- Locate staging area, generators and stationary construction equipment as far from the adjacent residential homes as feasible.
- Construction related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.

TRANSPORTATION

T-1: To ensure impacts to the surrounding street system are kept a minimum, it is recommended that a Construction Management Plan for the proposed project be developed. The Construction Management Plan should be developed in coordination with the City of Mission Viejo and at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Specify the hours during which transport activities can occur and methods to mitigate construction related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads would be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport would be allowed during nighttime hours, weekends or federal holidays.
- Use of local streets shall be prohibited.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the Applicant would be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction related parking and staging of vehicles would be kept out of the adjacent public roadways and would occur onsite.

- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of Mission Viejo requirements.

TRIBAL CULTURAL RESOURCES

CR-1: Prior to the issuance of grading permits, the Applicant shall provide written evidence to the City of Mission Viejo that the Applicant has retained a qualified Archaeologist and Native American monitor to observe ground disturbing activities and recover archaeological resources, as necessary. The Archaeologist and Tribal monitors would attend the pre-grade conference where the Archaeologist would establish procedures for archaeological monitoring and shall establish procedures and protocols to temporarily halt ground disturbing activities to permit sampling, evaluation, and recovery of any discovery. If a discovery is determined to be a historical resource, unique archaeological resource, or Tribal Cultural Resource, additional excavations or treatment may be necessary to ensure that any impacts to them are mitigated to a less than significant level.

CR-2: Project related earth disturbance has the potential to unearth previously undiscovered human remains, resulting in a potentially significant impact. Pursuant to Section 7050.5 of the *California Health and Safety Code*, if human remains are encountered during excavation activities, all work shall halt, and the County Coroner shall be notified. The Coroner would determine within two working days whether a cause of death investigation is necessary. If the Coroner determines that the remains are Native American, she/he would contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would then, pursuant to *California Public Resources Code,* §5097.98, immediately identify the most likely descendant (MLD), who may inspect the remains and site of discovery and make recommendations for the treatment and/or disposition of the remains. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed, if feasible, and may include scientific removal and non-destructive analysis of the human, preservation in place, and deeding the remains to the MLD for treatment. If no MLD is identified, the MLD fails to make a recommendation, or the landowner rejects the recommendation, the landowner shall rebury the remains with appropriate dignity on the property in a location that would not be subject to further subsurface disturbance.

UTILITIES AND SERVICE SYSTEMS

U-1: Prior to construction, the project would be required to secure a Will Serve Letter from the Santa Margarita Water District (SMWD) which would indicate that SMWD would have the ability to provide adequate water service to the proposed project.

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6.0 CONSULTANT RECOMMENDATION

Based on the information and environmental analysis contained in the Initial Study/Environmental Checklist, we recommend that the City prepare a mitigated negative declaration for the Trumark Residential Project. We find that the proposed project could have a significant effect on a number of environmental issues, but that mitigation measures have been identified that reduce such impacts to a less than significant level. We recommend that the second category be selected for the City's determination (see Section 1.3, *Lead Agency Determination*).

5/28/2020
Date

Dan Bott, Environmental Project Manager
VCS Environmental

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