METROLINK ORANGE COUNTY MAINTENANCE FACILITY PROJECT

DRAFT INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

ORANGE COUNTY TRANSPORTATION AUTHORITY

February 2022

Draft Initial Study/
Mitigated Negative Declaration

Metrolink Orange County Maintenance Facility Project

Orange County Transportation Authority
February 2022

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Review Log

REVISION	DESCRIPTION	DATE
0	Administrative Draft IS/MND	05/28/2021
1	Revised Administrative Draft IS/MND	08/30/2021
2	Draft IS/MND	12/09/2021
3	Revised Draft IS/MND	02/15/2022
4	Revised Draft IS/MND	02/23/2022

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Acronyms and Abbreviations

AB	Assembly Bill
ACM	Asbestos-containing materials
ADA	Americans with Disabilities Act
afy	Acre-feet per year
APSA	Aboveground Petroleum Storage Act
APE	Area of Potential Effect
AQAP	Air quality attainment plans
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
AT&SF	Atchison, Topeka and Santa Fe Railway
BATs	Best Available Technology
BCTs	Best Conventional Pollutant Control Technology
bgs	Below ground surface
BMP	Best Management Practice
BSA	Biological Survey Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	Californian Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CH_4	Methane
City	City of Irvine
CMF	Central Maintenance Facility
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	Carbon monoxide

CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CP	Control Point
CRHR	California Register of Historical Resources
CRMDP	Cultural Resources Monitoring and Discovery Plan
CRMMP	Cultural Resources Monitoring and Management Plan
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
DAMP	Drainage Area Management Plan
dBA	A-weighted decibel
DCSD	Design Capture Storm Depth
Diesel PM	Diesel particulate matter
DOC	California Department of Conservation
DON	Department of the Navy
DON	United States Department of the Navy
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMA	California Emergency Management Agency
EMF	Eastern Maintenance Facility
EMFAC	Emission Factor
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Environmental Site Assessment
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GBN	Ground-Born Noise
GBV	Ground-Borne Vibration
GHG	Greenhouse gas
gpm	gallons per minute
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbon
HMBP	Hazardous Materials Business Plan
HMMP	Habitat Mitigation and Monitoring Plan
HRA	Health Risk Assessment

I-405	Interstate 405
I-5	Interstate 5
IC	Institutional Control
IDR	Intensity Duration Recurrence
in/sec	Inches per second
IPaC	Information for Planning and Consultation
IRP	Installation Restoration Program
IRWD	Irvine Ranch Water District
IS/MND	Initial Study / Mitigated Negative Declaration
ITP	Incidental Take Permit
IUSD	Irvine Unified School District
kBtu	Thousand British Thermal Units
KOP	Key Observation Point
kWh	Kilowatt-hours
LARWQCB	Los Angeles Regional Water Quality Control Board
lbs/day	Pounds per day
L_{dn}	Day-night average sound level
L_{eq}	Equivalent sound level
LHMP	Local Hazard Mitigation Plan
L_{max}	Maximum sound level
L_{min}	Minimum sound level
LOP	Letter of Permission
LOS	Level of Service
LSAA	Lake and Streambed Alteration Agreement
LST	Localized Significance Threshold
LT	Long-Term
Magnuson-Stevens Act	Magnuson-Stevens Fisher Conservation and Management Act
MATES IV	Multiple Air Toxics Exposure Study IV
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
Metrolink	SCRRA Metrolink Commuter Rail System
MLC	Mineral Land Classification
MMBTu	Million British Thermal Units
MMT	Million metric tons
MRZ	Mineral Resource Zone
MS4	Municipal separate storm sewer system
MT	Metric tons
MWD	Metropolitan Water District
N_2O	Nitrous oxide

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	Northbound
NCCP	Natural Community Conservation Planning
NCTD	North County Transit District
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic and Safety Administration
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCGP	Orange County Great Park
OCHCA	Orange County Health Care Agency
OCMF	Orange County Maintenance Facility
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OU	Operating Unit
P-C	Production and consumption
PFC	Perfluorocarbon
PMI	Point of Maximum Exposure
PM_{10}	Particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PP	Pocket penetrometer
PPV	Peak particle velocity
PRC	Public Resources Code
Project	Orange County Maintenance Facility
PVC	Polyvinyl chloride
Qyf	Quaternary Young Alluvial Fan
Qof	Old Alluvial Fan
RCB	Reinforced concrete box
RCP	Reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RGP	Regional General Permit
ROW	Right-of-way
RMS	Root mean square
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy

RV	Recreational vehicle
RWQCB	Regional Water Quality Control Board
S&I	Service and Inspection
SAMP	Special Area Management Plan
SARA	Superfund Amendments and Reauthorization Act
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SB	Southbound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCG	Southern California Gas
Scoping Plan	*Climate Change Scoping Plan. A Framework for Change*
SCORE	Southern California Optimized Rail Expansion
SCRRA	Southern California Regional Railroad Authority
SDC	San Diego Creek
SF_6	Sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SGU	Shallow Groundwater Unit
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act of 1975
SMGB	State Mining and Geology Board
SO_2	Sulfur dioxide
SO_X	Sulfur oxides
SPCC	Spill Prevention Control and Countermeasures
SR-133	State Route 133
SRA 19	Saddleback Valley Source Receptor Area
ST	Short-Term
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TDP	Transportation Design Procedure
TMDLs	Total Maximum Daily Loads
TSCA	Toxic Substances Control Act
tsf	Tons per square feet
UBC	Uniform Building Code USACE U.S. Army Corps of Engineers
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

VdB	Velocity Level in Decibels (Vibration)
VMT	Vehicle Miles Traveled
VOC	Volatile organic compounds
WEAP	Worker Environmental Awareness Program
WL	Watch List
WMP	Waste Management Plan
WQMP	Water Quality Management Plan
$\mu g/m^3$	Micrograms per cubic meter

ORGANIZATION OF THIS DOCUMENT

This document is organized to comply with the guidelines for Initial Study and Mitigated Negative Declaration as provided in the 2021 California Environmental Quality Act (CEQA) Guidelines. As such, the organization of this document is as follows:

- **Environmental Factors Potentially Affected**. The language and format of this section are taken from Appendix G of the 2021 CEQA Guidelines, specifically Page 329. This section provides a determination of the Initial Study provided in Section 3. It also contains the signature of the lead agency.
- **Mitigated Negative Declaration**. This section contains a brief summary of the Project information. This section also provides a consolidated list all of the mitigation measures presented in Section 3 Initial Study. This listing of mitigation measures in this section is typical and similar in format to an executive summary.
- **Section 1 Introduction**. This section provides an introduction to the lead agency, the history of the proposed Project, and its setting.
- **Section 2 Project Description**. This section provides a detailed description of the proposed Project, its elements, and construction and operational information, as well as figures.
- **Section 3 Initial Study**. This section follows the 21 environmental topics as presented in the 2021 CEQA Guidelines Appendix G. The questions contained in Appendix G are presented and responses to each question are provided with research to back up the determinations. Mitigation measures are presented where needed.
- **Section 4 List of Preparers**. This section lists all of the preparers and reviewers of this document by agency and consultant.
- **Section 5 References**. This section presents the references used for the completion of the Initial Study.
- **Appendices**. This document has eight (8) appendices, which are related to technical memos completed for Aesthetic Resources, Air Quality and Greenhouse Gas Resources, Biological Resources, Cultural Resources, Paleontological Resources, Hazards and Hazardous Materials, Noise and Vibration, and Transportation.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist on the following pages.

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

DETERMINATION: (To be completed by the lead agency)

On the basis of this initial evaluation:

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

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

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

Signature

February 28, 2022
Date

James G. Beil, Executive Director, Capital Programs
Orange County Transportation Authority

MITIGATED NEGATIVE DECLARATION

Date of Publication of Final Mitigated Negative Declaration: 02/28/2022	
Lead Agency: Orange County Transportation Authority	
Agency Contact Person: Lora Cross	**Telephone:** (714)560-5788
Project Title: Metrolink Orange County Maintenance Facility Project	
Project Sponsor: Southern California Regional Rail Authority	
Project Contact Person: Robert Mason	**Telephone:** (909) 929-2372
Project Location: Great Park, Irvine, CA	
City and County: Orange County	

Project Description: Refer to Section 2 in the main document.

THIS PROJECT WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to Prepare a Negative Declaration), and the reasons documented in the Environmental Evaluation (Initial Study) for the Project, which is attached. Mitigation measures are included in this Project to avoid potentially significant effects and reduce all impacts to less than significant. Mitigation measures are presented in summary in the table below. The impacts that necessitated these mitigation measures are evaluated in Section 3 Initial Study, along with the determination of significance after their implementation.

AIR QUALITY	
MM-AQ-1: *Utilize low VOC paint for architectural coating activities during Phase 2 construction.*	To reduce volatile organic compound (VOC) emissions during construction, the Project contractor shall utilize water-based or low VOC interior and exterior paints. The VOC content of the architectural coatings shall comply with the VOC content limits in South Coast Air Quality Management District (SCAQMD) Rule 1113 or not exceed 100 grams per liter, whichever is lower. To ensure that low VOC paint will be used during Project construction, this requirement will be included in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant architectural coatings for use prior to any coating activities. A copy of each proposed architectural coating Material Safety Data Sheet and VOC content shall be available upon request. Alternatively, the contractor may utilize tilt-up concrete buildings that do not require the use of architectural coatings.
BIOLOGICAL RESOURCES	
MM-BIO-1: *Designate Project Biological Monitor(s).*	Ground-disturbing activities during construction shall occur outside of the nesting bird season (generally February 15 through September 1). If avoiding the nesting season is not practicable, the following additional measures shall be employed:

	• A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded. • If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, with the exception of an emergency, a qualified biologist shall monitor the nest on a weekly basis, and the activity shall be postponed until the biologist determines that the nest is no longer active. • If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the resource agencies before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.
MM-BIO-2: *Compliance with USACE SAMP Mitigation Procedures.*	Pursuant to Special Area Management Plan (SAMP) requirements, if a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies, or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions to the extent practicable.
CULTURAL RESOURCES	
MM-CUL-1: *Cultural Resources Awareness Training.*	Prior to construction, OCTA shall retain a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The qualified archaeologist shall prepare a Cultural and Tribal Cultural Resources Awareness Training as part of the Project Worker Environmental Awareness Program (WEAP). The training will instruct workers as to the laws protecting cultural and tribal cultural resources and also give examples of the kinds of resources that can be reasonably expected to be found in the Area of Potential Effect (APE). An environmental compliance contact responsible for enforcing mitigation measures and who is to be notified in the event of a find will be identified in the training. Training will be delivered to all staff involved in ground-disturbing activities prior to their working on the project.

MM-CUL-2: *Preparation of a Cultural Resources Monitoring and Discovery Plan.*	Prior to construction, a project-specific cultural resources monitoring and discovery plan (CRMDP) will be developed by a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The monitoring plan should identify what construction activities that occur in native soils would require archaeological and tribal monitoring, describe monitoring procedures, and outline the protocol to be followed in the event of a find. Criteria will be defined and triggers identified as to when further consultation is required for the treatment of finds. Plans of treatment of typical finds will be detailed, as will a plan of treatment for any human remains that are inadvertently encountered. If a potentially significant discovery is made and cannot feasibly be avoided, then additional work, potentially including data recovery excavations, may be required. Key staff will be identified, and the process of notification and consultation will be specified within the CRMDP. A curation plan will also be outlined within the CRMDP. All work should be conducted under the direction of a qualified archaeological Principal Investigator who meets the Secretary of the Interior's standards for archaeology. Consulting tribes under AB52 for the Project shall have the opportunity to review and comment on the draft CRMDP.

PALEONTOLOGICAL RESOURCES

MM-GEO-1: *Worker Environmental Awareness Program.*	Prior to construction, OCTA shall retain a qualified paleontologist who meets the requirements to be included in Orange County's list of qualified paleontologists. The qualified paleontologist shall prepare a WEAP. The WEAP will describe the types of resources that may be encountered during construction, the laws protecting those resources, and the procedures to follow when finds are encountered. The WEAP will be presented either in person or in video form to all construction employees involved in ground-disturbing activities before they begin work at the Project Site.
MM-GEO-2: *Response to Unanticipated Paleontological Finds.*	If buried paleontological resources are uncovered during construction, all work shall be halted in the vicinity of the discovery until a qualified paleontologist can visit the site of discovery and assess the significance of the resource and, if necessary, recommend treatment.

HAZARDS AND HAZARDOUS MATERIALS

MM-HAZ-1: *Notifications to Federal, State and Local Agencies.*	The Project applicant shall notify the appropriate agencies (e.g., Orange County Health Care Agency [OCHCA], Department of Toxic Substances Control [DTSC], United States Environmental Protection Agency [EPA], or the Regional Water Quality Board) regarding soil, soil gas and/or groundwater contamination in connection with the ongoing military clean-up site associated with the former El Toro Marine Corps Air Station (MCAS) Superfund site.

MM-HAZ-2: *Groundwater Monitoring Requirements.*	Where the Project Site construction and operational activities coincide with the current groundwater monitoring systems (e.g., wells, water transfer conveyance lines), the requirements of the Institutional Control (IC) in connection with IRP Site 24 for the ongoing military clean-up site associated with the former El Toro MCAS Superfund site shall be adhered to in order to protect human health and the environment from potential hazardous materials exposures.
MM-HAZ-3: *Soil Assessment for Hazardous Materials.*	Prior to construction activities at the Project Site, if required by the state or local regulatory oversight agencies, then further assessment including soil, soil vapor and/or groundwater investigations shall be conducted to reveal the presence, if any, of potential hazardous materials at the Project Site that were identified as a result of the Phase I ESA, and would assist in determining further mitigations required to address human health and/or the environmental impacts due to potential hazardous materials exposures.
NOISE	
MM-NOI-1: *Relocate Pile Driving Activities*.	If feasible, relocate Project elements requiring pile driving to locations greater than 250 feet from occupied buildings.
MM-NOI-2: *Alternative Pile Insertion*.	If MM-NOI-1 is not feasible, use a less intrusive form of pile insertion, such as pre-augured piling.
MM-NOI-3: *Schedule Pile Driving Activities.*	Arrange to conduct pile driving activities during a period when the affected building(s) are not in use (such as Saturdays).
TRIBAL CULTURAL RESOURCES	
MM-TCR-1: *Native American Monitoring.*	Prior to construction, OCTA shall retain a qualified Native American monitor, with preference given to the consulting Native American tribes. The CRMDP described in MM-CUL-2 will define the scope of Native American monitoring and will be prepared with the input of the consulting Native American tribe(s). The monitoring plan will define pre-construction coordination, archaeological and tribal construction monitoring for the excavations based on activities, and depth of disturbance planned for each Project component. The CRMDP will define the role and responsibilities of the Native American monitor and identify thresholds where additional consultation with Native American tribe(s) is required.
MM-TCR-2: *Unanticipated Discovery of Tribal Cultural Resources*	If prehistoric or ethnohistoric cultural resources are encountered during the course of construction, the consulting Native American tribe(s) will be consulted as to the significance and treatment of these resources. OCTA will determine whether the resources constitute tribal cultural resources in consultation with the Native American tribe(s) and if necessary, a mitigation plan will be prepared.

1. INTRODUCTION

The Southern California Regional Railroad Authority (SCRRA) Metrolink commuter rail system (Metrolink) is proposing to construct the Orange County Maintenance Facility (hereafter referred to as "OCMF" or "the Project") in the City of Irvine (or City). The Project would include several facilities including a transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth, sand silos, a maintenance facility, a maintenance facility extension, and 11 tracks. The Project consists of buildings that would have a total building area of approximately 90,000 square feet when combined. Approximately 80 employees would report to the Project. Metrolink currently operates three maintenance facilities across its service area: Central Maintenance Facility (CMF) in Los Angeles, Eastern Maintenance Facility (EMF) in San Bernardino County, and the North County Transit District's (NCTD's) Stuart Mesa Facility in northern San Diego County. Due to projected population expansion within its service area, Metrolink will require an increased number of commuter rail services, as well as additional train storage and maintenance facilities associated with an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the Project Site would provide an optimal location for a new Metrolink maintenance facility. The Orange County Transportation Authority (OCTA) is the lead agency under the California Environmental Quality Act (CEQA). The City of Irvine and SCRRA are the responsible agencies under CEQA.

1.1. Background

The six counties served by SCRRA include: Los Angeles, Orange, Riverside, San Bernardino, Ventura and San Diego. Based on the projected population expansion within the six-county area currently served by the SCRRA, Metrolink will operate an increased number of commuter rail services to support that growth. Consequently, the Metrolink system (Figure 1.1-1) will require additional train storage and maintenance facilities to support an increased fleet size. As a significant proportion of the expanded services will operate in Orange County, the proposed site would provide the optimal location for the additional Metrolink facility.

Metrolink currently operates three maintenance facilities across its service area. Its CMF is located on the east bank of the Los Angeles River near the Interstate 5 (I-5) and Interstate 10 (I-10) freeways, just south of the location of the former Southern Pacific Taylor Yard. The EMF is located in Colton and provides daily and routine servicing for San Bernardino Line trains. Metrolink trains are also serviced at NCTD's Stuart Mesa Facility, which is located in Camp Pendleton South between Oceanside and Marine Corps Base Camp Pendleton in San Diego County.

CMF is currently near capacity, which will impact the ability to provide the necessary train servicing for the planned service expansion of various Metrolink lines throughout the system under the Southern California Optimized Rail Expansion (SCORE) program. By transferring a portion of the current fleet from CMF to the proposed OCMF (specifically the Orange County Line trains), capacity for the non-Orange County trains will be increased at CMF. The Orange County Line has the highest ridership within the

Metrolink system; therefore, a maintenance facility to serve the Orange County area with sufficient storage and servicing capabilities for both locomotives and rail cars is critical to controlling operating costs.

Figure 1.1-1: Metrolink System Map

Source: SCRRA, 2019

To optimize rail service in the region, the proposed OCMF would need to be completed by 2028. The SCORE program may also require heavy overhaul capabilities at OCMF, depending on pending decisions regarding fleet technology and management.

The expansion of Orange County and overall Metrolink commuter rail service will ultimately require additional or expanded equipment servicing capabilities for both locomotives and rail cars. Because a significant portion of the fleet will serve Orange County, a maintenance facility located along the Metrolink route through Orange County would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The proposed OCMF would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Much of the inspection and maintenance activity is federally mandated and must be performed at specific intervals.

1.2. Project Setting

The proposed Project Site is on a 21.3-acre OCTA-owned parcel on Ridge Valley south of Marine Way in the City of Irvine Tracks, between mileposts 183.50 and 184.00 (Figure 1.2-1). This location is within a closed military base (Marine Corps Air Station [MCAS] El Toro) formerly owned by the United States Department of the Navy (DON). After MCAS El Toro was closed, the site was quitclaimed by the Navy to Heritage Fields El Toro, LLC in 2011, and then by way of grant deed conveyed by Heritage Fields to the City that same year. OCTA then purchased the fee ownership of the Project Site from the City. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley.

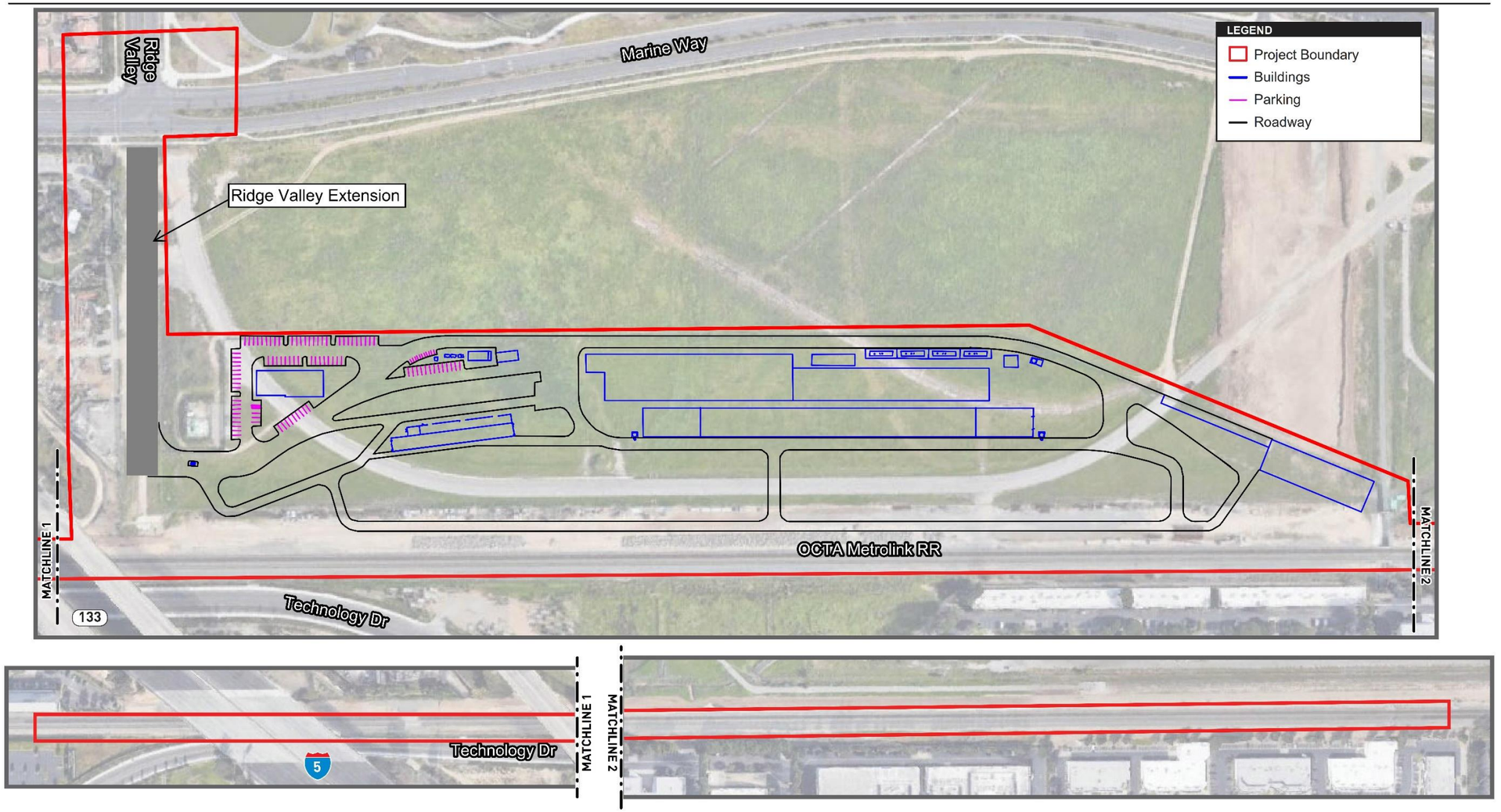
1.3. Project Location

The Project Site is currently vacant and includes 1,000-foot-long storage for miscellaneous rail equipment including temporary railroad bridges, signal houses, railroad ties, and electrical conduits. Although not part of the Project, OCTA has immediate plans to install a single 1,000-foot-long, single-ended storage track and fencing of the perimeter of the property. The storage track will be connected to the mainline with a left-hand No. 10 turnout that would feed into and out of the yard site from the north end.

The Project will be developed in two phases with an anticipated completion date of 2028. Phase 1 focuses on developing facilities needed for train storage. The yard is planned to have phased construction, with Phase 1 consisting of the Service and Inspection (S&I) Facility tracks, train wash track, storage tracks, set-out track(s), yard lead tracks, transportation building, and employee parking. Phase 2 includes construction of the Maintenance Building and associated tracks. Other potential items in this phase are the conversion of the West Lead Track into a drill track, and the construction of a second run-around track within the mainline track corridor.

The Project is within Planning Area 51 of the updated City of Irvine General Plan, adopted in June 2015. Per the City's zoning ordinance, the proposed use is a conditionally allowable use under the existing zone. Therefore, OCTA has filed a CUP application for this Project.

Figure 1.3-1.3-1: Project Location



Source: GoogleEarth 2021, AECOM

0 250 500 Feet

Figure 1.3-1 Project Location

Metrolink Orange County Maintenance Facility

Path:\\na.aecomnet.com\lfs\AMER\SanDiego-USSDG1\DCS\Projects_60632397_GF_OCTA_MSF\900-CAD-GIS\930 Graphics\2.2-2 Proj Layout_Elements.ai, 12/09/2021, BradyD

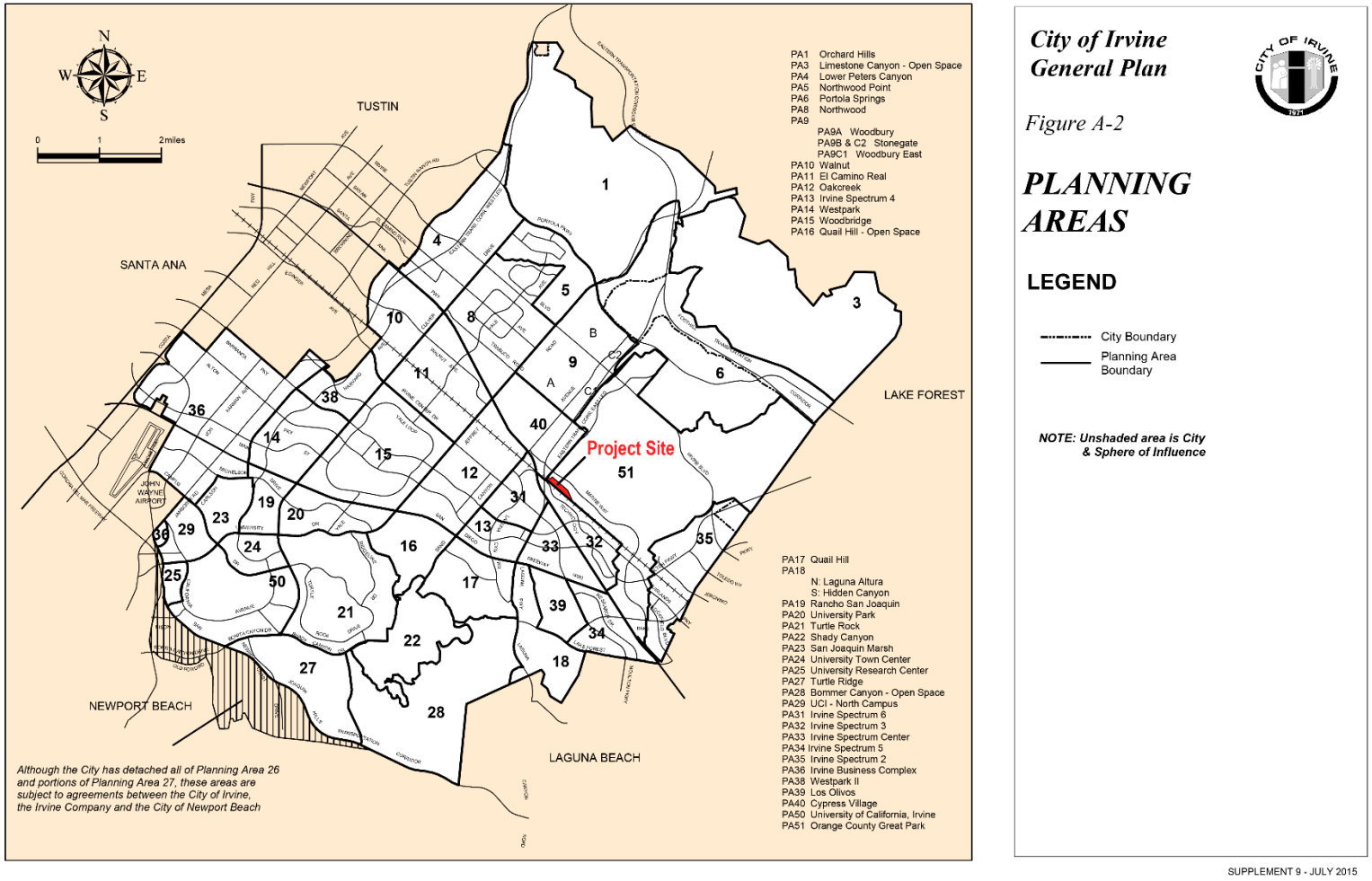
Source: ESRI, 2021, and OCTA, 2021

2. PROJECT DESCRIPTION

2.1. Existing Land Uses

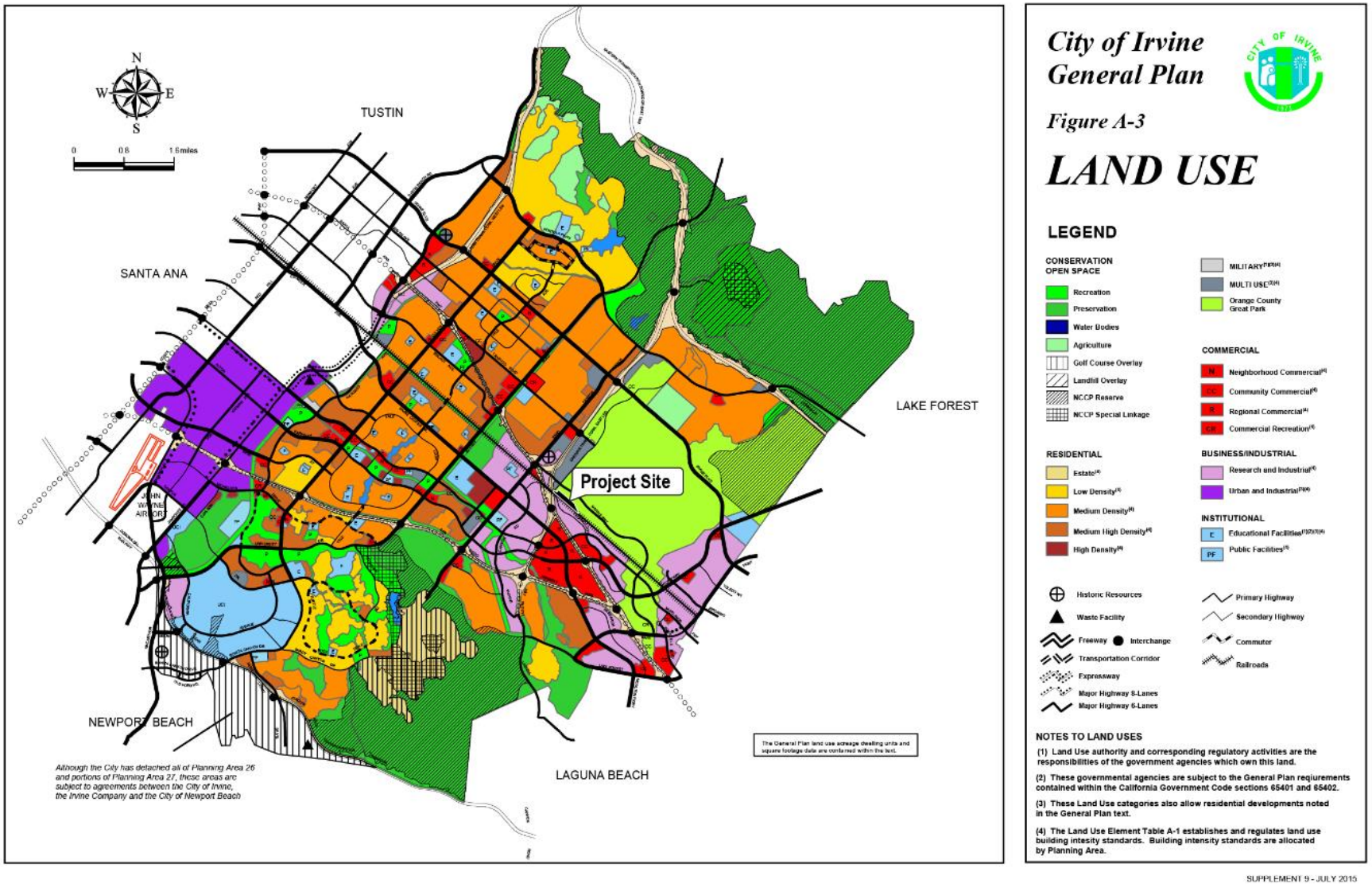
The City of Irvine General Plan has designated the area where the Project Site is located as Planning Area 51 (Figure 2.1-1), with land use designated as the Great Park (Figure 2.1-2) and is zoned as 6.1 Institutional (Figure 2.1-3).

Figure 2.1-1: City of Irvine Planning Areas Map



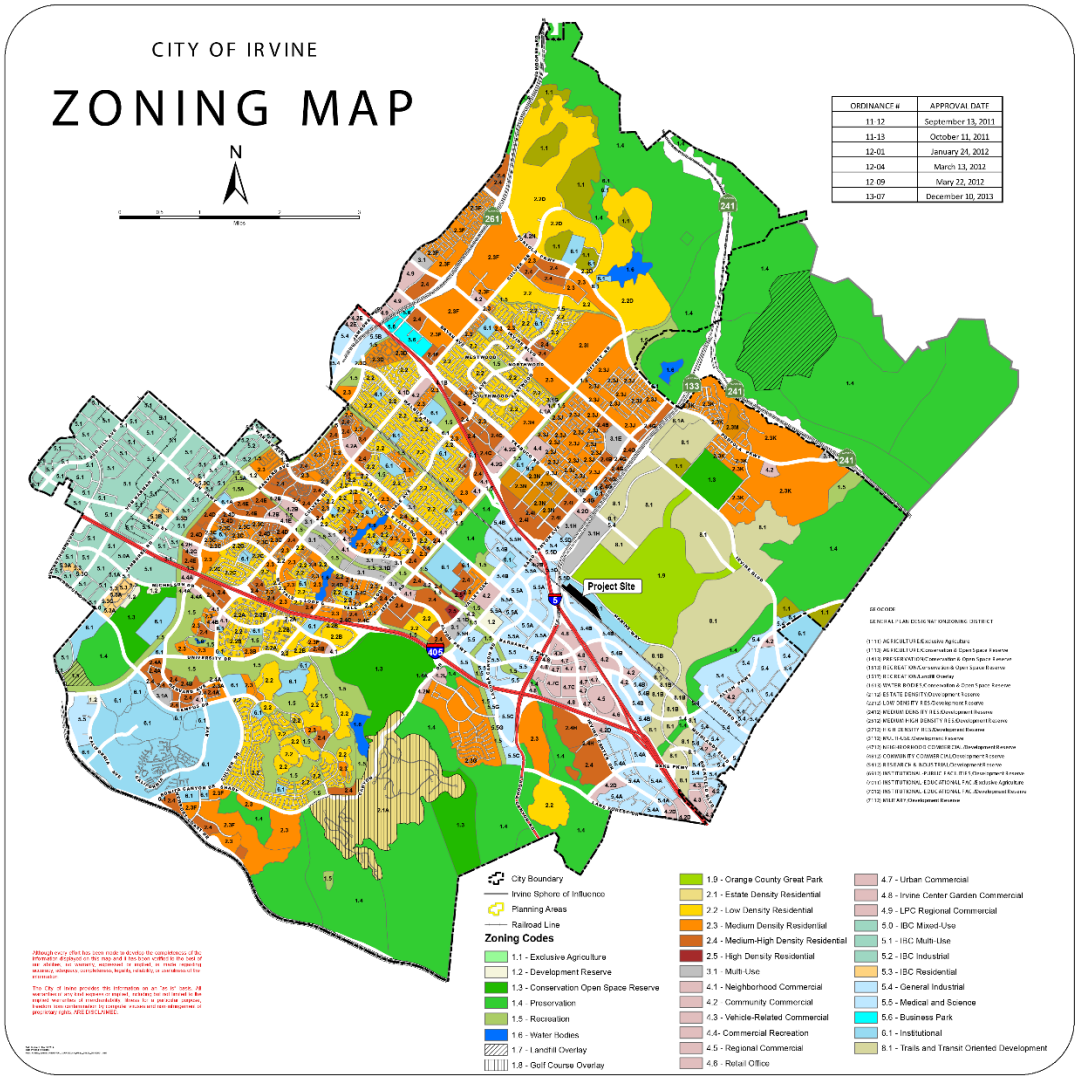
Source: City of Irvine, 2015

Figure 2.1-2: City of Irvine Land Use Map



Source: City of Irvine (2015)

Figure 2.1-3: City of Irvine Zoning Map



Source: City of Irvine (2015)

2.2. Alternatives Considered

Alternative layouts have been developed for the site with the main difference among the alternatives being the location of the S&I Facility. Below is a brief description of each of the proposed alternative layouts.

Layout 1 - S&I Facility South

The S&I Facility and the Train Wash Building would be located on the south side of the Project Site to optimize the space available on the Project's longest track. The storage tracks would be located north of the S&I Facility with an offset of 23.25 feet from track centerline to track centerline. The storage track alignment would run parallel to the Train Wash building and would be accessible from the S&I tracks.

The Maintenance Building would be located closest to the north side of the property while the Fueling Tanks and Sanding Silos would be located near the S&I Facility in an at-grade configuration.

Layout 1 would require large vehicle deliveries, including fuel trucks, to utilize the perimeter road that crosses the storage tracks at both ends of the site. Therefore, Layout 1 was withdrawn from consideration.

Layout 2 - S&I Facility North

Layout 2 would position the S&I Facility on the north side of the Project Site. The distance between the S&I Facility and mainline tracks would allow SCRRA to store up to two (2) incoming trains on lead tracks to the S&I Facility and leave the East Lead track free of train traffic. This would provide additional capacity so that trains would not have to idle due to ingress and egress capabilities through the East Lead to exit the yard.

Fueling Tanks and Sanding Silos would be located near the S&I Facility in an at-grade configuration. The Maintenance Building would be located within the center of the yard between the S&I Facility and the storage tracks.

Storage tracks would have alternating track spacing of 23.25 feet and 18 feet, and both S&I tracks converge into the Train Wash with no run-around track.

Layout 2 has potential safety issues during operations. This alternative's track configuration and the resulting access road layout would compromise Fire Department standards for access due to the 60-foot tangent between reverse curves. The southeast corner of the Project Site would be in violation of fire code. Therefore, Layout 2 was withdrawn from further consideration.

Layout 3 - S&I Facility Center

Layout 3 would place the S&I Facility in the center of the Project Site. Compared to the other layout alternatives, Layout 3 would minimize the length of piping for fueling and sanding elements and the frequency of crossing tracks for material deliveries. The future Maintenance Building would be located closest to the north side of the property.

Fueling tanks would be located near the Maintenance Building in an at-grade configuration. While this alternative layout would necessitate higher quantities of piping for fuel during operations, delivery trucks would not need to cross the Metrolink tracks. Sanding silos would be located near the S&I Facility in an at-grade configuration, which results in delivery trucks crossing the tracks for the Maintenance Building and S&I Facility in order to make deliveries and then exit the yard. The Maintenance Building is located at the north end of the yard enabling future construction to take place outside of the normal operation of the yard. This alternative has been selected as the Preferred Alternative and is evaluated in this document.

Storage tracks have alternating spacing of 23.25 feet and 18 feet, and there would be tracks to run around the Train Wash accessible from one of the S&I tracks, for which the run-around track also serves as a set-out track.

2.3. Project Description

The Project would be developed in two phases. Phase 1 focuses on developing facilities needed for train storage. The yard would have phased construction, with Phase 1 comprising of the following facilities: the transportation building, employee parking area, train-wash building, pump house, utility building, guard booth, equipment booth and sand silos. A total of 11 tracks would be constructed including two lead tracks,, six storage tracks, one runaround track, and two temporary stub-ended set out tracks that would be converted to shop tracks in Phase 2. . Phase 2 would construct the Maintenance Building and the future Maintenance Building Expansion . Other potential items in this phase are the conversion of the West Lead Track into a drill track, and the construction of a second run-around track within the mainline track corridor.

2.3.1. General Yard Layout

The proposed maintenance facility has three (3) basic components: S&I Facility, Train Wash, and Storage Tracks (refer to Figure 2.3-1). During normal operation of the yard, trains would go through each of these facilities in this order to be inspected: serviced (sanding and fueling), washed, and then stored for their next use. Most of the movements in and out of the yard would be from the east, with few trains entering the yard from the west. As such, based on the order of normal operations, the S&I Facility is the first destination for trains entering the yard and is located toward the east end of the yard. The Train Wash follows and is located along the same set of tracks toward the west end of the facility. Since the site is not long enough for storage tracks to be in line with the S&I and Train Wash tracks, a tail track is needed at the west end of the Project Site to move trains from the Train Wash to the Storage Tracks. For the OCMF, the West Lead Track serves as a tail track as it is long enough for a train to pull forward on to it, stop, and reverse direction.

The OCMF would also have a Maintenance Building approximately 430 feet long as part of a future phase, which is to handle preventative maintenance and light repair, with two double-ended tracks going through it. In coordination with SCRRA, a secondary future phase for the Maintenance Building has been provisioned to allow the building to be extended to accommodate a full train length. The yard layout has been designed to not preclude this expansion.

The Storage Tracks, S&I Facility, and future Maintenance Building would be parallel to each other. Trains would need to use one of the lead tracks when traveling to and from these locations.

2.3.2. Parking and Roadway

Parking

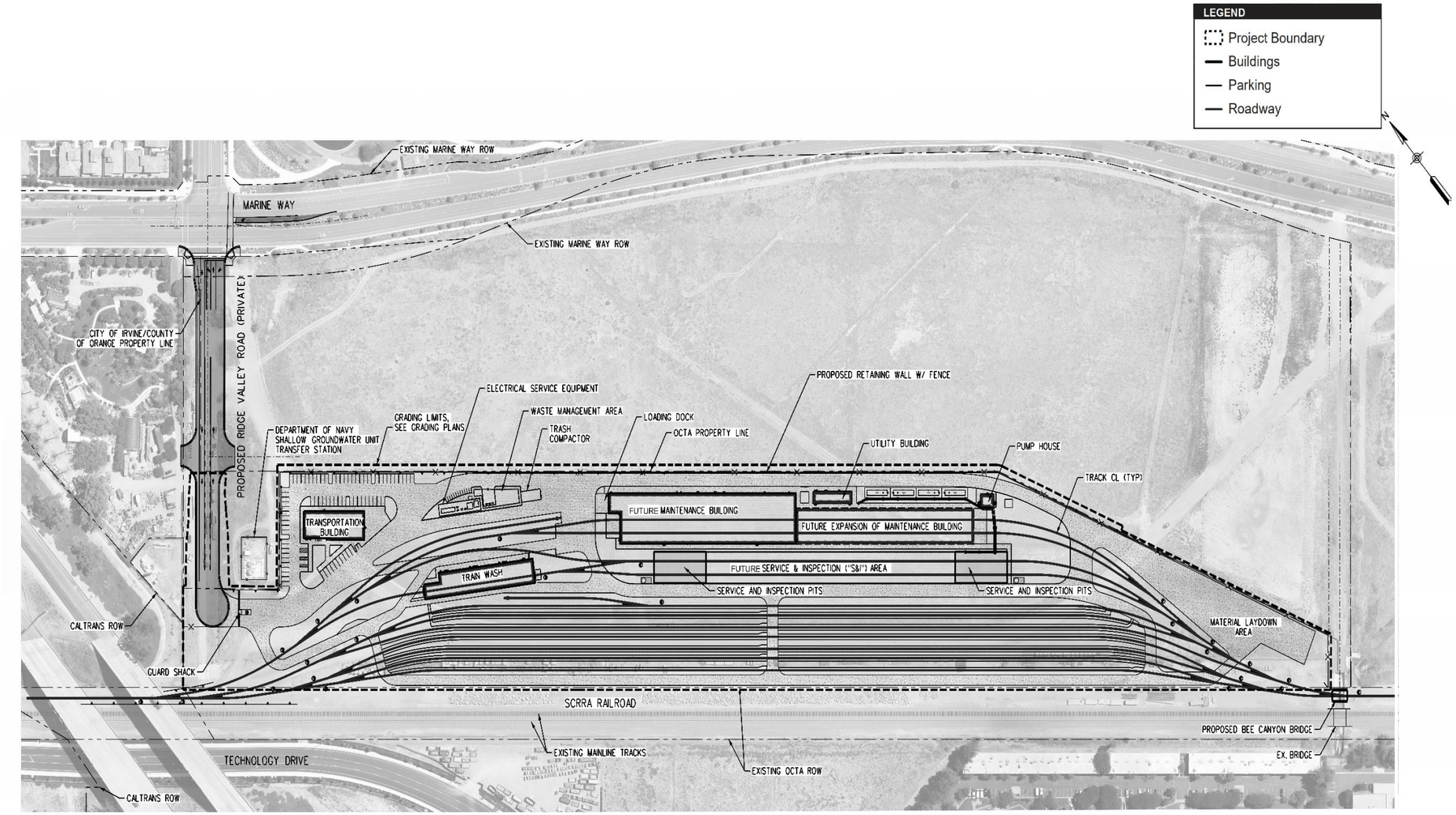
Parking would be provided surrounding the Transportation Building in the Northwest corner of the site. Additional parking would be placed near the Water Treatment Room as well as near the Maintenance Shop and S&I area, with an approximate total of 114 parking spaces.

Roadway

The roadway design and vehicle routing are heavily influenced by the track design and configuration. Fire truck access would be compliant with the Orange County Fire Authority (OCFA) Requirements. Vehicle routes for fuel/materials and small parts deliveries are being considered within the evaluation. Roadways and vehicle routing are being evaluated utilizing four different vehicles:

- Single Tanker Truck
- Double Tanker Truck
- Caltrans 65
- Orange County Fire Authority Emergency Vehicles

Figure 2.3-1: Project Layout and Elements



Source: GoogleEarth 2021, AECOM

Figure 2.3-1
Project Layout and Elements

Metrolink Orange County Maintenance Facility

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The Project would allow large vehicles to cross storage tracks within the Project Site. Additionally, the Project provides flexibility in large-vehicle routing in the form of loop- and hammerhead-turns. Both large vehicle route options require crossing of the maintenance tracks on the west side of the Maintenance Building.

The Site Entrance would be 40-feet wide with track centers at 18-feet spacing. Access roads are 12-feet wide between storage tracks. Light poles between the tracks would restrict the width of a vehicle to 5-feet when travelling parallel to tracks. At the ends of the storage tracks, the width of the access road would be a minimum of 5-feet.

Within the facility, access roads vary from 15 to 37 feet wide. Access roads to specific locations or facilities are a minimum of 10-feet wide.

Site Access

Access to the OCMF would require a roadway extension along Ridge Valley from the intersection of Ridge Valley and Marine Way. The final design configuration for the access road would be coordinated with third-party stakeholders, including but not limited to the County of Orange, City of Irvine, Irvine Ranch Water District, and Heritage Fields LLC. The only site access comes from the new Ridge Valley Extension. At the entrance a security booth, gate arms, and fencing are provided to limit unauthorized access to the site.

2.3.3. Drainage

The Project would relocate existing drainage and install new drainage infrastructure for new storage and grading needs. The Project would tie into existing City and County facilities within the Project Site.

Existing Drainage Facilities

The existing topography of the site provides a drainage pattern that slopes from east to west. Run-off is collected at the surface via open earth channels and concrete drainage inlets, which is then routed to the north end of the site through two 24-inch corrugated steel pipes. Run-off leaves the site through an open concrete channel and empties downstream into a channel owned by the Orange County Flood Control District (OCFCD). The Bee Canyon Channel, located on the south end of the site, runs east to west and does not take run-off from the Project Site. Part of the project includes a reprofiling of the existing Bee Canyon Channel in order to construct a second railroad bridge. The Project proposes the reprofiling of an approximately 70-foot segment of the Bee Canyon Channel. This will result in a lower top of channel wall, a lower Hydraulic Grade Line with freeboard contained within the new top of wall elevation, and a 2.5-feet channel drop at the inlet of the 60-inch reinforced concrete pipe lateral to the channel. The existing hydraulic performance of the Bee Canyon Channel would be maintained at the lower profile. It is anticipated that this existing drainage pattern would be not be altered or re-routed after the development of the maintenance facility. The existing outlet discharge would also be maintained so that the OCFCD facilities are not impacted.

Drainage Analysis

In order to establish the correct sizing of the drainage facilities, a drainage analysis shall be performed to establish the Project requirements. The following drainage criteria shall form the basis of analysis:

- 25-Year Design Storm for Roadway based on the Orange County Hydrology Manual Intensity Duration Recurrence (IDR) curves and intensity calculations
    - Intensity (25-year) = 4.82 inch/hour based on the intensity calculation for mean precipitation. Intensities for non-mountainous areas.
- 25-Year Design Storm for urban flood protection
- 50-Year Design Storm for Roadway (sump conditions) based on the Orange County Hydrology
- Manual IDR curves and intensity calculations.
    - Intensity = 5.44 inch/hour based on the intensity calculation for mean precipitation Intensities for non-mountainous areas.
- All new culverts would have a minimum cleanout velocity of 5 feet/s, according to the City of Irvine Storm Drain Design Manual.
- Design Capture Storm Depth (DCSD) shall be the 85th percentile of a 24-hour rain event
- DCSD = 0.80 inch (from 85th percentile 24-hour event)

Water Quality Management Plan (WQMP)

The Project Site is located within the Santa Ana Regional Water Quality Control Board (SARWQCB) jurisdiction and shall follow the Model Water Quality Management Plan (WQMP) that the OCFCD uses to address post-construction urban runoff and stormwater pollution from new developments or significant redevelopments. The Project is located within the Upper San Diego Creek Watershed, which is a high-risk receiving watershed. The San Diego Creek Reach 2 has established Total Maximum Daily Loads (TMDLs) that need to be considered during the development of the WQMP. Based on this, the preferred Best Management Practice (BMP) type would be infiltration, evapotranspiration, or harvest/use. The Project would install a 115 foot by 115 foot by 5 feet deep underground cistern that would hold approximately 552,254 gallons for retention and capture/reuse.

2.3.4. Trackwork

The yard features six (6) storage tracks, each long enough to store two (2) full trains. At least four (4) spots are provided for a train with two (2) locomotives, with six (6) spots being the preferred capacity.

Special trackwork within the Project Site would utilize only #8 turnouts per SCRRA Standards and be located on horizontal and vertical tangents. At least 15-feet of tangent is provided leading to each switch with 30 feet being the preferred minimum distance.

Track Leads

There are two (2) lead tracks to the yard: the west and east lead tracks. Both lead tracks are positioned such that a third main track can be constructed between the lead track and the SCRRA Orange Subdivision Main Track 1.

At the request of SCRRA, the Project shall incorporate the turnout to the East Lead Track into Control Point (CP) Tinkham in order to increase the clear capacity of the lead. The extended length of the East Lead would allow two (2) trains to be set out on the lead prior to entering the OCMF. Having the East Lead Track tie into CP Tinkham would minimize protect-in-place activities for the existing 30-inch Southern California Gas (SCG) line located on the southern portion of the Project Site.

The West Lead Track must be able to hold one (1) train, so that a train coming from the west can clear the main tracks and the track can be used as a tail track to facilitate movements from the S&I track to the storage tracks for normal yard operations. The design of the yard would use the existing track to the west of the yard as the West Lead Track. A #10 Left Hand Crossover would be installed to the west of the existing #10 Turnout to facilitate movements from Main Track 2 into the yard. The crossover and turnout would become a new Control Point.

Set-Out Track

Two set-out tracks would be provided that can hold up to three (3) passenger cars. In Phase 1 construction, the Maintenance Building tracks can be partially constructed to provide set-out tracks on each side of the future maintenance building. The ability to set cars on those tracks would then be converted with the construction of the Maintenance Building as shop tracks.

Run-Around Track

One (1) run-around track is necessary so that trains or locomotives can get from one end of the yard to the other without going out onto the main tracks. If future operations require a second run-around track, layouts 2 and 3 are set up such that the West and East Lead Tracks can be connected, which would provide this benefit.

2.3.5. Vehicle and Train Dimensions

Passenger vehicles are 85-feet long and 9-feet 10 inches wide. Locomotives may be either 58-feet or 69-feet long depending on the model and are about 10-feet wide at and below the platform level. For design purposes, locomotives are assumed to be 70-feet long. The design train length is 750-feet. This accounts for eight passenger cars (each 85-feet long) and 1 locomotive. In the storage tracks several spots for trains with 2 locomotives would be provided with the design train length being 820-feet.

It is anticipated that eight-car trains can be pulled by a single locomotive. Trains with a second locomotive are anticipated in cases of emergency whereby the second locomotive pulls the entire train. Therefore, the S&I Facility and Maintenance Building are designed for a train length of 750-feet. The

Project would not increase operational services or expand ridership through the increase in vehicle numbers or capacity.

2.3.6. Total Yard Storage

A total number of 21 trains can be accommodated on the site at full build out, with 12 trains on the storage tracks, 2 trains on the S&I Facility tracks, 2 trains on the Maintenance Building tracks, 2 trains on the Run-Around track, 1 train on the West Lead Track and 2 trains on the East Lead Track. Excluding run-around and lead tracks, 16 trains can be stored on the tracks within the yard.

2.3.7. Building Layouts

The buildings are functionally located throughout the yard to comply with day-to-day operations. The approximate square footage and building heights for the building layouts and facilities are shown in Table 2.3-1. Trains enter from the main line tracks and access the S&I Tracks for daily service of the 8-car consists. This service cycle lasts roughly 30-45 minutes and includes fueling, sanding, fluid topping, toilet dump, and locomotive inspection. Upon completion of the service and inspection cycle the consists then operate through the Train Wash Building and over to a designated track at the storage tracks. Accessibility from the storage tracks is available for locomotives or cars requiring detailed maintenance service. At this time, they are moved through the access tracks to the Maintenance Building (Phase 2) where repair work is performed on the locomotives and cars. Train consists, once serviced, are staged in the storage tracks for dispatch and morning pull-out.

The building structure requirements are programmed to serve various functions within the working yard. This includes Phase 1 and Phase 2 design concepts for the ultimate facility. These structures include:

- Transportation Building (Phase 1)
- Maintenance Building (Phase 2)
- Service and Inspection Facility (Phase 1)
- Utility Building (Phase 1)
- Train Wash Building (Phase 1)
- Maintenance Building Expansion(Phase 2)

Table 2.3-1: Building Specifications

Building/Facility/Item	Building Area	Building Height
Transportation Building	7,495 sq. ft.	20 ft
Train Wash Building	11,110 sq. ft.	21 ft
Maintenance Building	40,392 sq. ft.	48 ft
Maintenance Building Expansion	27,880 sq. ft.	---
Utility Building	981 sq. ft.	20 ft
Pump House	750 sq. ft.	14 ft
Guard Booth	36 sq. ft.	---
Equipment Booth	48 sq. ft.	---
Sand Silos (2 Total)	576 sq. ft.	---
Total	89,268 sq. ft.	

Source: Gannett Fleming, Metrolink (2022)

Note: sq. ft. = square feet; ft = feet

Transportation Building

The Transportation Building is approximately 7,495 square feet with an industrial architectural style. This building would have administrative functions and would be used to serve all employees working in the facility. Locker room and restroom areas are designated in this building for all crew members, mechanics, cleaners, and supervisors for multiple shifts in the facility. The exact layout of locker and restroom facilities would be determined during final design.

Maintenance Building

The Maintenance Building is approximately 40,392 square feet with an industrial architectural style. This building has two (2) maintenance and inspection service bays: one single flat bay for minor maintenance and another bay with a service pit and platforms on both sides for access to roof tops of trains. A dual overhead crane also helps service both bays, with a dedicated component and material drop-off area and Support Shop adjacent to the service bays. A secure High-Level Automated Parts Storage Area is also adjacent to the service bays, with a shipping, receiving, and staging area inside the Storage Area for deliveries.

Service and Inspection Facility

The S&I Area is approximately 815 feet by 60 feet. The S&I Facility consists of several services for train cars in the facility, listed below:

- Dual S&I Fueling and Inspection Tracks/Areas (for bi-directional train access)
- Locomotive Fueling Area
- Platform Area Sanding Stations and Lubricant Reels at engine compartment access.
- Inspection Pit level.
- Toilet Dump Stations throughout the length of the eight-car consist

Utility Building

The Utility Building is approximately 981 square feet with an industrial architectural style. An additional 45 feet in length adjacent to the building is designated for the trash compactor and the baler, where the trash and waste from throughout the facility is handled. See full list of the building's program below:

- Lube Pump Room (Storage of new and used fluids)
- Air Compressor Room
- Trash Compactor and Bailer outdoor area with roll-off container pick up access
- Propane Storage Room
- Welding Gas Cylinder Storage Area
- Water Treatment Room (Oil Water Separator)
- Sewer Ejector Lift Station (Outside Building)
- Industrial Waste Tank (Outside Building)

Pump Building and Fuel Storage

The Pump House is a one-story unoccupied facility located on the south east side of the yard near the Utility Building. The square footage of the building is 750 square feet, and it has a building height of approximately 15'-6" from grade, with an industrial architectural style. It houses the elaborate fuel pumping system that will distribute diesel fuel to two locations at the S&I fuel stations to support the four fuel cranes. The Pump Building is also supported by a rubber tire vehicle fuel station and an adjacent Diesel Exhaust Fluid (DEF) tank and pump system that will support the dispensing of DEF at the fuel stations.

The tank farm located adjacent to the Pump Building provides a total of 120,000 gallon of diesel fuel storage located in four 30,000-gallon double walled aboveground tanks (AST) supplied with fuel delivery spill boxes and alarm systems. Distribution piping routed between the Utility Building, AST tanks, Pump Building and Fuel Stations is supported via a structural pipe bridge interconnection the Utility Building, Pump House, and S&I Fueling canopies for Phase 1 construction. Phase 2 construction will allow the extension of such bridge for fluid and air distribution to the future maintenance Building.

- Pump room housing diesel pump system and supporting equipment.
- Four 30,000-gallon aboveground double wall diesel fuel tanks.
- DEF tank and pump system.
- Rubber tire vehicle fueling station.
- Supply pipe bridge for distribution of fuel line, fluid lines and air distribution lines along with all required electrical conduit

Train Wash Building

The Train Wash Building is approximately 11,110 square feet with an industrial architectural style. Train cars are cleaned in this building. Coordination with the City of Irvine is necessary to establish the requirement of a canopy. The design of the Train Wash and its tracks would enable trains to pass through it in either direction. The wash would activate on only when desired so trains can go through the wash without being washed. A full list of the building's program is listed below:

- Drive-Thru Brush Vehicle Wash Bay with Speed Control and Water Stripper System
- Equipment Room
- Reclamation System
- Reverse Osmosis Spot Free Rinse
- Storage Vessels
- Pump Systems
- Underground pit collection system
- Electrical Room

Material Storage Building

The Material Storage Building is approximately 15,600 square feet with an industrial architectural style. Most material and equipment for the facility is stored in this building, as well as hazardous material and batteries. Final confirmation with SCRRA is pending to determine if the storage site is to be an enclosed prefabricated structure or an open-site area. Additional coordination with the City of Irvine is necessary to establish allowable proximity of the structure face to the property line. See full list of the building's program below:

- Large Material Storage Area
- Equipment Storage Area
- Battery Shop for battery charging and storage
- Hazardous Materials Storage Area

2.4. Construction

The Project would be developed in two phases with an anticipated completion date of 2028.

2.4.1. Phase 1

Phase 1 of the Project would involve construction of most of the infrastructure in the yard, including the S&I Facility tracks, train wash track, storage tracks, set-out track(s), yard lead tracks, transportation building, and employee parking. The construction activities, their duration, and personnel assumptions for construction of Phase 1 are shown in Table 2.4-1.

2.4.1. Phase 2

The second phase would construct the Maintenance Building and the Maintenance Building Expansion. Other potential items in this phase are the conversion of the West Lead Track into a drill track, and the construction of a second run-around track within the mainline track corridor. The construction activities, their duration and personnel assumptions for construction of Phase 2 are shown in Table 2.4-2.

Table 2.4-1: Construction Assumptions for Phase 1

Activity	Duration (Months)	Personnel
Clear and Grub	3	10
Site Utilities	24	16
Demolition	3	10
Earthwork-Excavation, grading and compacting	6	16
Foundations	4	24
Roadway/Paving/Curbs	4	15
Building	19	57
Bridge (assume precast)	6	36
Trackwork- Ballasted- (top of sub ballast up)	10	30
Trackwork- Direct Fixation	3	10
Major Equipment	6	33
Commissioning	2	N/A

Source: Gannett Fleming, 2021

Table 2.4-2: Construction Assumptions for Phase 2

Activity	Duration (Months)	Personnel
Clear and Grub	<1	10
Site Utilities	4	16
Demolition	1	10
Earthwork-Excavation, grading and compacting	2	16
Foundations	2	24
Roadway/Paving/Curbs	2	15
Building	15	57
Trackwork- Ballasted- (top of sub ballast up)	4	30
Trackwork- Direct Fixation	3	10
Major Equipment	6	33
Commissioning	2	N/A

Source: Gannett Fleming, 2021

2.5. Operations

2.5.1. Proposed Rail Conditions and Operations

The OCMF would provide overnight servicing and storage for trains – like Orange County Line trains – ending their day or revenue operations in or near Orange County. The OCMF would provide regular light repair, daily, and scheduled light maintenance on a three, six, and twelve-month schedule. Heavy repair

operations would continue to be performed at the CMF in Los Angeles. The rail operations functions of the yard may include, but not be limited to, the following:

- Rail Fleet Services – vehicle storage, maintenance, and repair. Provides for 3 or 4 shifts per day for rail fleet services staff and Yard Crew.
- Rail Transportation – train operator's services including:
    - Train operators report desk services.
    - Train operators transport services.

Typically, trains would enter the yard from the mainline going directly to the S&I pits. Once serviced, fueled, sanded, and cleared of waste, the trains head to the train wash for exterior cleaning. From the train wash they are sent to the storage yard for overnight keeping. Trains leaving the yard are inspected daily on the storage tracks before being released to revenue service by rail fleet services. The daily inspections include:

- The Automatic Train Protection system is tested
- Emergency braking system is tested
- The brakes are tested
- The doors are tested including their sensitive edges
- The couplers are checked
- The destination signs are tested
- The master controller and deadman controls are checked
- Defaced (graffiti) and worn passenger seats are documented
- Interior and exterior lights are checked
- Public address and intercom systems are tested
- Air conditioning system is checked
- Vehicle horn and gong is checked

Once the daily inspection is complete, trains are released to transportation services for operations. Trains passing the pre-trip inspections would be routed from storage to lead tracks in preparation for entry to the mainline. Specific train movements have been identified as standard movements in the daily operation of the yard:

- Mainline Northbound (NB) to Service and Inspection
- Service and Inspection to Train Wash
- Train Wash to Lead Tracks
- Lead Tracks to Storage Tracks
- Storage Tracks to Daily Inspection
- Daily Inspection to Lead Tracks
- Lead Tracks to Mainline Southbound (SB)

Approximately 80 employees are expected to access the Project Site daily following the Project's full buildout and the completion of Phase 2. Phase 1 and Phase 2 of the Project would anticipate

approximately approximately 52 and 28 employees respectively. Employees would enter the Project Site throughout the entire day, split across three eight-hour shifts.

2.6. Required Permits

OCTA is the lead agency for this Project and must oversee environmental review under CEQA, prior to approving the Project. OCTA recognizes the need for a close relationship with the City of Irvine and wishes to pursue the planning and environmental review of the Project in such a way that OCTA and the City of Irvine can agree that the Project would be of overall community benefit and that all reasonable efforts to avoid significant environmental effects have been made. Towards this end, OCTA would comply with regulations regarding site planning and construction, including such ordinances as the noise regulations and provisions of the City of Irvine's stormwater sewer system discharge permit.

The Project requires the following approvals and permits from agencies including:

- Army Corps of Engineering Clean Water Act (CWA) Section 404 Permit
- Army Corps of Engineering Amendment to the approved Habitat Mitigation and Monitoring Plan ("HMMP"), if necessary
- City of Irvine Public Works and Building and Safety Department - Grading Permit
- City of Irvine Building and Safety Department - Building Permit
- City of Irvine Community Development Services Department – Conditional Use Permit (CUP)
- Department of Navy
- Orange County Flood Control District ("OCFCD") - Encroachment permits may be required if any improvements are proposed within OCFCD right-of-way
- Santa Ana Regional Water Quality Control Board (SARWQCB)'s National Pollutant Discharge Elimination System (NPDES) Construction General Permit Order 2009-0009-DWQ
- South Coast Air Quality Management District (SCAQMD) - Issue any needed Air Quality Permits
- A consultation with U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) would be conducted if special status plant species cannot be protected and an Incidental Take Permit (ITP) would be attained

3. INITIAL STUDY

This section follows the Environmental Checklist format as provided by Appendix G of the 2020 CEQA Thresholds of the California Office of Planning and Research. The purpose of this section is to present the evaluation of the proposed Project against the questions in all environmental categories listed below. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Brief but adequate explanation is required for all answers and these answers must adequately be supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis). Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

3.1. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.1.3.1	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
3.1.3.2	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?	☐	☐	☐	☒
3.1.3.3	If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
3.1.3.4	Create a new source of glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1. Existing Conditions

The Project Site is in a relatively flat area adjacent to the Great Park, with a multi-sport complex to the northeast, office/industrial uses to the southwest, and I-5 to the east and State Route 133 (SR-133) to the north. The existing area in the vicinity of the Project Site consists of an active railroad corridor; vacant, undeveloped land; active parkland associated with the Great Park; and urbanized areas containing medium-high rise commercial office buildings (Google Maps, 2021). A complex of two-story single-family homes (Travata 55+) is located at the northwest corner of Marine Way and Ridge Valley.

The Santa Ana Mountains can be seen to the east of the Project Site, and Bommer and Shady Canyon can be seen southwest of the Project Site. There are no designated California Department of Transportation (Caltrans) scenic vistas or scenic resources in the area (Caltrans, 2019). The City of Irvine General Plan does not delineate or designate any scenic resources or specific views as protected scenic vistas in the Project Site (City of Irvine, 2015).

At this time, there is no planned development for the area between the Project and Marine Way. The existing Project Site does not have any light sources. Sources of lighting in the vicinity include the Great Park's tennis courts, sports fields, and parking lot security lighting. Additionally, the adjacent highways have light sources for roadway visibility and headlights from motor vehicle traffic.

Project Site

The Project Site is currently vacant and undeveloped; its visual character exhibits some natural landforms and vegetation, such as low grasses. A narrow, paved road traverses the Site. Minor visual structural features include unused stormwater drains, valves and vents, rail equipment, signal houses, and storage of other rail or electrical equipment. The form of the Project Site is generally flat and low, with no vertical elements that dominate the landscape. The lines associated with the Project Site are generally horizontal, curving, and continuous, but occasionally irregular, and do not visually dominate the view. Colors visible within the landscape primarily include hues of brown, with some patches of greens and grays. The texture of the Project Site is fine-grained, dense, patchy, with occasional areas of striation. The existing visual quality of the Project Site is considered to have low vividness, intactness, and unity because it does not exhibit distinctive or memorable visual elements; the integrity of the visual environment is not consistent or patterned; and the visual elements do not combine to form a coherent visual design or organization.

Most of the areas surrounding the Project Site vary greatly in visual character from the Project Site in terms of form, line, color, and texture due to the presence of more and taller vertical features such as trees, residences, and elevated highways, as well as vibrant large areas of green spaces. The visual quality of the surrounding area varies but generally exhibits a slightly higher degree of vividness, intactness, and unity.

Viewer Characteristics and Sensitivity

In considering aesthetic impacts of the Project, key views and visually prominent features have been assessed to determine how they would most influence impact perception. The viewer population is a mix of viewer groups, including residents, park patrons, office building and industrial workers, transit patrons, commuters, and bicyclists. Motorists are anticipated to have low sensitivity to visual change than other viewer groups because they are focused on driving in traffic. Workers in the nearby office buildings and industrial buildings are anticipated to have low sensitivity to visual change. The residents and park patrons would have high sensitivity to visual change in the area because their activities are elective or because they spend a great deal of time in the area of the Project Site.

Light sensitive receptors or land uses may include, but are not limited to, all types of residences; commercial or institutional uses that require minimal nighttime illumination for proper function, physical comfort, or commerce; and natural areas.

3.1.2. Regulatory Framework

City of Irvine General Plan Land Use Policy Objective A-1 Policy (a) - Objective A-1 of the City of Irvine's Land Use Policy is to strengthen Irvine's identity. One policy mechanism to achieve this objective is through the conservation of visual resources along the scenic corridors that define the City of Irvine.

3.1.3. Discussion

3.1.3.1. Would the Project have a substantial adverse effect on a scenic vista?

Determination: NO IMPACT

Construction and Operational Impacts

A scenic vista generally provides focal views of objects, settings, or features of visual interest; or panoramic views of large geographic areas of scenic quality, primarily from a given vantage point. A significant impact would occur if a project introduced incompatible visual elements within a field of view containing a scenic vista or substantially altered a view of a scenic vista.

As described in Appendix A (Aesthetics Technical Memorandum), the City of Irvine General Plan does not delineate or designate any specific views as protected scenic vistas in the Project Site. There are no designated Caltrans scenic vistas or scenic resources in the area. Therefore, no construction and operational impacts would occur related to a substantial adverse effect on a scenic vista.

3.1.3.2. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Determination: NO IMPACT

Construction and Operational Impacts

The Project is not located along or near an officially designated California Scenic Highway or locally designated scenic highway. There are no designated Caltrans scenic vistas or scenic resources in the area. The closest designated scenic highway is Highway 91 approximately 13 miles away from the Project. Old Town Irvine is a registered California historical landmark, approximately half-mile away from the Project Site; however, it is occluded by SR-133 and I-5 (Caltrans, 2019).

The Project would not impact any groves of trees, street trees, rock outcroppings, historic buildings, or any other potential scenic resources during construction or operations, as no existing scenic resources are present on the Project Site. Therefore, no construction or operational impacts would occur related to scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

3.1.3.3. In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Visually, the Project Site consists of a vacant area with a minor accessory structure and access roads. The Project Site does not contain any buildings, trees, or landscaping and the existing landscape is not memorable. This is a contrast from the green space area to the north that includes the Great Park. During the construction phase, construction equipment, staging areas, construction trucks and vehicles, and temporary fencing would be visible to several viewer groups and would result in a contrast and change in visual character from the existing vacant area. However, construction is currently ongoing for the County of Orange's RV storage area; thus, construction activities such as grading would not be different than what is encountered now.

Transit patrons, motorists, and bicyclists would primarily experience views of construction activities while riding trains on the adjacent Metrolink tracks, driving along Marine Way adjacent to the Project Site, and while traveling in the bike path along Marine Way. The change in the visual character of the Project Site during the construction phase would be noticed by these viewer groups; however, transit patrons, motorists, and bicyclists are considered receptors with low sensitivity.

The employees of office buildings and industrial land uses in the vicinity of the Project Site would primarily experience views of the construction activities on the Project Site as they approach and leave their place of work. Therefore, their views of the construction activities would mostly take place while en route to and from these locations. The change in the visual character of the Project Site during the construction phase would be noticed by these viewer groups. However, employees of office buildings and industrial land uses are considered to have a low sensitivity to visual changes on the Project Site.

Residents and Great Park patrons would primarily experience views of construction activities while traveling to and from their homes and while recreating in the Great Park. Views from the residences located northwest of the Project Site would be blocked by existing mature trees on their properties, as well as the concrete wall that surrounds the residential complex. The view would also be blocked by fencing that would surround the Project Site during construction and operations.

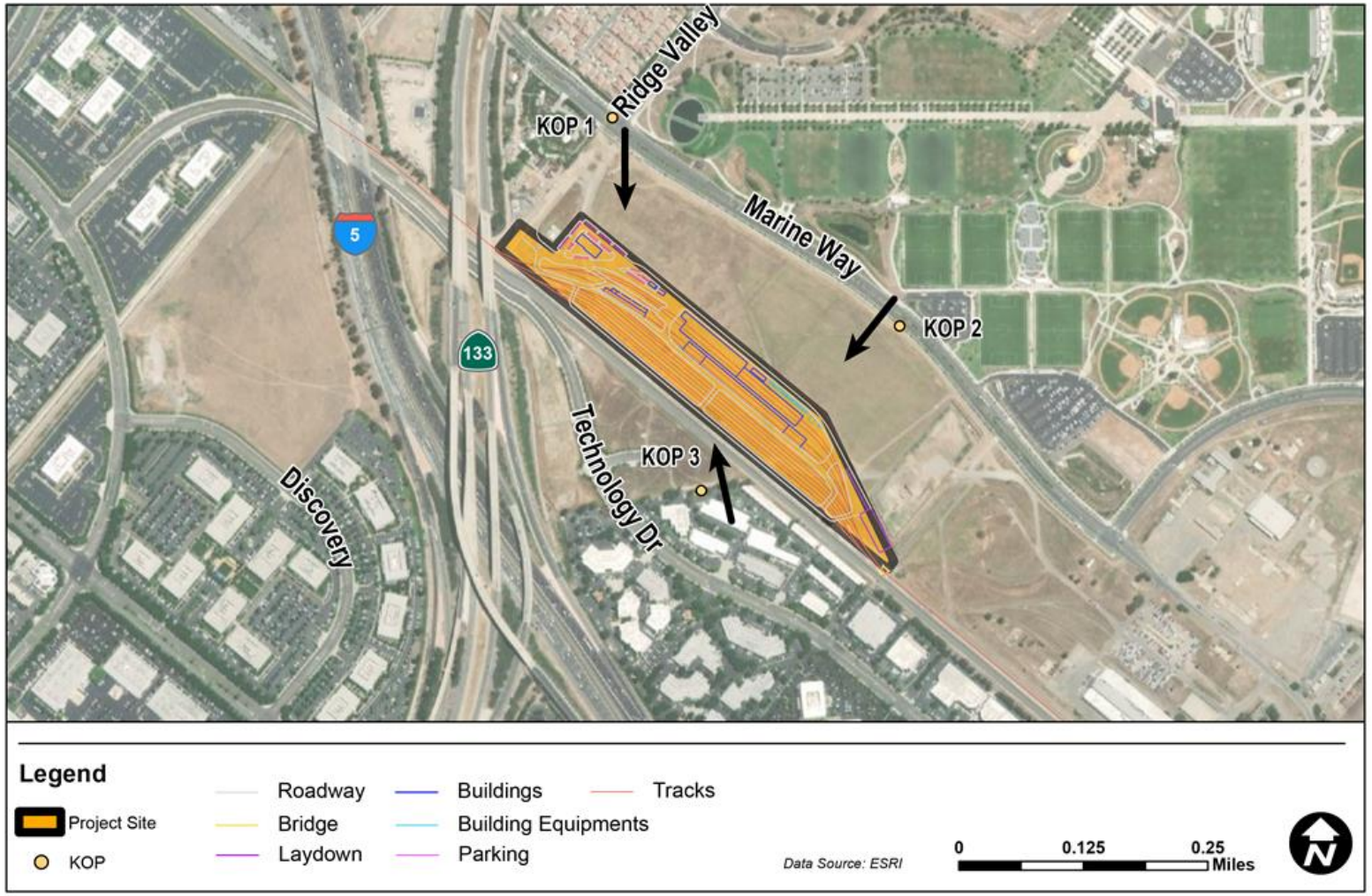
Overall, the construction phase would represent a temporary change in the visual quality and character of the Project Site. However, the construction site would be visibly similar to other construction projects in the City. During construction, the Project Site would be surrounded by fencing that would also block the majority of the construction activities. Therefore, construction impacts related to visual character would be less than significant.

Operational Impacts

The Project would include a new maintenance facility adjacent to the Metrolink right-of-way (ROW) and would involve the construction and operation of up to 30-foot-tall buildings, and approximately 30-foot-tall metal structures that would serve as bridges for utility lines. The new structures would be set back on the site over 500 feet from Marine Way to the north. The Project would be within an urban environment and would be consistent with the City's General Plan goals of conservation of visual resources along the scenic corridors in the City. To assess the potential visual changes that would result from the operation of the Project, three Key Observation Points (KOPs) were selected specifically for the Project, as shown below. KOPs represent key locations where the visual character is representative and can be used for visual simulations to evaluate potential visual impacts. Visual simulations from these KOPs were prepared to provide a before and after comparison of the visual effects that would result from the Project. The locations of the three KOPs are shown Figure 3.1-1. The KOP existing views and simulations are shown in Figures 3.1-4 through 3.1-6.

The KOPs are representative of direct views within the Project Site and its surrounding area. Simulations from the same locations show how these views would change as a result of the implementation of the Project. The simulated views represent conceptual design and are not intended to represent the Project's final design.

Figure 3.1-1: Location of Key Observation Points



Source: ESRI (2021), OCTA (2021)

KOP 1 shows the Project Site looking southeast from along Marine Way and the intersection with Ridge Valley (see Figure 3.1-2). The Marine Way ROW, including traffic signals and a streetlight pole, dominate the foreground of the view. Public parkway landscaping and fencing are visible directly adjacent to the roadway. The flat and somewhat vegetated Project Site is visible in the middle ground of the view with no existing structures present. The background of the view includes a segment of elevated freeway on the right, as well as trees and tall office buildings on the center and left. In the distance, the tops of hills can be seen above the elevated I-5.

As shown in Figure 3.1-2, the Project is visible in the middle ground of the view. The new buildings interrupt some of the background views of the distant office buildings, trees, and the elevated I-5. The tops of the hills can still be seen. The Project includes a solid wall that is visible throughout the center of the view from right to left. The simulated view from KOP 1 represents a visual change compared to existing conditions as development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would not be inconsistent with other development in the vicinity of the Project Site. The Project would include new large aboveground structures; however, the height and massing of the buildings would not substantially alter visual character for residential viewers from this viewpoint primarily due to the distance of the Project buildings from the residential viewers, and because the residences are surrounded by a tall concrete wall and large trees. Additionally, no aesthetically significant view or landmark would be altered or blocked. Therefore, operational impacts related to visual character would be less than significant for KOP 1.

KOP 2 shows the Project Site looking southwest from along Marine Way, approximately 1,800 feet southeast of Ridge Valley (see Figure 3.1-3). The Great Park is located approximately 94 feet behind the view perspective. This view represents the perspective of motorists, pedestrians, cyclists, and Great Park patrons. Visible in the foreground is the public sidewalk, landscaping, small bushes, a small tree, and a small concrete slab housing a manhole cover and a small, green aboveground utility box. Visible in the middle ground is a narrow dirt road, and a large area of green and brown ground vegetation within the Project Site. The elevated I-5 is visible in the background on the right and center of the view. Mature trees, commercial and office buildings, other development, and distant hills are visible in the background in the center and partially in the right side of the view.

Figure 3.1-2: KOP 1 – Before and After Simulation View, Looking Southeast from Residential Uses at Marine Way/Ridge Valley Intersection

Source: OCTA/Trimble (2021), OCTA (2021)

As shown in the simulated view of Figure 3.1-3, the Project would be visible in the middle ground of the view, with the tallest buildings being on the right. The new buildings would block the background views of the elevated I-5 on the right, and would only partially block views of the mature trees, commercial and office buildings, other development, and distant hills. The Project would include a solid wall that would be visible throughout the center of the view from right to left. The simulated view from KOP 2 represents a visual change compared to existing conditions as development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would not be inconsistent with other development in the vicinity of the Project Site. The Project would include new large aboveground structures; however, the height and massing of the buildings would not substantially alter visual character for motorists, pedestrians, cyclists, and Great Park patrons from this viewpoint primarily due to the distance of the Project from the viewers. Additionally, no aesthetically significant view or landmark would be altered or blocked. Therefore, operational impacts related to visual character would be less than significant for KOP 2.

KOP 3 shows the Project Site looking north from the parking lot adjacent to a commercial/office building approximately 335 feet south of the Project Site (see Figure 3.1-4). This view represents the perspective of commercial and industrial building users. Visible in the foreground is a portion of the paved and striped surface parking lot, and a mature and smaller tree, as well as small bushes and a chain link fence that spans the view from right to left. Visible in the middle ground of the view is a vacant site that is not a part of the Project Site, as well as the Project Site itself. The ground vegetation on the vacant site and Project Site render the sites indistinguishable in this view. The Metrolink ROW divides these two sites, but this is indistinguishable in this view due to the vegetation. The background includes distant views of residential buildings on the center/left, as well as mature trees, Great Park, and hills on the right and center.

As shown in the simulated view in Figure 3.1-4, the Project would be visible in the middle ground of the view. The proposed maintenance building would block the distant background views of mature trees, the Great Park, and hills that would be visible on the right and center of the view. The simulated view from KOP 3 represents a visual change compared to existing conditions as development would occur on a site with no existing structures. However, due to the urban and visual environment of the area surrounding the Project Site, including various types of uses and structures, this visual change would not be inconsistent with other development in the vicinity of the Project Site. The Project would include new large aboveground structures and although the height and massing of the buildings would substantially alter views for commercial, office, and industrial building users, these are considered viewers with low to moderate sensitivity. Additionally, no aesthetically significant view or landmark is being altered or blocked. Therefore, no operational impacts related to visual character would occur for KOP 3.

Figure 3.1-3: KOP 2 – Before and After Simulation View, Looking Southwest from Marine Way and the Great Park

Source: OCTA/Trimble (2021), OCTA (2021)

Figure 3.1-4: KOP 3 – Before and After Simulation View, Looking North from Commercial and Industrial Uses

Source: OCTA/Trimble (2021), OCTA (2021)

Overall, the operation of the Project would represent a change in visual character as compared to the existing Project Site as development would occur on a site with no existing structures. However, the Project is in an urban area that currently has a mix of open space, industrial and office buildings, residential homes, and adjacent elevated freeway segments. Users of commercial businesses and offices would have a low to moderate sensitivity to this visual change. Residents and park patrons would likely have high sensitivity to the visual change; however, views from the residences would be interrupted by mature trees and existing and proposed walls, as well as the RV storage area between Marine Way and the Project Site. As a result, the Project would not conflict with any other regulations governing scenic quality because the Project would not substantially change views in the area or along any scenic corridor. Therefore, operational impacts related to visual character would be less than significant.

3.1.3.4. Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

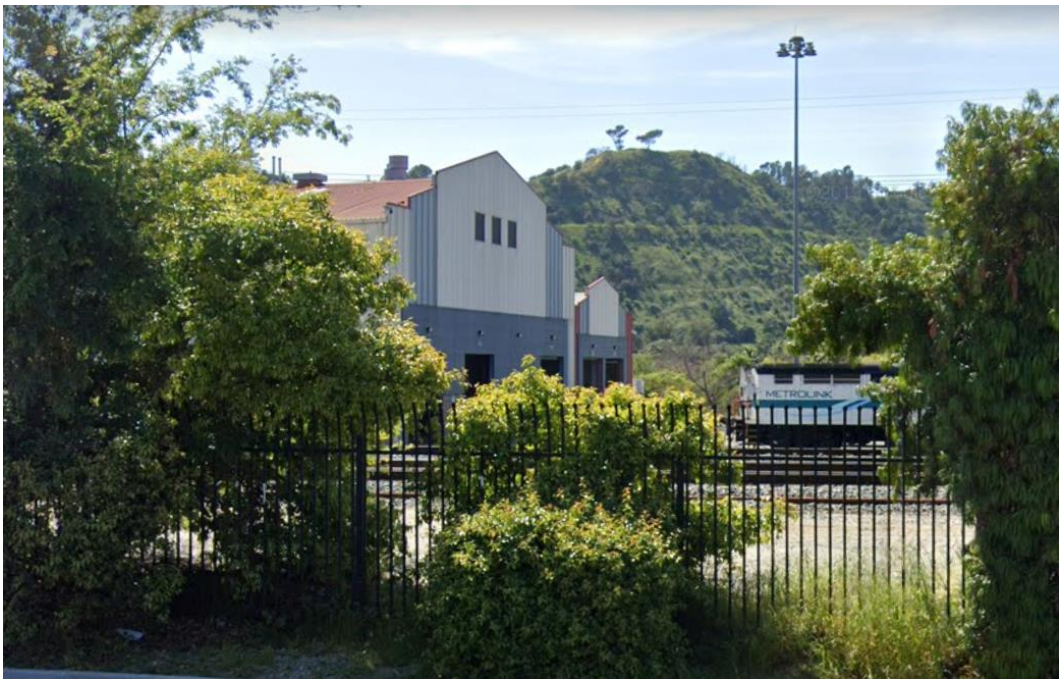
The Project Site does not currently have any sources of lighting. A high level of existing ambient lighting currently exists surrounding the Project Site, including a substantial amount of high-poled sports field lighting located in the Great Park complex to the north. Construction of the Project would not include nighttime construction activities (primarily due to construction noise restrictions on work hours), which would require nighttime construction lighting. However, the Project Site would include standard safety lighting during construction. Nevertheless, sensitive receptors (the Great Park and residences) would be too far from the Project Site to experience spillover lighting due to security lighting. Therefore, construction impacts related to lighting would be less than significant. Regarding glare, construction equipment is not likely to be a significant source of glare. Therefore, no impacts related to glare would occur.

Operational Impacts

The Project would include installation of new standard exterior and interior security lighting around and within the OCMF, including buildings, which would operate continuously. The sensitive receptors for lighting are too far from the Project Site to be impacted by spillover lighting. However, per BMPs, the nighttime lighting fixtures would be installed to direct the majority of the light to within and directly adjacent to the OCMF, and away from sensitive areas, to the maximum extent feasible. In addition, the materials used in the exterior of buildings and structures visible above the proposed 6-foot-tall wall between the Project Site and Marine Way would comply with applicable City regulations under its Municipal Code (Division 9) and Zoning Ordinance (Section 3.16) to ensure no substantial source of glare.

Figure 3.1-5 and Figure 3.1-6 illustrate that the existing CMF and EMF, to which the Project would be similar, include typical exterior building materials, such as concrete, and do not exhibit reflective properties that could result in glare. Therefore, operational impacts related to the creation of a substantial source of light or glare would be less than significant.

Figure 3.1-5: Existing Central Maintenance Facility, Exterior Building Materials



Source: Google Maps (2021)

Figure 3.1-6: Existing Eastern Maintenance Facility, Exterior Building Materials

Source: Google Maps (2021)

3.2. AGRICULTURE AND FORESTRY RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
3.2.3.1	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?	☐	☐	☐	☒
3.2.3.2	Conflict with existing zoning for agricultural use, or use or a Williamson Act contract?	☐	☐	☐	☒
3.2.3.3	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))?	☐	☐	☐	☒
3.2.3.4	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
3.2.3.5	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?	☐	☐	☐	☒

3.2.1. Existing Conditions

The California Department of Conservation (DOC) (2018) has designated the Project Site's existing land use as Other Land with some Urban and Build-out land use (see Figure 3.2-1). Additionally, the City of Irvine has designated the Project Site's existing land use as part of the Great Park (refer to Section 3.11 Land Use and Planning) and is zoned for 6.1 Institutional purposes. The Project Site is not located or zoned for any farmland, agriculture, or forestland land use.

3.2.2. Regulatory Framework

State

California Land Conservation Act of 1965 (also known as the Williamson Act) - The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. The Act allows the DOC to establish agricultural conservation easements on farmland.

Local

City of Irvine General Plan, Land Use Element - The Project Site is currently undeveloped and is designated by the City of Irvine General Plan as Planning Area 51, the Great Park land use type.

City of Irvine Zoning Ordinance - The Project Site is zoned for 6.1 Institutional uses.

3.2.3. Discussion

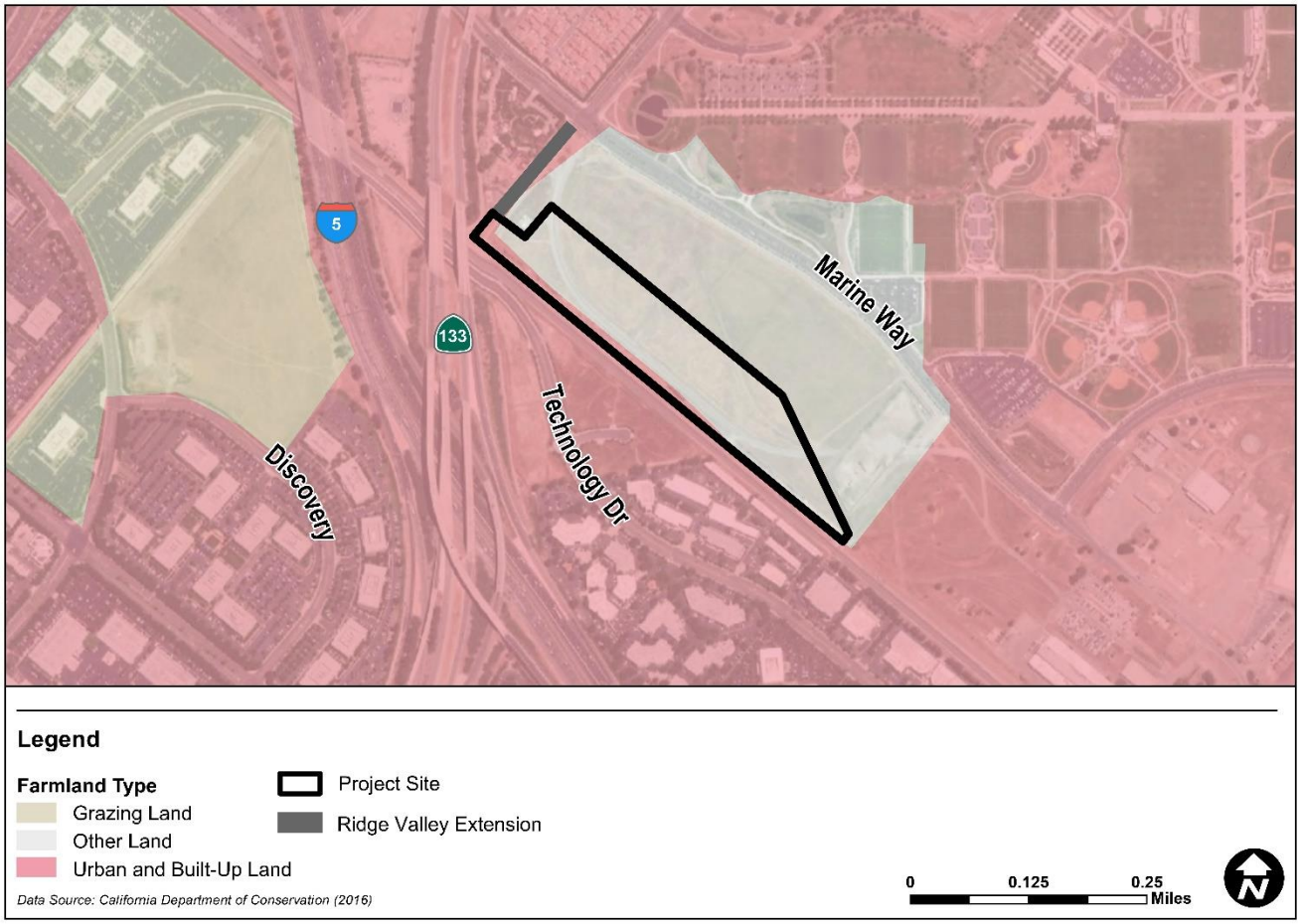
3.2.3.1. Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance?

Determination: NO IMPACT

Construction and Operational Impacts

As stated in Section 3.2.1, the DOC has designated the Project Site's existing land use as Other Land with some Urban and Built-Up land use. The City of Irvine has designated the Project Site's existing land use as part of the Great Park (refer to Chapter 3.11 Land Use and Planning) and is zoned for 6.1 Institutional purposes. Although the proposed Project is not an institutional land use, a CUP would be requested to ensure compliance with existing goals of the City. Therefore, no construction or operational impacts would occur related to the conversion of any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Figure 3.2-1: Existing Farmland In the Vicinity of the Project Site



Source: DOC (2016), and OCTA (2020)

3.2.3.2. Would the Project conflict with existing zoning for an agricultural use or a Williamson Act contract?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not on agricultural land (refer to 3.2.3.1) and would, consequently, not conflict with existing zoning for an agricultural use or a Williamson Act contract. Therefore, no construction or operational impacts would occur related to existing zoning for an agricultural use or a Williamson Act contract.

3.2.3.3. Would the Project conflict with existing zoning, or cause rezoning of, forest land?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not zoned as forestland, timberland, or timberland production. Therefore, no construction and operational impacts that would conflict with existing zoning or cause rezoning of forestry resources would occur.

3.2.3.4. Would the Project result in the loss of forest land or result in the conversion of forest land to non-forest use?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not zoned as forestland, timberland, or timberland production. Therefore, no construction and operational impacts that would result in the loss of forestland or result in the conversion of forestland to non-forest use would occur.

3.2.3.5. Would the Project involve other changes in the existing environment which could result in the conversion of farmland to non-agricultural use or conversion of forestland to non-forest use?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not located within the vicinity of land use categorized as farmland or forestland. Therefore, no construction and operational impacts that would result in the conversion of farmland to non-agricultural use or conversion of forestland to non-forest use would occur.

3.3. 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 with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.3.3.1	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
3.3.3.2	Result in cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
3.3.3.3	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
3.3.3.4	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1. Existing Conditions

Criteria Air Pollutants

The primary purpose of an air quality plan is to bring an area that does not attain National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) into compliance with those standards pursuant to the requirements of the Clean Air Act (CAA) and California Clean Air Act (CCAA). NAAQS and CAAQS have been established for the following criteria pollutants: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter less than 10 micrometers in diameter (PM_{10}), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), and lead. The NAAQS and CAAQS are described in more detail in Appendix B.

The Project Site is located within the South Coast Air Basin (SCAB) in the Saddleback Valley Source Receptor Area (SRA 19). The SCAQMD is the regulatory agency that oversees all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Under the CCAA, the SCAQMD is required to develop an air quality attainment plan for nonattainment criteria pollutants within the air district. The most recent air quality plan developed by the SCAQMD is the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP is the legally enforceable blueprint for how the region will meet and maintain the NAAQS and CAAQS. The 2016 AQMP identifies strategies and control measures needed to achieve attainment of the 8-hour ozone standard and federal annual and 24-hour standard for $PM_{2.5}$ in the SCAB (SCAQMD, 2017a). The future emission forecasts are primarily based on demographic and economic growth projections provided by the Southern California Association of Governments (SCAG). As detailed in Appendix B, with respect to the NAAQS, the SCAB is designated as a nonattainment area for ozone and $PM_{2.5}$, a maintenance area for CO and PM_{10}, and as an attainment or

unclassified area for all other pollutants. With respect to the CAAQS, the SCAB is designated as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, and as an attainment area for all other pollutants (SCAQMD, 2016; EPA, 2020).

Toxic Air Contaminants

In addition to criteria pollutants, both federal and state air quality regulations also focus on toxic air contaminants (TACs). TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel particulate matter-emitting activities, such as distribution centers and railyards. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains. In 2015, the SCAQMD published the Multiple Air Toxics Exposure Study IV (MATES IV), a monitoring and evaluation study conducted in the SCAB. The MATES IV consists of a monitoring program, an updated emissions inventory of TACs, and a modelling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics. The MATES IV estimated population weighted risk in the SCAB is 897 per million, a decrease of about 57 percent compared to the previous study (MATES III). The study also showed that diesel exhaust emissions had declined by about 70 percent, but diesel particulate matter (diesel PM) continued to account for about two-thirds of the cancer risk from air toxics (SCAQMD, 2017b). MATES IV estimates an excess cancer risk of 626 per million for the Project Site (SCAQMD, 2015).

Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. The SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours (SCAQMD, 2008). Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution because exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

The Project Site is adjacent to the Great Park, which serves outdoor recreational activities for the community. The nearest receptors to the Project Site are the residences of a senior community approximately 650 feet north of the Project Site on Ridge Valley, worker receptors located at the

buildings along Technology Drive and at the nursery to the west of the Project Site, and the recreational receptors at the Great Park.

3.3.2. Regulatory Framework

State

California Clean Air Act - The CCAA was adopted in 1988 and requires the California Air Resources Board (ARB) to establish CAAQS. In most cases, CAAQS are more stringent than NAAQS. Other ARB responsibilities include, but are not limited to, overseeing local air district compliance with state and federal laws; approving local air quality plans; submitting State Implementation Plans to EPA; monitoring air quality; determining and updating area designations and maps; and setting emission standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Tanner Toxics Act - TACs in California are regulated primarily through the Tanner Air Toxics Act (Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act (Chapter 1252, Statutes of 1987). Assembly Bill (AB) 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory according to criteria and guidelines developed by ARB, and, if directed to do so by the local air district, a health risk assessment must be prepared to determine the potential health impacts of such emissions.

Local

SCAQMD Regional Significance Thresholds - As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. The SCAQMD has established recommended screening level thresholds of significance for regional emissions. The SCAQMD regional significance thresholds are shown in Table 3.3-1. The regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. Because regional air quality standards have been established for these criteria pollutants to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution, these thresholds of significance can also be used to assess Project emissions and inform the Project's impacts to regional air quality and health risks under CEQA.

Table 3.3-1: SCAQMD Regional Thresholds of Significance for Select Criteria Pollutants

Pollutant	Daily Emissions lbs/day (Construction)	Daily Emissions lbs/day (Operation)
NO_X	100	55
PM_{10}	150	150
$PM_{2.5}$	55	55
CO	550	550
VOC	75	55
SO_X	150	150
Lead[1]	3	3

Notes: SCAQMD = South Coast Air Quality Management District; NO_X = nitrogen oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter;
$PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide;
VOC = volatile organic compounds; SO_X = sulfur oxides; lbs/day = pounds per day.
[1] This analysis does not directly evaluate lead because little to no quantifiable and foreseeable emissions of this substance would be generated by the Project. Lead emissions have significantly decreased due to the near elimination of leaded fuel use.
Source: SCAQMD, 2019

SCAQMD Localized Significance Thresholds (LSTs) - The SCAQMD also established LSTs, which represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards. The LSTs are developed based on the ambient concentrations of that pollutant for each source receptor area. Since the LSTs consider the ambient air quality, LSTs can also be used to identify those projects that would result in significant levels of air pollution and impact sensitive receptors.

The LST Methodology provides Look-Up Tables with different thresholds for nitrogen oxides (NO_X), CO, PM_{10}, and $PM_{2.5}$ based on the location and size of the project site and distance to the nearest sensitive receptors. The Look-Up Tables provide thresholds for 1, 2, and 5-acre project sites. Since the Project Site has an area of approximately 21.3 acres, the 5-acre project site threshold was utilized to provide a conservative analysis for CO and PM_{10} emissions. The 5-acre project site threshold can be used as a conservative measure because it assumes daily emissions associated with the emissions-generating activities are emitted on a 5-acre site (and therefore concentrated over a smaller area with higher air pollutant concentrations to the surrounding receptors). Thus, if emissions are less than the LSTs developed by SCAQMD for a 5-acre project, then a more detailed evaluation for a larger project site is not required. However, since the region is in nonattainment for ozone and $PM_{2.5}$ and the Project Site is larger than 5 acres, consistent with SCAQMD guidance, project-specific localized dispersion modeling was performed for NO_2 (an ozone precursor) and $PM_{2.5}$. The Project limits are located within Source Receptor Area 19, Saddleback Valley.

As described previously, the nearest sensitive receptors are residences in the senior housing community located approximately 650 feet (200 meters) north of the Project Site. As such, the applicable LST for PM_{10} was determined assuming a receptor distance of 200 meters. In addition, since it is reasonable to

assume that off-site workers located at the nursery to the west of the Project Site and buildings along Technology Drive could be present for periods of 1 to 8 hours, the LST analysis was also performed for these worker receptors for pollutants with shorter averaging times, such as CO. The LST for CO was based on a 5-acre project site and 25-meter receptor distance. Since project-specific localized dispersion modeling was performed for NO_2 and $PM_{2.5}$, the LSTs were based on the SCAQMD ambient air quality thresholds for these criteria pollutants. Table 3.3-2 presents the LSTs applicable to the Project.

SCAQMD Health Risk Assessment (HRA) Thresholds - The SCAQMD has also developed HRA thresholds for TACs including carcinogens and noncarcinogens. These thresholds are summarized in Table 3.3-3.

Table 3.3-2: SCAQMD Localized Thresholds for SRA 19

Threshold [1]	NO_X	CO	PM_{10}	$PM_{2.5}$
Mass-Rate Look Up Tables for LSTs for a 5-Acre Project Site Construction (lbs/day)	197	1,804	74	30
Mass-Rate Look Up Tables for LSTs for a 5-Acre Project Site Operations (lbs/day)	197	1,804	18	8
Operational Ambient Air Quality Standards for Criteria Pollutants	0.18 ppm (338.4 µg/m^3) 0.03 ppm (56.4 µg/m^3)	20 ppm	2.5 µg/m^3	2.5 µg/m^3

Notes: SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day.
[1] The mass-rate LSTs developed by SCAQMD are for a 5-acre project site. As detailed above, due to the region's nonattainment status for ozone and $PM_{2.5}$ and the Project Site size, criteria pollutant modeling was performed for NO_2 (an ozone precursor) and $PM_{2.5}$. These ambient air quality standards are obtained from the SCAQMD ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2.
Source: SCAQMD, 2008

Table 3.3-3: SCAQMD Health Risk Assessment Thresholds

Description	Threshold
Maximum Incremental Cancer Risk	10 in 1 million
Chronic & Acute Hazard Index	1.0

Notes: SCAQMD = South Coast Air Quality Management District
Source: SCAQMD, 2019

3.3.3. Discussion

3.3.3.1. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Construction of the Project would involve the use of off-road equipment and haul trucks, and worker commute trips. Assumptions for off-road equipment emissions in air quality plans are developed based on hours of activity and equipment population reported to ARB for rule compliance. The use of construction equipment in the AQMP is estimated for the region on an annual basis, and construction-related emissions are estimated as an aggregate in the AQMP. Since Project construction is limited to short-term activities and construction activities would not involve unusual characteristics that would necessitate the use of extensive off-road equipment, the Project would not increase the assumptions for off-road equipment use in the AQMP. In addition, the Project would result in emissions that would be below the SCAQMD regional and localized thresholds during construction (as shown below in Section 3.3.3.2). The thresholds were developed to assist the region in attaining the applicable state and federal ambient air quality standards; therefore, the Project would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the NAAQS or CAAQS. Furthermore, construction activities would comply with SCAQMD rules and regulations, including but not limited to Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1113 (Architectural Coatings). As such, the Project would also comply with the applicable SCAQMD rules and regulations, which are developed to implement AQMP control measures. Therefore, construction impacts related to, conflicting with or obstructing implementation of the applicable air quality plan would be less than significant.

Operational Impacts

Currently, the Project Site land use designation is the Great Park under the City of Irvine General Plan, adopted in June 2015. However, as described in Section 2 Project Description, the use of the site as a rail maintenance facility would be deemed consistent with the purpose and intent of the zoning district. Although the land use assumptions are not consistent with land use assumptions in the General Plan (which is why the Project would be requesting a CUP), the purpose of the Project is to provide the space and equipment to inspect, clean, and maintain train cars and locomotives on a regular and efficient basis. As described in in Section 2, a maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The storage and maintenance activities that would occur operationally at the OCMF would be a shift in these operations from the existing storage and

maintenance facilities to the proposed Project Site. As such, due to the optimal location of the Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and thereby result in a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics. Thus, the Project would not conflict with mobile source control measures included in the AQMP aimed at reducing facility-based emissions at railyards and intermodal facilities (MOB-02; SCAQMD, 2017a). In addition, as shown in Section 3.3.3.2 below, operational emissions would also be below the SCAQMD regional and localized thresholds. Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be less than significant.

3.3.3.2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

As described in more detail in Appendix B, sources of construction-related criteria air pollutant emissions include construction equipment exhaust; construction-related trips by workers; delivery and hauling truck trips; fugitive dust from site preparation activities; and off-gassing from traffic coating, paving, and architectural coating activities. Construction of Phase 1 is assumed to begin in 2023 and last approximately 30 months. Construction of Phase 2 is anticipated to begin in 2025 and last approximately 23 months. Emissions generated by construction activities were modeled using emission factors from ARB's OFFROAD 2017 and Emission Factor (EMFAC) 2017 inventory models. Construction emissions from the operation of diesel-fueled off-road equipment were estimated by multiplying construction equipment usage information by the equipment-specific emissions factors, based on aggregate model years and horsepower provided in OFFROAD. Emissions from on-site and off-site on-road motor vehicles were estimated using vehicle trips, vehicle miles traveled (VMT), and EMFAC 2017 mobile source emission factors. The emission factors represent the fleet-wide average emission factors in Orange County. On-road emissions estimates also considered particulate matter from brake wear, tire wear, and re-entrained roadway dust.

Fugitive dust emissions were estimated using EPA's Compilation of Air Pollutant Factors (AP 42) and California Emissions Estimator Model (CalEEMod) methodology for activities, including material loading into haul trucks; VMT; and earthwork quantities and activities including graders, scrapers, and dozers leveling land or moving dirt. Fugitive dust emission estimates of PM_{10} and $PM_{2.5}$ include reductions associated with implementation of fugitive dust control practices per SCAQMD Rule 403 (e.g., watering disturbed surface areas at least twice per day). Additional modeling assumptions and methodology are provided in Appendix B.

Tables 3.3-4 and 3.3-5 present the maximum daily emissions associated with Project construction of Phase 1 for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 3.3-4: Phase 1 Regional Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 1 Maximum Daily Emissions (lbs/day)[1]	38.06	77.07	75.20	0.25	41.47	22.82
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; CO = carbon monoxide; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 1 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for NOx and SO_X occur during the overlap of site utilities/electric, earthwork, foundations, bridge, and roadways/paving construction activities. Maximum daily emissions of VOC and CO occur during the overlap of site utilities/electric, foundations, bridge, roadways/paving, and building construction activities. Maximum daily emissions for PM_{10} and $PM_{2.5}$ occur during the overlap of clear and grub, site utilities/electric, demolition, and earthwork construction activities.

Table 3.3-5: Phase 1 Localized Construction-Related Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily On-Site Emissions (lbs/day)[1]	63.96	69.49	38.63	21.98
SCAQMD Localized Threshold (lbs/day)	197	1,804	74	30
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Maximum daily localized emissions account for on-site activities including off-road equipment use, fugitive dust, and on-site on-road vehicle travel. It was assumed that approximately 7 percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Tables 3.3-4 and 3.3-5, Phase 1 construction activities would not exceed the SCAQMD regional and localized thresholds of significance. Tables 3.3-6 and 3.3-7 summarize the maximum daily emissions associated with Phase 2 construction for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 3.3-6: Phase 2 Regional Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 2 Maximum Daily Emissions (lbs/day)[1]	80.36	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	**Yes**	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 2 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for all pollutants except PM_{10} and $PM_{2.5}$ occur during the overlap of site utilities/electric, building, trackwork-direct fixation, and major equipment construction activities. Maximum daily emissions for PM_{10} and $PM_{2.5}$ occur during the overlap of site utilities/electric and earthwork construction activities.

Table 3.3-7: Phase 2 Localized Construction-Related Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily On-Site Emissions (lbs/day)[1]	44.91	51.99	13.32	7.76
SCAQMD Localized Threshold (lbs/day)	197	1,804	74	30
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Maximum daily localized emissions account for on-site activities including off-road equipment use, fugitive dust, and on-site on-road vehicle travel. It was assumed that approximately 7percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Table 3.3-6, Phase 2 construction activities would not exceed any of the localized thresholds of significance or regional thresholds of significance for any pollutant except VOCs. Therefore, construction impacts would be potentially significant, and mitigation would be required. The exceedance of the VOC threshold is primarily related to architectural coating activities of the maintenance building. As such, implementation of Mitigation Measure AQ-1 would be required to reduce VOC emissions below the threshold of significance.

- **MM-AQ-1: Utilize low VOC paint for architectural coating activities during Phase 2 construction.** To reduce VOC emissions during construction, the Project contractor shall utilize water-based or low VOC interior and exterior paints. The VOC content of the architectural coatings shall comply with the VOC content limits in SCAQMD Rule 1113 or not exceed 100 grams per liter, whichever is lower. To ensure that low VOC paint would be used during Project construction, this requirement would be included in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant architectural coatings for use prior to any coating activities. A copy of each proposed architectural coating Material Safety Data Sheet and

VOC content shall be available upon request. Alternatively, the contractor may utilize tilt-up concrete buildings that do not require the use of architectural coatings.

Table 3.3-8 demonstrates the maximum daily emissions associated with construction of Phase 2 with implementation of Mitigation Measure AQ-1.

Table 3.3-8: Phase 2 Mitigated Construction-Related Maximum Daily Emissions

Description	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase 2 Maximum Daily Emissions (lbs/day)[1]	35.78	57.92	45.32	0.12	14.22	8.02
SCAQMD Threshold (lbs/day)	75	550	100	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Phase 2 emissions are based on the overlap of subphases per the anticipated construction schedule. Maximum daily emissions for all pollutants occur during the overlap of site utilities/electric, building, trackwork-direct fixation, and major equipment construction activities.

As shown in Table 3.3-8, with implementation of Mitigation Measure AQ-1, emissions of VOC would no longer exceed the SCAQMD threshold of significance. As such, construction impacts would be less than significant with mitigation measures incorporated. Project construction of Phase 2 would overlap with Phase 1 operational activities. Therefore, the maximum daily emissions associated with overlapping activities of Phase 1 operations and Phase 2 construction are summarized in Tables 3.3-11 and 3.3-12 below.

Operational Impacts

As described in more detail in Appendix B, operations would generate long-term emissions of criteria air pollutants from a variety of sources. Emissions generated by operational activities were modeled for locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); fuel tank emissions; natural gas consumption; and on-road vehicle travel for worker, delivery, and haul trips to and from the site. Operational emissions were based on anticipated equipment and vehicle fleets for the earliest possible operational year. Locomotive emissions were estimated for on-site activity, which is anticipated to include idling during service and inspection activities as well as travel through the wash bay. Emission factors for calculations were based on EPA's 2009 Emission Factors for Locomotives Technical Highlights (EPA-240-F-09-025). Fugitive emissions associated with train fueling and sanding were also estimated. Emissions from the operation of diesel-fueled off-road yard equipment were estimated using emission factors from ARB's OFFROAD 2017 emissions database.

The Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, emissions associated with in-transit locomotive

operations were assumed to remain similar to existing conditions. However, as described in more detail in Appendix B, for the purposes of localized emissions and health risk assessment, emissions associated with on-site idling and train travel within one mile of the proposed Project Site were estimated. As described in Section 2 Project Description, a maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. The Project would provide equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. The storage and maintenance activities that would occur operationally at the OCMF would be a shift in these operations from the existing storage and maintenance facilities to the proposed Project Site. As such, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and result in a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics.

Tables 3.3-9 and 3.3-10 present the maximum daily emissions associated with Project operations for comparison to the SCAQMD regional and localized thresholds of significance, respectively.

Table 3.3-9: Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.26	0.01
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.002	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions	**1.48**	**5.80**	**4.50**	**0.03**	**2.44**	**0.25**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.

Table 3.3-10: Localized Operational Maximum Daily Emissions

Description	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
On-Site Locomotive Operations (Maintenance and Testing)	98.30	101.85	1.98	1.92
Yard Equipment	2.53	3.48	0.11	0.15
Staff and Truck Vehicles[1]	0.11	0.14	0.16	<0.01
Natural Gas Consumption	0.39	0.32	0.03	0.03
Sand Silos	-	-	0.04	0.06
Total Maximum Daily Localized Emissions (lbs/day)	**101.34**	**105.80**	**2.32**	**2.16**
SCAQMD Localized Threshold	197	1,804	18	8
Exceeds Threshold?	No	No	No	No

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.
[1] Maximum daily localized emissions account for on-site activities including on-site locomotive operations, on-site off-road equipment use (e.g., forklifts, cranes), and on-road vehicle travel. It was assumed that approximately 7 percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

As shown in Tables 3.3-9 and 3.3-10, Project operational emissions would not exceed the SCAQMD regional and localized thresholds of significance. As described previously, since construction of Phase 2 may overlap with operation of Phase 1, the overlapping emissions are summarized in Tables 3.3-11 and 3.3-12. Consistent with SCAQMD guidance, these overlapping emissions are compared to the SCAQMD thresholds of significance applicable to operations.

As shown in Table 3.3-12, with implementation of Mitigation Measure AQ-1, the maximum daily emissions associated with overlapping activities of Phase 1 operations and Phase 2 construction would also not exceed the SCAQMD threshold of significance.

Table 3.3-11: Overlapping Mitigated Construction and Operational Maximum Daily Increase in Regional Emissions

Description	VOC (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Mitigated Phase 2 Construction Emissions	35.78	57.92	45.32	0.12	14.22	8.02
Yard Equipment	0.83	3.48	2.53	0.01	0.11	0.15
Staff and Truck Vehicles	0.06	2.00	1.58	0.02	2.26	0.01
Architectural Coatings	0.13	-	-	-	-	-
Natural Gas Consumption	0.04	0.32	0.39	0.00	0.03	0.03
Train Fueling	0.41	-	-	-	-	-
Sand Silos	-	-	-	-	0.04	0.06
Total Maximum Daily Increase in Regional Emissions (lbs/day)	**37.25**	**63.72**	**49.82**	**0.15**	**16.66**	**8.27**
SCAQMD Threshold	55	550	55	100	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes: VOC = volatile organic compounds; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day.

Table 3.3-12: Overlapping Construction and Operational Localized Operational Maximum Daily Emissions

Description	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 2 Localized Construction Emissions	44.91	51.99	13.32	7.76
On-Site Locomotive Operations (Maintenance and Testing)	98.30	101.85	1.98	1.92
Yard Equipment	2.53	3.48	0.11	0.15
Staff and Truck Vehicles[1]	0.11	0.14	0.17	0.04
Natural Gas Consumption	0.39	0.32	0.03	0.03
Sand Silos	-	-	0.04	0.06
Total Maximum Daily Localized Emissions (lbs/day)	**146.25**	**157.79**	**15.64**	**9.92**
SCAQMD Localized Threshold	197	1,804	18	8
Exceeds Threshold?	No	No	No	Yes[2]

Notes: NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = suspended particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District.

[1] Maximum daily localized emissions account for on-site activities including on-site locomotive operations, on-site off-road equipment use (e.g., forklifts, cranes), and on-road vehicle travel. It was assumed that approximately 7 percent of the total on-road vehicles would occur on-site (estimated portion of vehicle emissions occurring on-site compared to the CalEEMod average trip length).

[2]As described in Table 3.3-2, the mass-rate LSTs are based on a 5-acre project site and thus, exceedance of this threshold does not represent a significant impact. Project-specific dispersion modeling was performed for $PM_{2.5}$ for comparison to the SCAQMD's ambient air quality thresholds as described below and shown in Table 3.3-13.

As described above, due to the Project size, the exceedance of the mass-rate screening LST for $PM_{2.5}$, and the region's nonattainment status for ozone and $PM_{2.5}$, project-specific dispersion modelling was performed for NO_2 and $PM_{2.5}$ for comparison to the SCAQMD's ambient air quality thresholds for the localized emissions analysis. The results of the criteria pollutant modelling analysis for 1 hour and annual NO_2 and 24-hour $PM_{2.5}$ are summarized in Table 3.3-13 for both phases of operations (2025-2027 and 2028[1]). As shown in Table 3.3-13, the maximum modelled concentration at the point of maximum exposure (PMI) for both pollutants and averaging periods modelled were less than their respective SCAQMD ambient air quality thresholds. Therefore, this localized impact would also be less than significant.

Table 3.3-13: NO2 and $PM_{2.5}$ Localized Dispersion Modeling Results

Criteria Pollutant	Averaging Period	Rank	Maximum Modeled Concentration (µg/m³)[1]		SCAQMD Threshold (µg/m³)	Exceeds Threshold?
			2025-2027[2]	2028+[3]		
NO_2	1-hour	1st	103.1	102.3	338.4	No
	Annual	1st	5.7	3.8	56.4	No
$PM_{2.5}$	24-hour	8th	1.3	1.2	2.5	No

Notes: NO_2 = nitrogen dioxide; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in diameter; µg/m³ = micrograms per cubic meter; SCAQMD = South Coast Air Quality Management District.
[1] The point of maximum exposure (unoccupied land near OCTA boundary, to the north).
[2] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[3] Period when trains are all Tier 4.

In summary, with implementation of Mitigation Measure AQ-1, the Project is not anticipated to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment. Furthermore, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and a reduction in the emissions associated with locomotive travel in the region. However, the emission estimates in the tables above conservatively do not account for the potential reduction in emissions. Therefore, operational impacts related to a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment would be less than significant with mitigation measures incorporated.

[1] Phase 2 of construction would be completed at the end of 2027 and result in additional operational emissions sources beyond Phase 1. Furthermore, all trains serviced at the facility are assumed to be Tier 4 by 2028. Based on these changes, the dispersion analysis was conducted for the initial operational period from July 2025 through end of 2027, followed by years of operation from 2028 and later.

3.3.3.3. Would the Project expose sensitive receptors to substantial pollutant concentrations?

Determination: LESS THAN SIGNIFICANT IMPACT

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours (SCAQMD, 2008). Sensitive receptors also include facilities that house or attract children, the elderly, and people with illnesses or others who are especially sensitive to the effects of air pollutants. As described above, the nearest receptors include residences in a senior community approximately 650 feet away, workers at the nursery to the west of the Project Site and along Technology Drive, and recreational receptors at the Great Park.

Criteria Pollutants

Construction and Operational Impacts

As shown in Tables 3.3-4 through 3.3-13, construction-related and operational activities would result in emissions of criteria air pollutants, but at levels that would not exceed the SCAQMD regional or localized thresholds of significance. The regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. In addition, the LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area. As such, the criteria air pollutant emissions associated with the proposed Project would not expose sensitive receptors to substantial criteria pollutant concentrations.

Toxic Air Contaminants

Construction Impacts

The greatest potential for TAC emissions during construction would be related to diesel PM emissions associated with heavy-duty equipment operations. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015). According to OEHHA methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year exposure duration (or residency time) to TACs as the basis for public notification and risk reduction audits and plans. An HRA of TACs was prepared for the Project and is included in Appendix B. Sources evaluated in the HRA include off-road construction equipment and heavy-duty diesel trucks along the truck route based on the 4.5-year construction duration

and off-road equipment list provided by the Project Applicant. This analysis uses EPA's AERMOD air dispersion modeling program, ARB's HARP2 model, and the latest HRA guidance from the OEHHA to estimate excess lifetime cancer risks and hazard index to the nearest sensitive receptors. Table 3.3-14 summarizes the construction-related cancer risk and chronic hazard index on the nearby receptors. Additional modeling details are provided in Appendix B.

Table 3.3-14: Summary of Construction-Related Health Risks

Construction Period	Project Construction Incremental Cancer Risk (in a million)	Chronic Hazard Index
2023	0.20	2.24E-04
2024	0.18	2.21E-04
2025	0.01	8.48E-05
2026	0.01	5.14E-05
2027	0.004	3.07E-05
Total Project Construction (4.5 years)	**0.40**	**0.001**
SCAQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Note: SCAQMD = South Coast Air Quality Management District

The maximum incremental cancer risk exposure during the 4.5-year period of construction is less than 0.5 in a million. The chronic hazard index is also well below the SCAQMD threshold of 1.0. Therefore, sensitive receptors would not be exposed to substantial TAC concentrations during construction of the Project and this impact would be less than significant.

Asbestos is also a listed TAC; however, the Project Site is not in an area known to contain naturally occurring asbestos. Furthermore, demolition activities associated with Project construction are minimal and limited to an abandoned road; stormwater drains; and an underground bunker with a network of pipelines, valves, and associated vents that are currently not in use. Prior to site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403. SCAQMD Rule 1403 specifies work practices with the goal of minimizing asbestos emissions during building demolition activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and clean-up procedures; and storage, disposal, and landfill disposal requirements for ACMs. If ACMs are found during construction, the Project would comply with the requirements of SCAQMD Rule 1403. Therefore, exposure to asbestos during construction would be less than significant.

Operational Impacts

As discussed previously, following construction of the Project, operations would generate long-term emissions, including TACs, from a variety of sources. Diesel PM would be the dominant TAC generated at the Project Site. Sources of diesel PM at the Project Site would include locomotive usage (during fueling, servicing, inspection, brake testing, train washing, load testing, yard switching, idling, and train movement throughout the yard), on-site equipment (emergency generator, cranes, and forklifts used for maintenance activities), refueling, and on-road trucks (fuel and vendor delivery trucks). The majority of the diesel PM emissions would be generated along the tracks, maintenance building, fueling/sanding pit, and service and inspection facility, which are located at distances of approximately 1,100 feet from the nearest residential receptors. In its 2005 *Air Quality and Land Use Handbook: A Community Health Perspective*, ARB recommends a 1,000-foot buffer between sensitive receptors and major service and maintenance railyards based on a study that found that the area of highest impact is within 1,000 feet of the yard (ARB, 2005). The next highest impact was found to be between half to one mile of the maintenance railyards. As described previously, the nearest sensitive receptors are the residences in the senior housing community located approximately 650 feet (200 meters) north of the Project Site. The closest recreational fields and walking/running paths to the site are approximately 700 feet from maintenance buildings. The nearest worker receptors are located at the nursery to the west of the Project Site and buildings along Technology Drive. As such, a quantitative HRA was performed to evaluate the Project's operational TAC emissions on existing nearby off-site receptors, including nearby residences, recreational facilities, and adjacent workers located at the buildings along Technology Drive and at the nearby nursery.

The operational period would begin in July 2025, upon the completion of Phase 1 construction. Phase 2 of construction would be completed at the end of 2027 and result in additional operational emissions sources. Furthermore, all trains serviced at the facility are assumed to be Tier 4 by 2028. Based on these changes, the HRA for operations includes an initial operational period from July 2025 through end of 2027, followed by years of operation starting in 2028. The total of these two operational periods are compared against the SCAQMD threshold of 10 in a million. Additional modeling and methodology details are provided in Appendix B. The summary of excess cancer risks and chronic and acute risks are summarized in Tables 3.3-15 and 3.3-16.

Table 3.3-15: Summary of Excess Cancer Risks

Receptor	Years of Age	Maximum Modeled Excess Cancer Risk (in a million)			SCAQMD Threshold	Exceeds Threshold?
		2025-2027[1]	2028+[2]	Total		
$MEIR_{<50}$	3rd Trimester – 30 (30 years)	5.85	3.40	9.25	10	No
$MEIR_{\geq 50}$	50 - 80 (30 years)	0.24	1.45	1.68	10	No
MEIW	16 – 41 (25 years)	0.94	4.37	5.31	10	No
MEI Recreation	0 – 39 (40 years)	1.29	2.05	3.33	10	No

Notes: $MEIR_{<50}$ = maximally exposed individual resident in non-55+ age-restricted communities; $MEIR_{\geq 50}$ = maximally exposed individual resident in 55+ age-restricted communities; MEIW = maximally exposed individual worker; MEI Recreation = maximally exposed individual at recreation area; SCAQMD = South Coast Air Quality Management District.
[1] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[2] Period when trains are all Tier 4.

Table 3.3-16: Summary of Chronic and Acute Risks

Risk	Years of Age	Maximum Modeled Risk			SCAQMD Threshold	Exceeds Threshold?
		2025-2027[1]	2028+[2]	Total		
Chronic	PMI	0.05	0.01	0.06	1.0	No
Acute		0.0006	0.0004	0.001	1.0	No

Notes: PMI = point of maximum exposure (unoccupied land near OCTA boundary, to the north);
SCAQMD = South Coast Air Quality Management District.
[1] Period when train fleet mix includes both Tier 2 and Tier 4 locomotive engines.
[2] Period when trains are all Tier 4.

As shown in Tables 3.3-15 and 3.3-16, the maximum incremental cancer risk, and chronic and acute hazard index, respectively, for the maximally exposed individual resident, maximally exposed individual worker, and recreational receptor would not exceed the SCAQMD thresholds of significance. Therefore, receptors would not be exposed to substantial pollutant concentrations of TACs during operations and this impact would be less than significant.

3.3.3.4. Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Determination: LESS THAN SIGNIFICANT IMPACT

The occurrence and severity of other emissions, such as those leading to odor impacts, depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose individuals to objectionable odors are deemed to have a significant impact. Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities.

Construction Impacts

Construction activities associated with the Project could result in short-term odor emissions from diesel exhaust associated with construction equipment. The Project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, construction impacts related to other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less than significant.

Operational Impacts

Project operations would not include any land uses identified by ARB as being associated with the generation of objectionable odors. However, the locomotive rail operations on the tracks that access the OCMF and locomotive idling and refueling activities may increase the potential for generation of odors from locomotive diesel fuel combustion. However, these odors would be intermittent and of short duration. Any odors resulting from diesel fuel combustion along rail alignment would be intermittent and short term and not considered a significant odor-generating source (ARB, 2005). Therefore, operational impacts related to other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less than significant.

3.4. BIOLOGICAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.4.3.1	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 Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
3.4.3.2	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
3.4.3.3	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?	☐	☒	☐	☐
3.4.3.4	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?	☐	☒	☐	☐
3.4.3.5	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
3.4.3.6	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1. Existing Conditions

The area evaluated for biological resources includes the Project Site and a 500-foot survey buffer, known as the Biological Survey Areas (BSA). A buffer around the Project Site was evaluated in order to capture

potential indirect effects to biological resources from implementation of the Project. Indirect effects could include elevated noise and dust levels and increased human activity within the BSA. A 500-foot survey buffer is appropriate for capturing potential indirect impacts from a project on biological resources. It is anticipated that indirect impacts beyond 500 feet for this Project are generally diffuse and would not significantly impact biological resources.

Vegetation

On-site habitat can be characterized as "upland mustards and other ruderal forbs" or "wild oat and annual brome grasslands" as described below and in *A Manual of California Vegetation* (Sawyer et al., 2009). These communities lack trees and shrubs and consist primarily of invasive non-native species, with little to no native vegetation. The vegetated area to the north of the existing Metrolink facilities is dominated by non-native herbaceous species, including wild mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis* spp. *rubens*), black mustard (*Brassica nigra*), yellow starthistle (*Centaurea solsticialis*), and wild oats (*Avena* sp.), as well as one native herb, doveweed (*Croton setigera*). The area south of the existing Metrolink tracks is highly disturbed and consists mostly of bare ground. Native species identified on the site include ragweed (*Ambrosia psilostachya*), doveweed, jimsonweed (*Datura wrightii*), Canada horseweed (*Erigeron canadensis*), and telegraph weed (*Heterotheca grandiflora*). No trees or shrubs exist within the proposed Project Site. It appears that most of the Project Site is regularly mowed to control non-native weeds. Areas at the eastern and western extents of the Project Site, at the bends in Marine Way, appear to be mowed less frequently and contain additional non-native herbaceous plant species. Appendix C presents the plant species identified during the field survey. Bee Canyon Channel, a drainage channel occurring along the southeast perimeter of the Project Site, contains some riparian vegetation consisting of willow (*Salix* sp.) and mulefat (*Baccharis salicifolia*). No natural vegetation communities exist within the BSA. The nearest areas of natural communities occur approximately four miles to the northeast in the foothills of the Santa Ana Mountains, and approximately three miles to the southwest in the San Joaquin Hills.

Wildlife

With most vegetation being less than a foot in height and with a lack of trees or shrubs, the Project Site provides limited suitable habitat for wildlife to forage, nest, or rest, or for cover. Wildlife observed on-site was minimal during the field survey. Observed species include western fence lizard (*Sceloporus occidentalis*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*). No active or old bird nests were observed within the proposed Project Site; however, killdeer (*Charadrius vociferous*), a common ground-nester, could potentially nest on-site.

The BSA occurs within an urbanized area and does not occur within or intersect a recognized or established regional wildlife corridor. Vegetative growth within the proposed Project Site and ornamental trees and shrubs within landscaped areas within the surrounding BSA provide some opportunities for cover, resting, foraging, and nesting to localized bird populations; however, they do not function as a significant wildlife movement corridor.

Special-Status Plant and Wildlife Species

No rare or sensitive plant or wildlife species were observed during the field survey. The site does not provide habitat suitable to support sensitive plant or wildlife species, and they are not anticipated to occur on-site due to the marginal habitat value of the Project Site and within the BSA.

The California Natural Diversity Database (CNDDB) was reviewed to determine if any special-status plant or wildlife species have been recorded from the Project Site or surrounding area. Although no trees or shrubs occur within the proposed Project Site, the low and sometimes sparse vegetative growth present is potentially suitable for ground-nesting bird species such as California horned lark (*Eremphila alpestris actia*), a CDFW Watch List (WL) species. Records of burrowing owl (*Athena cunicularia*), a CDFW Species of Special Concern, are known from one to two miles east of the Project Site from 2010 (CDFW, 2020a). No burrows suitable for this species were observed, and although this species prefers open grassland habitat with low plant growth, regular vegetation maintenance on-site creates conditions generally unsuitable for this species. CNDDB records from 1999 of tricolored blackbird (*Agelaius tricolor*), listed as Endangered under the California Endangered Species Act (CESA), are known from one to two miles west and southwest of the Project Site, on the other side of I-5 from the Project. Subsequent surveys for this species in 2014 noted it was no longer present and the area had been developed (CDFW, 2020a). This species nests in marsh habitat, which is absent from the Project Site. Records of other special-status wildlife species and special-status plants occur two plus miles southwest of the Project Site, in the vicinity of Sand Canyon Reservoir; however, the natural habitats preferred by these species are absent from the Project Site and they are not expected to occur on-site.

3.4.2. Regulatory Framework

Several regulations and standards have been established by federal, state, and local agencies to protect and conserve biological resources. The proposed Project's compliance with the regulations and standards listed below were assessed.

Federal (refer to Appendix C for explanation of laws)

- Federal Endangered Species Act (FESA)
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act
- Clean Water Act (CWA)
- Magnuson-Stevens Fisher Conservation and Management Act (Magnuson-Stevens Act)

State (refer to Appendix C for explanation of laws)

- California Fish and Game Code (CFGC)
- Porter-Cologne Water Quality Control Act

Local

Orange County Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) - The NCCP/HCP (County of Orange, 1996) was prepared by the County of Orange in cooperation with California Department of Fish and Game (CDFG, now CDFW) and U.S. Fish and Wildlife Service (USFWS). The document was prepared in accordance with the provisions of the state Natural Community Conservation Planning Act of 1991 (NCCP Act), Sections 1600 et seq. of the CFGC and ESA. The 208,000-acre Central and Coastal Subregion is part of a five-county NCCP Study Area established by the state as part of the Southern California Coastal Sage Scrub NCCP Program. The proposed Project falls within the Central Subregion of the NCCP/HCP.

In addition, a Joint Programmatic Environmental Impact Report and Environmental Impact Statement (Joint EIR/EIS) (County of Orange, 1996b) that addresses the effects related to the NCCP/HCP was prepared in accordance with CEQA and the National Environmental Policy Act (NEPA). The County of Orange is the lead agency responsible for preparation of the NCCP/HCP and the EIR. The USFWS is the lead agency responsible for preparation of the HCP and EIS.

As presented in Section 8 of Appendix C, significant impacts to special-status and sensitive biological resources are not expected and the proposed Project is not anticipated to conflict with the NCCP/HCP.

3.4.3. Discussion

3.4.3.1. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS?

Determination: NO IMPACT

Construction and Operational Impacts

Herbaceous vegetation composed primarily of non-native mustard and grass species occurs within the proposed Project Site; no trees or shrubs occur on-site. During the field survey conducted on July 30, 2020, it was noted that no federally listed or state-listed species were identified and special-status plant species are not expected to occur in the BSA due to a lack of potentially suitable habitat. Additionally, no USFWS-designated critical habitats for federally listed species or any other sensitive, protected, or managed communities or habitats were identified during a review of the USFWS online Information for Planning and Consultation (IPaC) on the Project Site.

Indirect impacts to vegetation during Project construction could include the accumulation of fugitive dust and further colonization of non-native, invasive plant species. Other indirect impacts could include the potential for surface runoff, increased erosion, and sediment deposition beyond the footprint of disturbance as a result of the use of heavy construction equipment and general construction-related activities. However, standard construction practices related to fugitive dust and erosion control would be implemented.

Likewise, suitable habitat for special-status plants is not present in the BSA. Therefore, no direct or indirect impacts to vegetation or special-status plant species would occur.

During operations, the Project Site would be a combination of impermeable and permeable surfaces, but no portion of it would be left undisturbed. As such, the Project Site would not retain any existing vegetation, nor would it be an improved condition for sensitive species habitats to occur. Therefore, no operational impacts related to substantial adverse effects, 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 CDFW or the USFWS would occur.

3.4.3.2. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

No sensitive natural vegetation communities occur within the BSA; however, Bee Canyon Channel, an aquatic feature under regulatory jurisdiction of the CDFW and Regional Water Quality Control Board (RWQCB) occurs within the BSA. Jurisdiction of the U.S. Army Corps of Engineers (USACE) within the Project Site is still to be determined, pending coordination with USACE. The Project occurs within the San Diego Creek (SDC) Watershed Special Area Management Plan (SAMP) area and is located outside of any pre-defined Aquatic Resource Integrity Area. Additionally, this segment of Bee Canyon Channel is not located within the "major streams" category.

The Project proposes to construct a new bridge over Bee Canyon Channel that would require reprofiling of the wash. Construction of the bridge over Bee Canyon Channel would likely require a permit pursuant to Section 404 of the CWA. Construction of the Project would meet the terms and conditions of a Letter of Permission (LOP), and operation and maintenance would potentially meet the criteria for authorization under Regional General Permit (RGP) No. 74.

Regardless of the permitting process that is ultimately implemented in coordination with USACE, RWQCB, and CDFW, adherence to Mitigation Measure BIO-1 in Section 9 of (Appendix C), would reduce the impacts of bridge installation over Bee Canyon Channel to a level less than significant.

Operational Impacts

Impacts to biological resources during operation and maintenance of the proposed Project are not anticipated as such activities would be conducted within previously disturbed and developed surfaces containing non-native vegetation and would generally not change

biological conditions from those present prior to and after Project construction. Therefore, operational impacts related to substantial adverse effects on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS would not occur.

Mitigation Measure BIO-2 presented below would mitigate potential impacts of the proposed bridge to Bee Canyon Channel, ensuring impacts to this jurisdictional feature remain less than significant.

- **MM-BIO-2: Compliance with USACE SAMP Mitigation Procedures.** Pursuant to SAMP requirements, if a permanent loss of regulated waters or streambed occurs because of the Project, compensatory mitigation (purchase of credit at an in-lieu fee or mitigation bank approved by the resource agencies), or applicant proposed enhancement or establishment of waters or streambed) shall be provided at a minimum ratio of 1:1. Temporary impacts shall be restored to pre-Project conditions the extent practicable.

3.4.3.3. Would the Project 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?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

Construction of a bridge to carry rail tracks over an isolated, open portion of Bee Canyon Channel may be eligible to obtain an LOP or RGP 74 from the USACE as a "Road Crossing," which includes construction and/or maintenance of new and existing bridges and culverts.

No wetlands, including marsh, vernal pools, coastal wetlands, etc. are within the Project Site; therefore, there would be no impacts on wetlands from construction or operation of the project. Suitable habitats for wetland-riparian species were not identified in the BSA; therefore, no impacts would occur. However, adherence to Mitigation Measure BIO-1 would reduce the impacts of bridge installation over Bee Canyon Channel to a level less than significant.

Additionally, construction of the proposed bridge over Bee Canyon Channel would require the Project Applicant to obtain a permit pursuant to Sections 404 and 401 of the CWA and to Section 1600 et seq. of CFGC. The Project Applicant shall coordinate with the USACE to obtain authorization pursuant to Section 404 of the CWA (i.e., LOP or RGP 74 per SAMP permit procedures) and the RWQCB to obtain a Water Quality Certification pursuant to Section 401 of the CWA. Additionally, if the project results in any modification of the bed or banks of Bee Canyon Channel, then the Project Applicant shall coordinate with CDFW to determine the need to obtain a Lake and Streambed Alteration Agreement (LSAA) pursuant to Section 1600 et seq. of CFGC.

Operational Impacts

Impacts to biological resources during operation and maintenance of the proposed Project are not anticipated as such activities would be conducted within previously disturbed and developed surfaces containing non-native vegetation and would generally not change biological conditions from those present prior to and after Project construction. Therefore, operational impacts would not occur related to substantial adverse effects 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.

Mitigation Measure BIO-2 would mitigate potential impacts of the proposed bridge to Bee Canyon Channel, ensuring impacts to this jurisdictional feature remain less than significant.

3.4.3.4. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

Wildlife

The BSA occurs within an urbanized area and does not occur within or intersect a recognized/established regional wildlife corridor or a native wildlife nursery site. Although no trees or shrubs occur within the proposed Project Site, the low and sometimes sparse vegetative growth present is potentially suitable for ground-nesting bird species such as California horned lark and killdeer (*Charadrius vociferus*). Additionally, trees in ornamental landscapes within the surrounding BSA at the athletic fields to the northeast and in commercial development to the southwest provide potentially suitable nesting opportunities for localized bird populations, which are protected under the MBTA and by CFGC. However, the BSA does not provide functions as a significant wildlife movement corridor and by implementing avoidance and minimization measures outlined in Mitigation Measure BIO-1, direct impacts to any birds protected under the MBTA and by CFGC that may occur in the BSA would be less than significant.

Indirect impacts to nesting birds within the BSA could occur during construction as a result of noise, dust, increased human presence, and vibrations resulting from construction activities. Such disturbances could result in increased nestling mortality due to nest abandonment or decreased feeding frequency and would be considered significant. However, implementing and adhering to avoidance and minimization measures outlined in Mitigation Measure BIO-1 would reduce potential indirect impacts to nesting birds protected under the MBTA and by CFGC to a level that is less than significant.

Bee Canyon Channel occurs along the southern limit of the proposed Project. This feature conveys ephemeral flows of stormwater, is concrete-lined, and underground along much of its length in the vicinity of the proposed Project and does not provide a movement corridor for wildlife, including passage for fish.

Special-Status Wildlife Species

No federal- or state-listed wildlife species have been identified in the BSA, and potentially suitable habitat for such species is absent from the BSA. However, as presented in Section 5.2 of Appendix C, two CDFW WL bird species, Cooper's hawk (*Accipiter cooperii*) and California horned lark, have some potential to occur within the BSA. As a result, direct and indirect impacts to special-status wildlife could occur. However, by implementing and adhering to avoidance and minimization measures outlined in Mitigation Measure BIO-1, potential impacts to nesting individuals of these special-status birds, or any other special-status bird species, would be reduced to a level that is less than significant.

Operational Impacts

Impacts to common wildlife, special-status wildlife species, and wildlife movement are not anticipated during operation and maintenance of the proposed Project. Therefore, operational impacts would not occur related to 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.

With the potential for ground-nesting birds protected under the MBTA and CFGC to occur within the Project Site and other bird species to occur in the surrounding BSA, implementation of Mitigation Measure BIO-1 presented below would mitigate potential impacts to nesting birds should construction overlap the bird breeding season (February 15 through September 1).

- **MM-BIO-1: Designate Project Biological Monitor(s).** Ground-disturbing activities during construction shall occur outside of the nesting bird season (generally February 15 through September 1). If avoiding the nesting season is not practicable, the following additional measures shall be employed:

    - A pre-construction nesting survey shall be conducted by a qualified biologist within 3 days prior to the start of construction activities to determine whether active nests are present within or directly adjacent to the construction zone. All nests found shall be recorded.

    - If construction activities must occur within 300 feet of an active nest of any passerine bird or within 500 feet of an active nest of any raptor, with the exception of an emergency, a qualified biologist shall monitor the nest on a weekly basis, and the

activity shall be postponed until the biologist determines that the nest is no longer active.

- If the recommended nest avoidance zone is not feasible, the qualified biologist shall determine whether an exception is possible and obtain concurrence from the resource agencies before construction work can resume within the avoidance buffer zone. All work shall cease within the avoidance buffer zone until either agency concurrence is obtained or the biologist determines that the adults and young are no longer reliant on the nest site.

3.4.3.5. Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Determination: NO IMPACT

Construction and Operational Impacts

There is no wildlife or plant species within the Project Site that would be protected by local policies or ordinances. In addition, no trees are present within the Project Site. Thus, no tree preservation policy or ordinance would apply to this Project. Therefore, no construction or operational impacts that would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, would occur.

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

Determination: NO IMPACT

Construction and Operational Impacts

Although the Project Site falls within the boundary of the Orange County Central/Coastal NCCP/HCP, OCTA is not a participating landowner. As a result, the Project is not eligible for coverage under the NCCP/HCP for impacts to federally and/or state-listed species. However, because no federally and/or state-listed species are expected to be impacted, no sensitive communities occur on-site, and avoidance and minimization measures will be implemented to reduce impacts to nesting birds protected under the MBTA and CFGC, the Project does not conflict with the NCCP/HCP and will not require payment of a Mitigation Fee per the NCCP/HCP for such impacts.

Significant impacts to special-status and sensitive biological resources are not expected to occur and the Project is not anticipated to conflict with the NCCP/HCP. Therefore, no construction or operational impacts that would conflict with the provisions of an adopted HCP; NCCP; or other approved local, regional, or state habitat conservation plan would occur.

3.5. CULTURAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.5.3.1	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☒	☐	☐
3.5.3.2	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
3.5.3.3	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1. Existing Conditions

Prehistoric Overview

Refer to Appendix D (Cultural Resources Technical Memorandum).

Project Site Development History

MCAS El Toro was decommissioned in 1999. The roadways to the northwest and south of the Project Site were further developed in the 1990s. The I-5 bridge crossing the Atchison, Topeka and Santa Fe Railway (AT&SF) (now the SCRRA Orange Subdivision) was constructed in 1992, the SR-133 bridge crossing Marine Way was constructed in 1997, and the SR-133 bridge over the former AT&SF (by this point BNSF) was constructed in 1998 (NBI 2020). In 2001, Measure W was passed, which authorized the former air station's use as a park and multi-use development, now known as the Great Park area.

Based on review of historical topographic maps and aerial photographs, the Project Site itself has undergone some development in the past 100 years. The earliest topographic map from 1901 shows the railroad alignment, but no buildings are depicted. A 1938 aerial photograph shows the area as agricultural fields bound to the southwest by the SCRRA Orange Subdivision alignment (NETR, 2020). From 1942 to 1950, a rail siding was added bisecting the Project Site. In 1952, the water transfer vault located at the northwestern end of the Project Site was present. The current footprint of the perimeter road was present by 1963, and trees were planted alongside the perimeter road by 1994 (NETR, 2020). Additional fencing and water transfer equipment structures were constructed at the northwestern end of the Project Site during the mid-2000s. The SCRRA Orange Subdivision alignment, southwest of the Project Site boundaries, has been altered over time for modern use, with modifications accommodating technological developments and commercial demands (e.g., larger trains, second track, automated switches), and other ongoing maintenance.

Archival Research

On April 30, 2020, AECOM requested a California Historical Resources Information System records search from the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The research focused on the identification of previously recorded cultural resources within the Project Site and a half-mile radius. The SCCIC responded via email on August 19, 2020.

The records search revealed that 37 cultural resources investigations were previously conducted within a half-mile radius of the Project Site (refer to Appendix D). Four of these investigations overlap the Project Site in whole or in part. The entirety of the Project Site has been subject to previous archaeological study.

The records search further revealed that 14 resources have been recorded within half-mile of the Project Site. Of these 14 resources, two are located within the Project Site, and are discussed in further detail below (refer to Appendix D).

Resource P-30-100372

This resource is an isolated Venus clam shell. The shell was observed next to a gopher hole with no other shell or artifacts in the vicinity. A shovel test pit was excavated next to the shell to a depth of 30 centimetres with negative results. Because of the distance from the coast, it was assumed that the shell was transported to this location by human activity. However, it is impossible to determine when or how the shell was transported, or whether the shell's transportation to this location was intentional or accidental. By their nature, isolated resources are in general not eligible for inclusion in the California Register of Historic Resources (CRHR).

Resource P-30-176663

This resource is an approximately 14.7-mile-long segment of the SCRRA Orange Subdivision railroad tracks (originally part of the AT&SF Railway and subsequently BNSF Railway) within Orange and Los Angeles Counties. While originally constructed between 1885 and 1888, the railroad has been continuously used, resulting in replacement of all or most of its historic fabric. Because of its lack of integrity, this resource has been repeatedly recommended ineligible for listing in the National Register of Historic Places (NRHP). The eligibility of this segment has not been formally determined via State Historic Preservation Officer (SHPO) consensus.

Field Survey

A reconnaissance-level archaeological and built environment survey was conducted on July 30, 2020. Evidence of superficial disturbances included abundant gopher holes and remains of an irrigation system in the form of 3/4-inch polyvinyl chloride (PVC) pipes and sprinkler heads. The ground also appeared recently disced or plowed.

Subsurface Investigations (Extended Phase I)

An Extended Phase I (XPI) cultural resources identification was completed in 2021 by HDR (HDR, 2021). The XPI was conducted because the Project area was determined to have a moderate sensitivity to encounter buried cultural resources. The purpose of the XPI was to determine the presence or absence of buried historic or prehistoric cultural resources and to further assess the overall archaeological sensitivity in portions of the OCMF project area where deep Project-related excavations are proposed. XPI investigations consisted of 40 subsurface shovel test probe excavations to confirm the presence or absence of buried cultural materials. All tests were negative for the presence of prehistoric cultural material. No historic properties, historic resources, or unique archaeological resources were identified during the XPI. Based on the results of the XPI, it is not anticipated that the Project will impact buried cultural resources.

Archaeological Resources

No archaeological resources were observed within the Project Site. The previously recorded isolated clam shell (P-30-100372) was not relocated during the survey.

Built Environment Resources

P-30-176663 SCRRA Orange Subdivision Segment

The portion of the SCRRA Orange Subdivision (formerly AT&SF) Railway south of the Project Site is a double track that runs northwest to southeast. This segment has been altered over time for modern use, with modifications accommodating technological developments and commercial demands (e.g., larger trains, second track, automated switches), and other ongoing maintenance. The original elements of the rail line have been repaired and replaced. This portion of the SCRRA Orange Subdivision Railway has been previously evaluated and recommended not eligible for inclusion in the CRHR.

Water Transfer Vault

Approximately 350 feet northeast of the SR-133 bridge over the SCRRA Orange Subdivision Railway is a rectangular water transfer vault constructed circa 1950 and abandoned in 2006. The resource is a concrete domestic water intake structure originally used for MCAS El Toro. The vault located on the western periphery of the former MCAS El Toro property does not have any distinct associations with the United States Marine Corps' mission operations during the 1950s and is a minor and vernacular water infrastructure element. Entrance to the structure is by way of stairs covered by a metal grate. The vault measures approximately 46 feet long and 27 feet wide; the interior is approximately 10 feet tall. The vault's footprint appears unchanged since construction; however, a low concrete interior partition appears to have been removed in order to install new piping. Additional fencing and water transfer equipment structures were constructed adjacent to the vault during the mid-2000s.

CRHR Evaluation

The Water Transfer Vault located in the Project Site does not appear to meet the criteria for listing in the CRHR, nor does it appear to be a historical resource for purposes of CEQA, either as an individual resource or as a contributor to a larger resource. The structure does not meet any of the significance criteria necessary for eligibility for listing in the CRHR and does not retain its historic integrity.

3.5.2. Regulatory Framework

State

California Environmental Quality Act - A cultural resource is considered a "historical resource" under CEQA if the resource meets the criteria for listing in the CRHR (Public Resources Code [PRC] Section 5024.1, Title 14 California Code of Regulation [CCR], Section 4852). The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) focus on resources of statewide, rather than national, significance.

Potential historical resources eligible for listing in the CRHR may include buildings, sites, structures, objects and historic districts. A resource less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historic importance. While the criteria for the CRHR is less rigorous than the NRHP with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance (Title 14 CCR, Section 4852).

Archaeological resources identified as "unique archaeological resources" are similarly protected by Division 13, Chapter 2.6, of the PRC. An archaeological resource that is considered nonunique need be given no additional consideration other than its existence being recorded, unless it is determined to be a tribal cultural resource.

Public Resources Code Section 5097.5 - PRC Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. "Public lands" refers to land owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

Local

City of Irvine General Plan - The City of Irvine General Plan includes Element E on Cultural Resources. It recognizes the importance of historical, archaeological and paleontological resources in the City and establishes a process for their early identification, consideration, and where appropriate, preservation. It

requires assessment of potential resources on projects and utilizes planning policies, ordinances, approval conditions and mitigation measures to protect the resources.

Cultural resources are the physical remains of the City's historic and prehistoric heritage (City of Irvine, 2015). Historical resources include sites established after 1542 A.D., the date when European contact with California began, which may be significant to history, architecture, or culture. Archaeological resources include any location containing evidence of human activities which took place prior to 1750 A.D. Historical sites established prior to 1750 A.D. are also archaeological sites. Paleontological resources include any location containing a trace of plants or animals from past ages.

3.5.3. Discussion

3.5.3.1. Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

Section 15064.5(b) indicates that the significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Two resources that exceed 45 years of age were identified as a result of the archival research and field survey. One is a previously recorded segment of the SCRRA Orange Subdivision Railway (P-30-176663). The other is a water transfer vault constructed during the 1950s. However, neither resource appears eligible for inclusion in the CRHR, and therefore neither resource constitutes a historical architectural resource for the purposes of CEQA. Furthermore, neither resource is considered a unique archaeological resource. However, there still is the potential to uncover unknown historical resources (which include archaeological

resources) during construction. With the implementation of Mitigation Measures CUL-1 and CUL-2, impacts to archaeological resources during construction would be less than significant.

- **MM-CUL-1: Cultural Resources Awareness Training.** Prior to construction, OCTA shall retain a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The qualified archaeologist shall prepare a Cultural and Tribal Cultural Resources Awareness Training as part of the Project Worker Environmental Awareness Program (WEAP). The training will instruct workers as to the laws protecting cultural and tribal cultural resources and also give examples of the kinds of resources that can be reasonably expected to be found in the Area of Potential Effect (APE). An environmental compliance contact responsible for enforcing mitigation measures and who is to be notified in the event of a find will be identified in the training. Training will be delivered to all staff involved in ground-disturbing activities prior to their working on the project.

- **MM-CUL-2: Preparation of a Cultural Resources Monitoring and Discovery Plan.** Prior to construction, a project-specific cultural resources monitoring and discovery plan (CRMDP) will be developed by a qualified archaeologist who meets the Secretary of the Interior's Guidelines for Archaeology (36 CFR Part 61). The monitoring plan should identify what construction activities that occur in native soils would require archaeological and tribal monitoring, describe monitoring procedures, and outline the protocol to be followed in the event of a find. Criteria will be defined and triggers identified as to when further consultation is required for the treatment of finds. Plans of treatment of typical finds will be detailed, as will a plan of treatment for any human remains that are inadvertently encountered. If a potentially significant discovery is made and cannot feasibly be avoided, then additional work, potentially including data recovery excavations, may be required. Key staff will be identified, and the process of notification and consultation will be specified within the CRMDP. A curation plan will also be outlined within the CRMDP. All work should be conducted under the direction of a qualified archaeological Principal Investigator who meets the Secretary of the Interior's standards for archaeology. Consulting tribes under AB52 for the Project shall have the opportunity to review and comment on the draft CRMDP.

Operational Impacts

Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts related to historical resources would occur.

3.5.3.2. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Section 15064.5(c) indicates that CEQA applies to effects on an archaeological site if that site is determined by the lead agency to be an historical resource.

PRC, Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Section 15064.5(c) further indicates that if an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Determination: LESS THAN SIGNIFCANT WITH MITIGATION INCORPORATED

Construction Impacts

In the course of the archival research, one previously-recorded Venus shell fragment was identified within the Project Site (P-30-100372). The resource was not relocated during the survey. Isolated resources, such as the shell fragment, are by their nature neither historical resources nor unique archaeological resources. They are therefore generally not eligible for inclusion in the CRHR and, therefore, are not considered cultural resources for the purposes of CEQA.

While some of the Project's three-dimensional area of direct impact has been previously disturbed by past farming or by the construction and use of MCAS El Toro, unknown archaeological resources may be encountered during ground-disturbing activities associated with the Project. With the implementation of Mitigation Measures CUL-1 and CUL-2, impacts to archaeological resources during construction would be less than significant.

Operational Impacts

Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts related to archaeological resources would occur.

3.5.3.3. Would the Project disturb human remains, including those interred outside of formal cemeteries?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

As outlined in Appendix G (Paleontological Resources Technical Memorandum), no known burial sites are located within the Project Site and some of the area of direct impact has been previously disturbed. No evidence of human remains was observed during the site survey. As such, human remains are unlikely to be encountered during construction. If human remains are discovered, work in the immediate vicinity of the discovery will be suspended and the Orange County Coroner contacted. If the remains are determined to be archaeological, Mitigation Measure CUL-2 will be implemented in order to evaluate the archaeological site and recommend appropriate treatment in accordance with PRC Section 21083.2(i). If the remains are deemed Native American in origin, the Coroner would contact the Native American Heritage Commission and identify a Most Likely Descendant pursuant to PRC Section 5097.98 and CCR Section 15064.5. Work may be resumed at OCTA's discretion but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the proposed Project Site while consultation and treatment are conducted. Therefore, compliance with Mitigation Measure CUL-2 and existing regulations would ensure construction impacts related to human remains would be less than significant.

Operational Impacts

Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts related to human remains would occur.

3.6. ENERGY

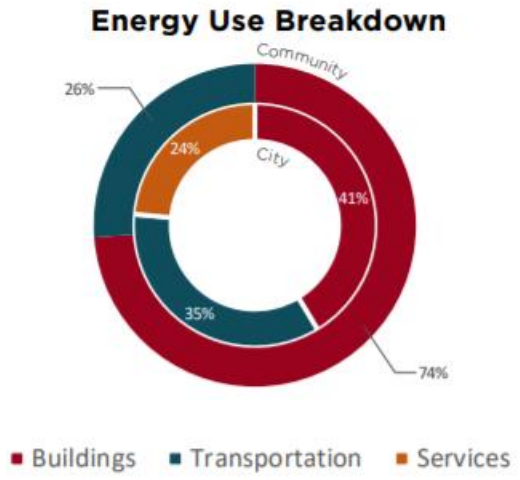
Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.6.3.1	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction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

3.6.1. Existing Conditions

The Project Site is located in the City of Irvine, where the primary supplier of natural gas is Southern California Gas Company (SCG) and the primary supplier of electricity is Southern California Edison Company (SCE) (City of Irvine, 2015).

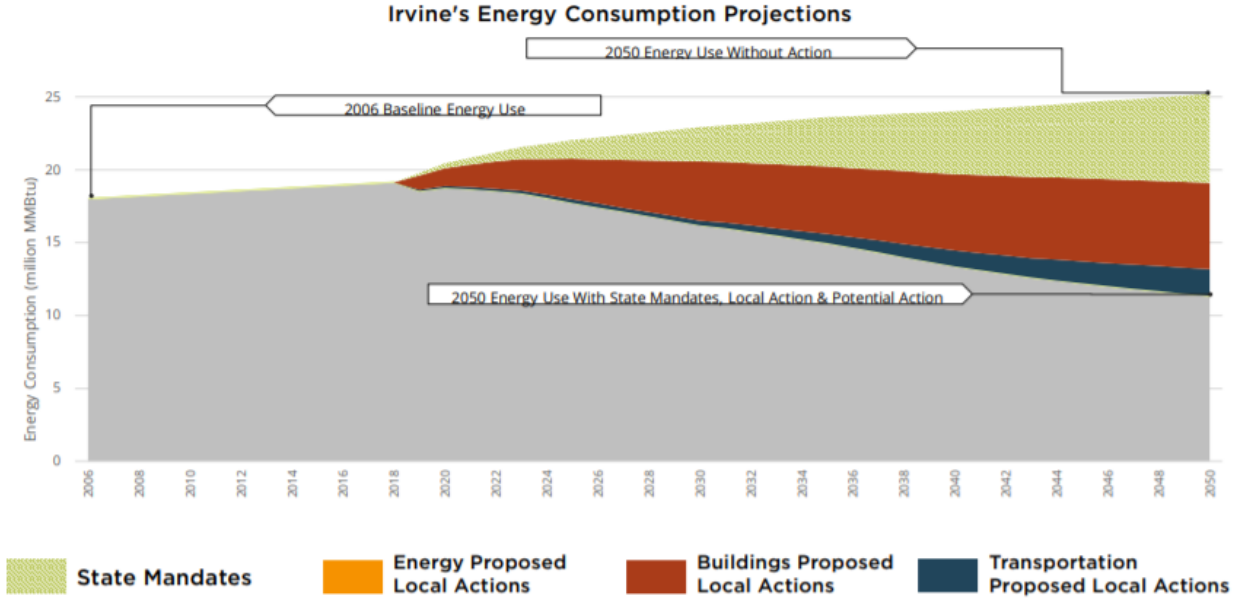
The City of Irvine developed a Strategic Energy Plan to outline actions the City can take to reduce energy consumption in municipal operations and identify effective measures the Irvine community can implement to become energy efficient and responsibly manage energy resources. The objectives of the Energy Plan included analyzing the City's baseline energy use to project future energy needs, evaluating priorities to meet those needs, and identifying funding opportunities to implement the strategies in the Energy Plan (City of Irvine, 2020). As described in more detail in the Irvine Strategic Energy Plan, Figure 3.6-1 presents the energy consumption based on a 2018 inventory. Communities account for the largest percentage of energy consumption of 74 percent, compared to the City which is responsible for 41 percent of total energy consumption. Additionally, facilities are responsible for 41 percent of energy use, followed by 35 percent for transportation, and 24 percent for services (primarily streetlights and traffic controls). Figure 3.6-2 summarizes the City's energy consumption trend.

Figure 3.6-1: City of Irvine Energy Consumption Breakdown



Source: City of Irvine, 2020

Figure 3.6-2: City of Irvine Energy Consumption Trend Summary



Source: City of Irvine, 2020

3.6.2. Regulatory Framework

The regulatory background of energy plans, policies, regulations, and laws is presented below. Generally, these plans, policies, regulations, and laws do not directly apply to the Project, but are presented to provide context to the regulatory setting.

State

Senate Bills 1078 and 107, Executive Orders S-14-08 and S-21-09, and Senate Bills 350 and 100 - Senate Bill (SB) 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Executive Order S-14-08 expanded the state's Renewables Portfolio Standard to 33 percent renewable power by 2020. Executive Order S-21-09 directs ARB, under its AB 32 authority, to enact regulations to help the state meet its Renewables Portfolio Standard goal of 33 percent renewable energy by 2020.

The 33-percent-by-2020 goal and requirements were codified in April 2011 with SB X1-2. This new Renewables Portfolio Standard applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. SB 350 (2015) increased the renewable-source requirement to 50 percent by 2030. This was followed by SB 100 in 2018, which further increased the Renewables Portfolio Standard to 60 percent by 2030 and added the requirement that all state's electricity come from carbon-free resources by 2045.

California Green Building Standards Code - In January 2010, the State of California adopted the California Green Building Standards Code, which establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a set of minimum requirements and more rigorous voluntary measures for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions' building codes on January 1, 2011. The 2019 California Building Standards Code (CCR Title 24) was published July 1, 2019, with an effective date of January 1, 2020.

Local

City of Irvine General Plan, Energy Element - The City of Irvine's General Plan was last updated in June 2015 and includes an Energy Element. The Energy Element includes the following measure for energy conservation (City of Irvine, 2015).

Objective 1-1 Energy Conservation: Maximize energy efficiency through land use and transportation planning.

Policy (a): Consider the following or comparable design features, to the extent feasible, in developments at time of concept plan, subdivision, or development review:

- Encourage energy-efficient landscaping (water conserving plants, indigenous vegetation, and use of on-site water runoff) consistent with the City's Sustainability and Landscaping Ordinance

Policy (b): Encourage and promote incorporation of energy conservation measures. The measures should be developed in conjunction with the applicant and may include:

- Active solar water and/or space heating
- Passive design features for heating and cooling
- Use of energy efficient devices

Policy (e): Facilitate the participation of industries in the following conservation programs where cost effective:

- Cogeneration (process heat/steam/electricity)
- Reclaiming waste products (biomass, solid waste, wastewater)
- Carpooling
- Mass Transportation

Policy (f): Require developers of major commercial or industrial facilities who develop a transportation management plan to address such measures as:

- Flex time and/or shifting work schedules to avoid peak traffic
- Employee carpools and vanpools
- Preferential and free parking for carpoolers and vanpoolers
- Ridesharing programs
- Shuttle services from regional transportation (e.g., rail/bus) stations to final destination
- Subsidies for transit passes
- Locker room facilities for employees (e.g., for bicyclists)

Policy (g): Promote use of alternative modes of transportation by the following programs:

1. Encourage use of regional public transportation (e.g., rail service).
2. Encourage use of the bus system by working with OCTA.
3. Encourage use of public transit and ridesharing by promoting and participating in public information programs aimed at schools, sports clubs and other institutions and organizations.

3.6.3. Discussion

3.6.3.1. Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Implementation of the Project would increase energy consumption for the duration of construction in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel). Transportation energy use during construction would come from the transport and use of construction equipment (off-road), delivery and haul trucks (on-road), and construction employee passenger vehicles (on-road). Construction-related transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. The majority of construction equipment during excavation, site work, building construction, and paving would be gas or diesel powered. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the phase of construction. Construction fuel use for the Project would cease upon completion of Project construction.

Table 3.6-1 presents the total fuel consumption anticipated for proposed construction activities for Phase 1 and Phase 2 of the Project. The information in these tables is based on the emissions calculations, as presented in Section 3.8 Greenhouse Gas Emissions, for proposed construction activities and application of the U.S. Energy Information Administration's carbon dioxide (CO_2) emissions coefficients (EIA, 2016) to estimate fuel consumption for construction activities.

Table 3.6-2 presents the annual energy consumption as a result of the fuel used during construction of the Project. Inputs used to calculate energy consumption are provided in Appendix B.

Table 3.6-1: Project Construction-Related Fuel Consumption, Total and Amortized over 30 Years

Phase/Description	Source	MT CO_2e[a]	Fuel Type	Factor (MT CO_2/Gallon)[b]	Gallons
Phase 1	Off-Road Equipment	757	Diesel	0.0102	74,129
	Worker Trips	456	Gasoline	0.0088	51,933
	Haul Truck Trips	487	Diesel	0.0102	47,693
Phase 2	Off-Road Equipment	207	Diesel	0.0102	20,320
	Worker Trips	251	Gasoline	0.0088	28,598
	Haul Truck Trips	22	Diesel	0.0102	2,196
Total Gallons			Diesel		144,339
			Gasoline		80,531
Amortized Demands (over 30 years) [1]			Diesel		4,811
			Gasoline		2,684

Notes: MT CO_2e = metric tons carbon dioxide equivalent; MT CO_2e/gallon = metric tons carbon dioxide equivalent per gallon
[1] Assumed amortization period is 30 years, based on the typically assumed project lifetime. Air districts in California (e.g., Sacramento Metropolitan Air Quality Management District 2021, South Coast Air Quality Management District 2008, San Luis Obispo County Air Pollution Control District 2012) recommend amortizing greenhouse gas emissions from construction activities over a project's operational lifetime.
Sources: [a] Modeled by AECOM in 2021, [b] EIA, 2016

Table 3.6-2: Project Construction-Related Energy Requirements

Fuel	Amortized Energy Requirement	Unit	Annual Energy Consumption (MMBtu)
Diesel	4,811	gallons per year	664
Gasoline	2,684	gallons per year	336
		Total	**1,000**

Notes: MMBtu = million British thermal units

As shown in Table 3.6-2, the annual energy consumption associated with construction of the Project (including transportation fuel use by off-road equipment, worker vehicle trips, and material delivery trips) would be approximately 1,000 million British thermal units (MMBtu), respectively. Based on the anticipated phasing of the Project, temporary nature of construction, and project type, the Project would not include unusual characteristics that would necessitate the use of construction equipment that is less energy efficient than at comparable construction sites.

In addition, contractors are required, in accordance with the ARB Airborne Toxic Control Measure for Diesel-Fueled Commercial Motor Vehicle Idling, to minimize idling time of construction equipment by shutting equipment off when not in use or reducing the time of idling to 5 minutes. These required practices limit wasteful and unnecessary energy

consumption. Furthermore, as described in more detail below, construction of the Project would allow for more efficient operations and logistics for locomotive travel and maintenance in the region, thereby encouraging fuel and energy efficiency. Therefore, construction impacts related to potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant.

Operational Impacts

Operation of the Project would include energy consumptions associated with fuel use from locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); and on-road vehicle travel for worker, delivery, and haul trips to and from the site. Additionally, the OCMF would also result in natural gas and electricity consumption and energy consumption associated with water consumption.

As described in more detail in Appendix B, the OCMF energy demand (electricity and natural gas) was based upon CalEEMod default data. The energy consumption associated with the supply, treatment, and disposal of water was estimated based on the anticipated water needs per train wash and added to the estimated waster demand for the buildings based on CalEEMod default data. Table 3.6-3 presents the annual energy consumption as a result of operation of the Project.

Table 3.6-3: Annual Operational Requirements

Description/Source	Energy Requirement	Unit	Annual Energy Consumption (MMBtu)
Locomotive Operations	725,225	gallons of diesel/year	99,632
On-Site Equipment	11,004	gallons of diesel/year	1,512
On-Road Vehicles (Diesel-Fueled)	18,689	gallons of diesel/year	3,976
On-Road Vehicles (Gasoline-Fueled)	11,708	gallons of gasoline/year	
Building Energy (Electricity)	1,535,961	kWh/year	5,250
Building Energy (Natural Gas)	8,981	kBtu/year	
Water Consumption	112,137	gallons/year	383
		Total	**110,753**

Notes: MMBtu = million British thermal units; kWh = kilowatt-hours; kBtu = thousand British thermal units

As shown in Table 3.6-3, the annual energy consumption associated with operation of the Project would be approximately 110,753 MMBtu. However, it should be noted that this estimate provides a conservative value as it does not account for the reduction in locomotive fuel consumption and energy associated with the reduced locomotive travel in the region due to the optimal location of the proposed Project Site. In addition, it is also anticipated that total regional fuel consumption associated with train idling would decrease at the existing

maintenance facilities due to more efficient operations and logistics. Since the purpose of the Project is to provide the space and equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis, operation of the Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, operational impacts related to potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant.

3.6.3.2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project would not use land that would otherwise be slated for renewable energy production and does not otherwise conflict with any state or local renewable energy plans. Therefore, Project construction would not obstruct any state or local plans for renewable energy and would conform with state and local plans for energy efficiency. As described above, the purpose of the Project is to provide the space and equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. Thus, implementation of the Project would promote and allow for fuel (and energy) efficient operations within the SCRRA transportation network.

In addition, consistent with the City of Irvine Strategic Energy Plan, the Project would be built to meet Title 24 – Building Energy Efficiency Standards (Part 6), including California Green Building Standards (CALGreen) Code (Part 11). Title 24 Standards require sustainable construction practices and building design in the categories of planning and design, including energy efficiency. Therefore, the Project's operation would not obstruct any state or local plans for renewable energy or energy efficiency. Therefore, construction and operational impacts related to conflicting with or obstructing a state or local plan for renewable energy or energy efficiency would be less than significant.

3.7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
3.7.3.1 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.	☐	☐	☐	☒
3.7.3.2 Strong seismic ground shaking?	☐	☐	☒	☐
3.7.3.3 Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
3.7.3.4 Landslides?	☐	☐	☐	☒
3.7.3.5 Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
3.7.3.6 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
3.7.3.7 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
3.7.3.8 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
3.7.3.9 Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

3.7.1. Existing Conditions

Geology and Soils

The Project Site is located within the San Juan Capistrano Quadrangle and is in a seismically active region. However, it is not located in an Alquist-Priolo fault zone and no known faults intersect with the Project Site (DYA, 2021). According to the State of California Department of Conservation Fault Activity Map, the nearest known fault is the San Joaquin Hills Blind Thrust located in subsurface approximately 6 miles southwest of the Project Site (Figure 3.7-1). The Newport-Inglewood Fault (approximately 9.5 miles southwest from the Project Site) and the Elsinore Fault (approximately 15 miles northeast of the Project Site) are the closest active faults to the Project Site with surface expression. No earthquake faults are identified on the Project Site.

Based on the State of California Seismic Hazard Zones, the Project Site is not mapped within the areas subject to liquefaction or earthquake-induced landslides (Figures 3.7-2 and 3.7-3). The Project Site is underlain by denser soils with a deeper groundwater table, defined as SRA-2 Denser Soils/Deeper Ground water on the City of Irvine Seismic Response Areas, which would also make the site less susceptible to liquefaction and subsidence.

The Project Site is within the Peninsular Ranges geomorphic province. The Peninsular Ranges geomorphic province extends approximately 900 miles southward from the Los Angeles Basin to the tip of the Baja California Peninsula and is characterized by elongate, northwest-trending mountain ranges separated by sediment-floored valleys (California Geological Survey, 2002). The most dominant structural features of the province are the northwest-trending fault zones, most of which die out, merge with, or are terminated by steep reverse faults at the southern margin of the Transverse Ranges geomorphic province.

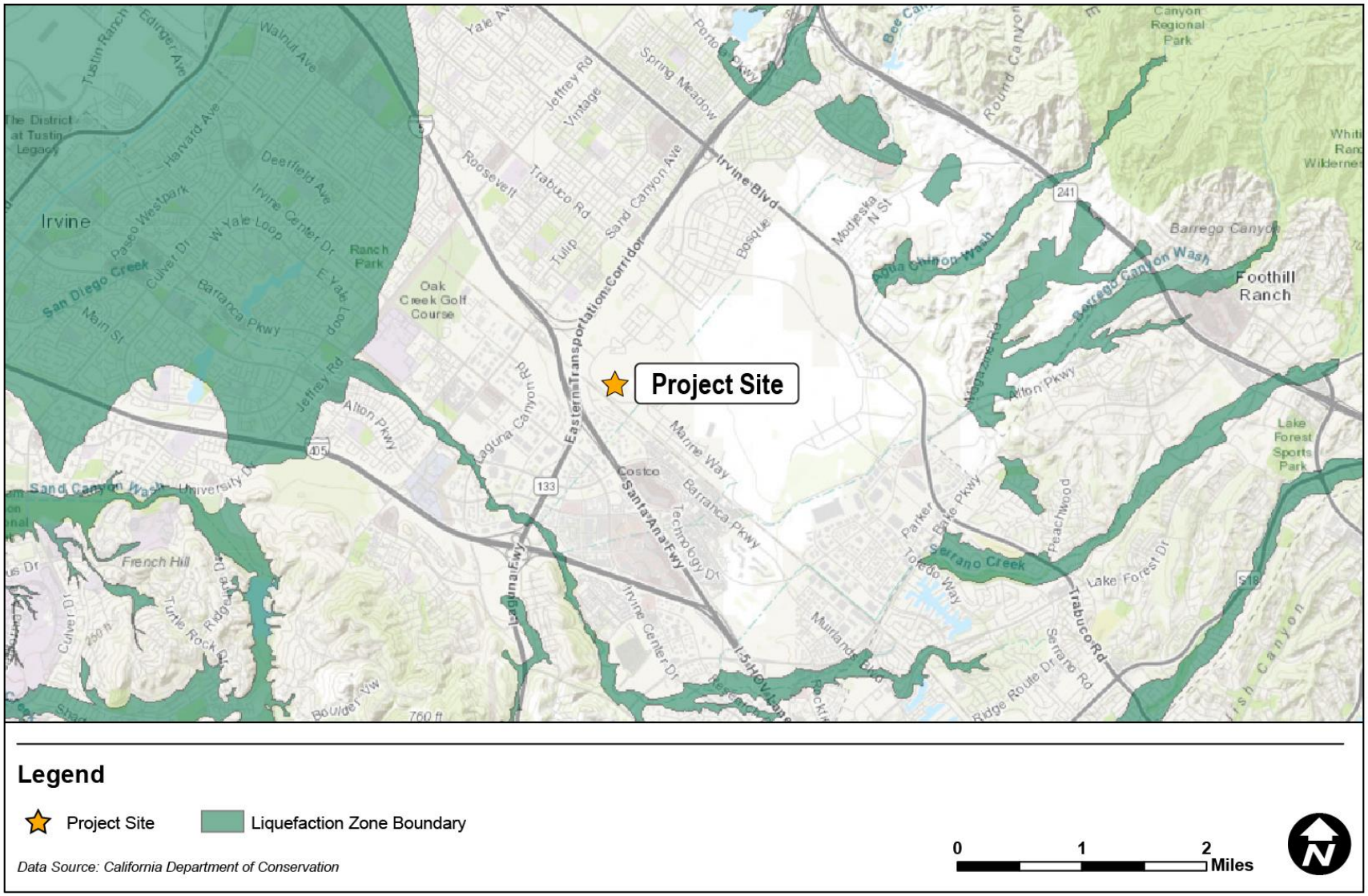
The Project Site is predominantly situated in an area with a Soil Component referred to as “Sorrento.” The soil surface texture consists of loam from surface to approximately 11 inches below ground surface (bgs), silty clay loam from approximately 11 inches to 61 inches bgs, and stratified loamy fine sand to silt loam from approximately 61 inches to 72 inches bgs (Kleinfelder, 2014).

A Geotechnical Sampling and Analysis Plan was prepared by Diaz, Yourman & Associates in 2020 prior to field exploration. The field exploration for the Project Site was conducted in December 2020 and January 2021. The subsurface soils encountered in the upper 24 feet consisted of predominately medium-stiff to hard sandy lean clays and sandy fat clays with varying amounts of loose to medium-dense clayey sands. Varying amounts of trace gravels were also present within the upper layer soils. The clays within this range were generally of medium to high plasticity with measured field pocket penetrometer (PP) values from 2.5 to greater than 4.5 tons per square feet (tsf). From a depth of approximately 24 to 39 feet bgs, the subsurface soils consisted of predominately medium stiff to hard sandy fat clays and sandy lean clays with varying amounts of loose to medium-dense clayey sands and silty sands. The fine-grained undisturbed samples in this range had measured PP values from 1.5 to greater than 4.5 tsf. From a

Figure 3.7-1: Fault Zones

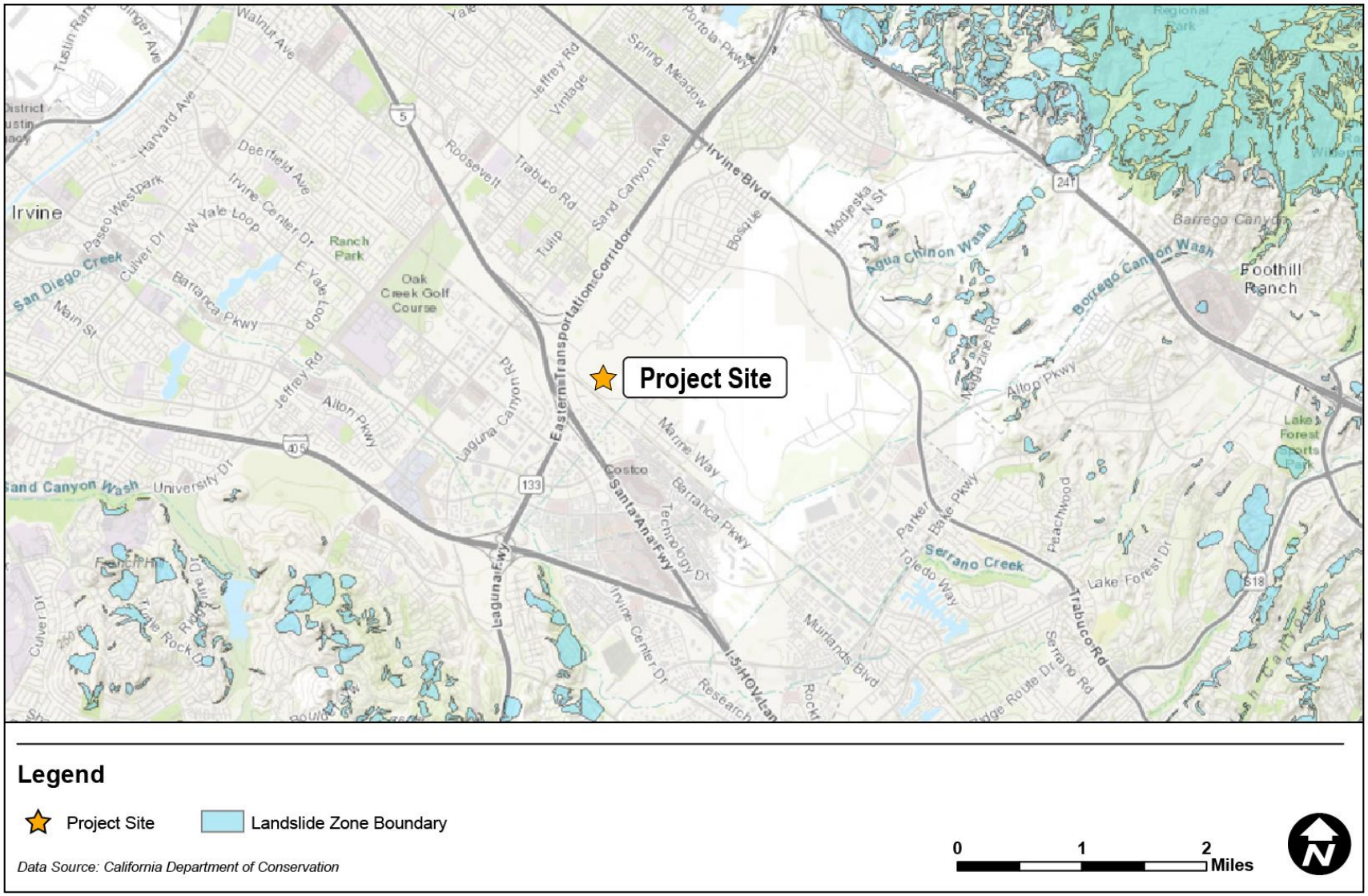
Source: AECOM, 2020

Figure 3.7-2: Liquefaction Zones



Source: AECOM, 2020

Figure 3.7-3: Landslide Zones



Source: AECOM, 2020

depth of approximately 39 to 60 feet bgs, the subsurface soils predominately consisted of hard sandy lean clays and sandy fat clays of medium to high plasticity with varying amounts of loose to very dense sands (DYA, 2020).

Paleontological Resources

Geologic maps indicate that the entire Project Site is covered with surficial deposits of younger Quaternary alluvium – Quaternary young alluvial fan (Qyf) deposits (Morton and Miller, 2006; Figure 3.7-4). These deposits, which date to the Holocene, are typically too young to contain significant fossils. However, in this vicinity, older Quaternary alluvium typically underlies younger Quaternary alluvium at varying depths. Older Quaternary alluvium, which dates to the Pleistocene, has yielded significant fossils.

A paleontological records search identified the closest Natural History Museum vertebrate fossil locality from older Quaternary deposits is LACM 7867, approximately a half-mile northeast of the Project Site, which produced fossil specimens of pocket gopher, *Thomomys*, at a depth of 25 feet below the surface. The next closest vertebrate fossil from older Quaternary deposits is LACM 7713, approximately 1.5 miles southwest of the Project Site on the western side of SR-133 at the southern end of the interchange with Interstate 405 (I-405), which produced a fossil specimen of ground sloth, *Mylodontidae*, from unstated but shallow depth.

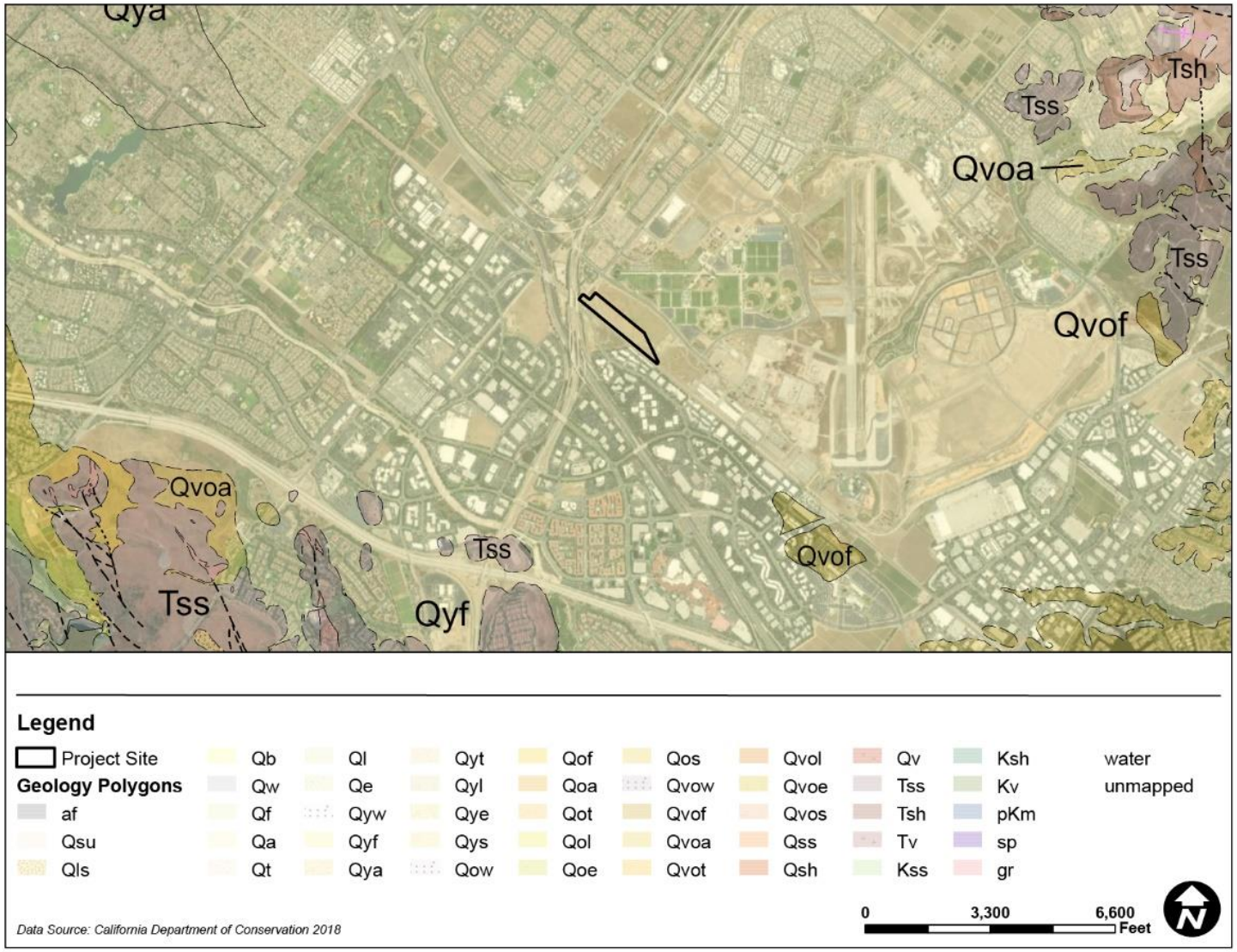
3.7.2. Regulatory Framework

State

The principal state guidance relating to geologic hazards is contained in the Alquist-Priolo Act (PRC 2621 et seq.) and the Seismic Hazards Mapping Act of 1990 (PRC 2690-2699.6). The Alquist-Priolo Act prohibits the location of most types of structures for human occupancy across active traces of faults in earthquake fault zones, shown on maps prepared by the state geologist, and regulates construction in the corridors along active faults (earthquake fault zones). Earthquake fault zones are regulatory zones around active faults designated by the state. The zones vary in width but average about one-quarter mile wide.

The Seismic Hazards Mapping Act of 1990 focuses on hazards related to strong ground shaking, liquefaction, and seismically induced landslides. Under its provisions, the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. The maps are to be used by cities and counties in preparing their general plans and adopting land use policies to reduce and mitigate potential hazards to public health and safety.

Figure 3.7-4: Quaternary Surficial Deposits Map



Source: California Department of Conservation, 2018

Pursuant to the Surface Mining and Reclamation Act (PRC 2710 et seq.), the State Mining and Geology Board identifies, in adopted regulations, areas of regional significance known to contain mineral deposits judged to be important in meeting the future needs of the area (PRC 2426 and 2790; Title 14 PRC 3350, et seq.). The State Mining and Geology Board also adopts state policy for the reclamation of mined lands and certifies local ordinances for the approval of reclamation plans as being consistent with state policies (PRC 2755-2764, 2774 et seq.).

Public Resources Code Section 5097.5

PRC Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. "Public lands" refers to land owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

3.7.3. Discussion

3.7.3.1. Would the Project, directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?

Determination: NO IMPACT

Construction and Operational Impacts

The nearest known fault is the San Joaquin Hills Blind Thrust located in subsurface approximately 6 miles southwest of the Project Site (see Figure 3.7-1). The Newport-Inglewood Fault (located approximately 9.5 miles southwest from the Project Site) and the Elsinore Fault (located approximately 15 miles northeast of the Project Site) are the closest active faults to the Project Site with surface expression. However, no earthquake faults are identified on the Project Site. Construction and operation of the Project is not expected to expose people or structures to adverse effects caused by the rupture of a known fault. Therefore, no construction and operational impacts related to potential substantial adverse effects, including the risk of loss, injury, or death with rupture of a known earthquake fault, would occur.

3.7.3.2. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project Site is within the San Juan Capistrano Quadrangle and is considered in a seismically active region. Although the Project Site is not near any active faults, it is possible that the region could be affected by future seismic activity. However, the magnitude of the incident would not likely be severe. Depending on the strength of ground shaking, it is possible that structures in the area could be damaged during such an event. All new structures proposed for the Project Site would be required to comply with construction standards and seismic design criteria contained in the most updated California Building Code.

Although the potential for seismic ground shaking to occur at the Project Site is unavoidable, the risk of excessive permanent damage is minor because facilities would comply with building standards for seismic safety as required by the California Building Code and the Orange County Department of Public Works. Therefore, construction and operational impacts related to exposing people or structures to strong seismic ground shaking would be less than significant.

3.7.3.3. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

Since the Project Site is in an active seismic region, there is some potential for seismic-related ground failure. However, soil types in Orange County are not conducive to liquefaction because they are too dense in texture and are underlain by a deeper groundwater table (see Figure 3.7-2). The probability of soil liquefaction in the area is considered a low to moderate hazard because of the substantial distance from active fault zones and the intensity of ground shaking expected (see Section 3.7.3.1, above).

Prior to final design, a site-specific geotechnical study would be prepared, as required by the California Building Code (Title 24 of the CCR). The geotechnical study would be used to determine the appropriate design features and construction measures necessary to minimize potential adverse effects associated with seismic-related ground failure, including liquefaction, lurching, or lateral spreading. In addition, new structures would be constructed to meet all Title 24 seismic safety regulations. Therefore, construction and operational impacts related to seismic-related ground failure would be less than significant.

3.7.3.4. Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not mapped within the areas subject to earthquake-induced landslides as shown in Figure 3.7-3. Minimal landslides have occurred within Orange County due to recent wildfires, which make the soils susceptible to landslides. However, the Project Site is in a flat area so there is no risk of landslides in such terrain. Therefore, no construction and operational impacts related to landslides would occur.

3.7.3.5. Would the Project result in substantial soil erosion or the loss of topsoil?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

As mentioned above, the Project Site is predominantly situated in an area with a soil component referred to as "Sorrento." The soil surface texture consists of loam from the surface to approximately 11 inches bgs, silty clay loam from approximately 11 inches to 61 inches bgs, and stratified loamy fine sand to silt loam from approximately 61 inches to 72 inches bgs.

The Project Site lies atop soil units with poor topsoil quality, which are susceptible to water or wind erosion. On-site soils are considered non-corrosive to structural elements. Construction and operation of the Project could erode and cause indirect impacts on water quality and loss of high value soil, which collectively would result in a substantial indirect effect.

By implementing standard construction practices and BMPs, Project construction would have limited impacts from erosion. Therefore, construction impacts related to substantial soil erosion or the loss of topsoil would be less than significant.

Operational Impacts

During operations, most of the Project Site would be paved, contain buildings, or ballast. Small landscaped areas would be planted to avoid any potential soil erosion or loss of topsoil. Therefore, operational impacts related to substantial soil erosion or the loss of topsoil would be less than significant.

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

Determination: NO IMPACT

Construction and Operational Impacts

Refer to the discussion under Section 3.7.3.3, above, regarding lateral spreading and liquefaction and under Section 3.7.3.4 regarding landslides. Therefore, no construction or operational impacts related to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse would occur.

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

Determination: LESS THAN SIGNIFICANT IMPACT

Predominately clayey soils in the upper 10 feet have a moisture content ranging from 6 to 54 percent, and sandy soils in the upper 10 feet have a moisture content ranging from 3 to 13 percent. The optimum moisture content corresponding to the maximum dry density from the bulk bag samples collected in the upper 5 feet of soil range from approximately 9 to 14 percent; therefore, in general, drying of the clayey soils and adding moisture to the sandy soils should be anticipated during construction.

Most of the soils in the upper 5 feet of the soil profile within the Project Site were generally found to have very low to high shrink-swell (expansive) potential. The earth loads associated with at-grade segments of the trackwork may not be sufficient to overcome swell potential. This impact is considered to have substantial intensity because this impact could result in loss of life or substantial property damage if not adequately addressed during design and construction.

Construction and Operational Impacts

Construction of the Project on soils with low to high shrink-swell potential could result in damage to the building facilities during operation of the Project. The potential for shrink-swell also represents a risk to the track system and track ROW for long-term operations for Metrolink lines by differential track movement. This type of impact is more critical at locations with at-grade segments. The earth loads associated with at-grade segments of the rail lines may not be sufficient to overcome swell potential. Soils with swell potential would likely be present along the track alignments and building facilities.

Because of the shrink-swell potential risk, the Project could be subject to unstable soil conditions such as settlement or expansion during construction and operation. Sandy portions

of the subsurface materials (fat and dense clayey) could be subject to compression, causing settlement. When weak soils are reengineered specifically for stability prior to use, these potential effects can be reduced or eliminated. To meet the City's design standards for grading and to comply with the California Building Code (Title 24 of the CCR), a site-specific evaluation of soil conditions would be required by the city. This evaluation would identify recommendations for ground preparation and earthwork specific to the Project Site and would become an integral part of the Project design.

An acceptable degree of soil stability could be achieved for expansive or compressible soils through routine soil treatment programs (replacement, grouting, compaction, drainage control, etc.). In addition, properly designing foundations and footings and diverting runoff away from buildings would help to prevent the structural damage caused by shrinking and swelling. In addition, properly designing buildings and roads can offset the limited ability of the soil to support a load. Compliance with building regulations and site-specific recommendations to address the on-site soil conditions would reduce the severity of construction and operation impacts. Therefore, construction and operational impacts related to the Project being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property would be less than significant.

3.7.3.8. Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project would include the construction of new wastewater drainage pipes that would tie into existing utilities located on Marine Way, as it is located in an urbanized setting. As discussed in Section 3.10 (Hydrology), an underground cistern would be included as part of the Project to capture and treat storm and wastewater. As described in Section 3.7.3.3 above, the Project would include a site-specific evaluation of soil conditions to comply with the California Building Code (Title 24 of the CCR). This evaluation would identify recommendations for ground preparation and earthwork specific to the Project Site, including evaluation of soil conditions. With the implementation of BMPs, as well as compliance with building regulations and site-specific recommendations to address on-site soil conditions, the severity of construction and operational impacts on soils incapable of supporting the use of septic tanks would reduce significantly. Therefore, construction and operational impacts related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would be less than significant.

3.7.3.9. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

The sensitivity of the Project to encounter significant fossil remains appears low. Geologic maps indicate that the surficial deposits at the Project Site consist of younger Quaternary alluvium as shown in Figure 3.7-4. These Holocene deposits are too young to typically contain significant fossils. The shallow excavations required for the Project are unlikely to encounter older deposits. Moreover, soils at the relatively shallow depths required for the Project's excavations can reasonably be assumed to have been disturbed in the recent past, by chemical and mechanical weathering, grading, and utilities excavations, and by activities related to the SCRRA Orange Subdivision and MCAS El Toro.

Nevertheless, it is possible that the proposed Project will encounter older Qyf deposits or old alluvial fan (Qof) deposits during deeper excavations. Unknown fossil resources may exist within these deposits, which have yielded significant fossils in the near vicinity of the Project. The sensitivity for the Project to encounter significant fossils increases with depth. The following mitigation measures are recommended to reduce any impacts to unknown paleontological resources encountered during excavations to a less than significant level.

- **MM-GEO-01: Worker Environmental Awareness Program.** Prior to construction, OCTA shall retain a qualified paleontologist who meets the requirements to be included in Orange County's list of qualified paleontologists. The qualified paleontologist shall prepare a Worker Environmental Awareness Program (WEAP). The WEAP will describe the types of resources that may be encountered during construction, the laws protecting those resources, and the procedures to follow when finds are encountered. The WEAP will be presented either in person or in video form to all construction employees involved in ground-disturbing activities before they begin work at the Project Site.

- **MM-GEO-02: Response to Unanticipated Paleontological Finds.** If buried paleontological resources are uncovered during construction, all work shall be halted in the vicinity of the discovery until a qualified paleontologist can visit the site of discovery and assess the significance of the resource and, if necessary, recommend treatment.

Implementation of Mitigation Measures MM-GEO-1 and MM-GEO-2 would reduce construction impacts related to paleontological resources to less than significant.

Operational Impacts

Operations of the OCMF and associated buildings would not require excavation activities. Therefore, no operational impacts related to paleontological resources would occur.

3.8. GREENHOUSE GAS EMISSIONS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.8.3.1	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
3.8.3.2	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1. Existing Conditions

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected towards space. This infrared radiation (i.e., thermal heat) is absorbed by GHGs within the earth's atmosphere. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on the earth.

GHGs are present in the atmosphere naturally, are released by natural and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels, waste treatment, and agricultural processes. The following GHGs are widely accepted as the principal contributors to human-induced global climate change:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs attributed to human activity include CH_4, which has a GWP of 25, and N_2O, which has a GWP of 298 (EPA, 2017). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 25 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation

than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

The largest source of GHG emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. In 2018, the United States generated 6,676 million metric tons (MMT) CO_2e (EPA, 2020). The transportation sector was the single largest source of GHG emissions in 2018, accounting for 29 percent of total GHG emissions. The transportation sector was followed by the electric power and industry sectors, which account for 27 and 22 percent of the total GHG emissions, respectively (EPA, 2020).

ARB performs an annual GHG inventory for emissions and sinks of the six major GHGs. California produced 425 MMT CO_2e in 2018 (ARB, 2020). Combustion of fossil fuel in the transportation category was the single largest source of California's GHG emissions in 2018, accounting for 40 percent of total GHG emissions in the state. The transportation category was followed by the industrial and electric power (including in-state and out-of-state sources) categories, which account for 21 and 15 percent of the state's total GHG emissions, respectively (ARB, 2020).

3.8.2. Regulatory Framework

State

Senate Bill 97 (SB 97) - California SB 97 mandates that the Governor's Office of Planning and Research (OPR) amend the state's CEQA Guidelines to address impacts from GHGs, and these amendments must be adopted by the California Natural Resources Agency (CNRA). The CNRA adopted CEQA amendments to the CEQA Guidelines on December 30, 2009.

Executive Order S-3-05 - Executive Order S-3-05, signed in June 2005, proclaimed that California is vulnerable to the impacts of climate change. Executive Order S-3-05 declared that increased temperatures could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established total GHG emissions targets. Specifically, emissions were to be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below the 1990 levels by 2050.

Assembly Bill 32 - In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05: reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies ARB as the state agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target. AB 32 also established several programs to achieve GHG emission reductions, including the Low Carbon Fuel Standard and the Cap-and-Trade program.

Senate Bill 32 - In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197, and both were signed by Governor Brown (California Legislative Information). SB 32 establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030.

ARB Climate Change Scoping Plans - In December 2008, ARB adopted its *Climate Change Scoping Plan. A Framework for Change* (Scoping Plan), which contains the main strategies California will implement to achieve the GHG reductions required by AB 32 (ARB, 2008). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of California's GHG inventory. ARB further acknowledges that decisions about how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors.

ARB is required to update the Scoping Plan at least once every five years to evaluate progress and develop future inventories that may guide this process. ARB approved First Update to the Climate Change Scoping Plan: Building on the Framework in June 2014 (ARB, 2014). The Scoping Plan update includes a status of the 2008 Scoping Plan measures and other federal, state, and local efforts to reduce GHG emissions in California, and potential actions to further reduce GHG emissions by 2020.

In November 2017, ARB released the 2017 Climate Change Scoping Plan, which establishes a framework of action for California to reduce statewide emissions by 40 percent by 2030, compared to 1990 levels (ARB, 2017). The 2017 Scoping Plan builds upon the framework established by the 2008 Scoping Plan and the 2014 Scoping Plan Update, while also identifying new, technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets.

SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) - On September 23, 2020, SCAG adopted Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. As a plan with the goal of accelerating the region's progress towards transportation and GHG reduction targets, programs within the RTP/SCS focus on shifting travel to active transportation modes, expanding the transit network, and efficient movement of goods (SCAG, 2020).

GHG Threshold of Significance - The geographic scope of consideration for GHG emissions is on a global scale as such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis. By their nature, GHG evaluations under CEQA are a cumulative study. (See *Center for Biological Diversity v. California Department of Fish and Wildlife* [2015] 62 Cal.4th 204.)

The CEQA Guidelines encourage but do not require lead agencies to adopt thresholds of significance (CEQA Guidelines, Section 15064.7). When developing these thresholds, and consistent with the December 2018 CEQA and Climate Change Advisory published by the California Office of Planning and Research (OPR, 2018), the Guidelines allow lead agencies to develop their own significance threshold and/or to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence. Individual lead agencies may also undertake a case-by-case approach for the use of significance thresholds for projects consistent with available guidance and current CEQA practice (OPR, 2018).

As the City of Irvine has not established screening thresholds for GHG emissions, the analysis reviewed the applicable significance thresholds developed by the SCAQMD. The SCAQMD has adopted a significance threshold of 10,000 MT of CO_2e per year for industrial (stationary source) projects (SCAQMD, 2008). The Project type is closest to an industrial project (i.e., doesn't include residential or commercial land uses). The 10,000 MT CO_2e threshold was developed in 2008 and was intended to ensure at least 90 percent of new GHG emissions would be reviewed and assessed for mitigation, thereby contributing to GHG emissions reduction goals of AB 32. However, the Project would begin construction in 2023; thus, construction-related GHG emissions should also be analyzed in the SB 32 statewide framework (which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels). However, the SCAQMD has not adopted a threshold of significance consistent with SB 32 goals. To provide this additional information to put the Project-generated GHG emissions in the appropriate statewide context, this analysis presumes that a 40 percent reduction in the SCAQMD's existing threshold (resulting in 6,000 MT CO_2e) is necessary to achieve California's 2030 GHG reduction goal (which is a 40 percent reduction below 1990 GHG emissions levels).

It is not the intent of this CEQA document to cause the adoption of these thresholds as mass emissions limits for this or other projects, but rather to provide this additional information to put the Project-generated GHG emissions in the appropriate statewide context.

3.8.3. Discussion

3.8.3.1. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Heavy-duty off-road equipment, materials transport, and worker commutes during construction of the Project would result in exhaust-related GHG emissions. Construction-related GHG emissions were estimated using the methodology discussed earlier under Section 3.3 Air Quality, and described in more detail in Appendix B. As shown in Table 3.8-1, total construction-related GHG emissions would be approximately 2,181 MT CO_2e. The SCAQMD recommends that construction emissions associated with a project be amortized over the life of the project (typically assumed 30 years). Therefore, this analysis includes a quantification of the total modeled construction-related GHG emissions. Those emissions are then amortized and evaluated over the life of the project (assumed 30 years). As such, the amortized GHG emissions would be approximately 73 MT CO_2e per year. Therefore, construction impacts related to the Project generating GHG gas emissions, either directly or indirectly, that may have a significant impact on the environment would be less than significant.

Operational Impacts

As described above in Section 3.3 Air Quality, GHG emissions associated with operation of the Project would include emissions from locomotive operations; heavy-duty equipment used on-site (such as cranes and forklifts); fuel tank emissions; natural gas consumption; and on-road vehicle travel for worker, delivery, and haul trips to and from the site. Indirect emissions were also modeled for indirect sources associated with electricity use, water demand, and waste generation. The Project would not result in an increase in commuter rail service or additional locomotive train travel in the region. Therefore, emissions associated with in-transit locomotive operations were assumed to remain similar to existing conditions. GHG emissions associated with implementation of the Project are summarized in Table 3.8-1. As described in more detail in Appendix B, on-site idling of trains for storage and maintenance purposes would not result in a regional increase in emissions, as these activities (and related emissions) currently occur at the existing storage and maintenance facilities and would simply shift these emissions sources to the proposed Project Site. Thus, these emissions are not included in Table 3.8-1. In addition, the emissions below do not account for the potential reduction in GHG emissions associated with more efficient locomotive travel and logistics. Therefore, the emissions presented below are conservative.

Table 3.8-3.8-1: Annual GHG Emissions

Source	GHG Emissions (MT CO_2e/year)
Total Construction	2,181
Amortized Construction[1]	73
Yard Equipment	98
Staff and Truck Vehicles	0.13
Natural Gas Consumption	85
Electricity Consumption	329
Water and Wastewater Consumption	24
Solid Waste Generation	279
Operations Subtotal	815
Total (Construction and Operations)	**888**
SCAQMD Threshold	10,000
SCAQMD Threshold (Adjusted for SB 32)	6,000
Exceeds Threshold?	**No**

Notes: GHG = greenhouse gas; MT CO_2e = metric tons carbon dioxide equivalent; SCAQMD = South Coast Air Quality Management District

[1] Assumed amortization period is 30 years, based on the typically assumed project lifetime (SCAQMD, 2008), which recommends amortizing GHG emissions from construction activities over a project's operational lifetime.

As shown in Table 3.8-1, GHG emissions would not exceed the SCAQMD's adopted significance threshold of 10,000 MT CO_2e per year nor the adjusted SB 32 threshold of 6,000 MT CO_2e per year. Therefore, this impact would be less than cumulatively considerable. As such, operational impacts related to the Project generating GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be less than significant.

3.8.3.2. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

As discussed above, in response to AB 32 and SB 32, ARB has approved a series of Climate Change Scoping Plans. While the Climate Change Scoping Plans do include measures that would indirectly address GHG emissions associated with construction and operational activities, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and the Low Carbon Fuel Standard, successful implementation of these measures predominantly depends on the development of laws and policies at the state level. As such, none of these statewide plans or policies constitutes a regulation to adopt or implement a regional or local plan for reduction or mitigation of GHG emissions. Thus, it is assumed that any requirements or policies formulated under the mandate of AB 32 and SB 32 that would be applicable to the Project, either directly or indirectly, would be implemented consistent with statewide policies and laws.

The 2017 Climate Change Scoping Plan also identifies GHG reduction strategies and actions in six key sectors: low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water (ARB, 2017). Within the transportation sustainability sector, ARB calls for improving freight and goods movement efficiency and sustainability, including transportation system improvements relating to efficient land use. The 2017 Climate Change Scoping Plan acknowledges that the network of transportation technology and infrastructure, in turn, shapes and is shaped by development and land use patterns that can either support or detract from a more sustainable, low carbon, multi-modal transportation future. Strategies to reduce GHG emissions from the transportation sector, therefore, must actively address not only infrastructure and technology, but also coordinated strategies to achieve development, conservation, and land use patterns that align with the state's GHG and other policy goals. In addition, the SCAG 2020-2045 RTP/SCS, Connect SoCal, includes goals and strategies to improve and maintain the operational regional transportation system efficiency. The purpose of the Project is to provide the space and equipment to inspect, clean, and maintain cars and locomotives on a regular and efficient basis. As described in Section 2 Project Description, a maintenance facility located along the SCRRA Orange Subdivision through Orange County, such as the Project, would be the optimal location as it would reduce

operating costs by limiting non-revenue moves to the existing SCRRA storage and maintenance facilities in the cities of Los Angeles and Colton. As such, due to the optimal location of the proposed Project Site, the Project is also anticipated to result in reduced locomotive travel in the region and a reduction in the emissions associated with locomotive travel in the region. It is also anticipated that total regional emissions associated with train idling would decrease at the existing maintenance facilities due to more efficient operations and logistics.

Furthermore, as an effort to meet the goals of AB 32 to reduce statewide GHG emissions, the California Building Standards Code established CALGreen. CALGreen encourages sustainable construction practices and building design in the categories of planning and design, including energy efficiency. The Project would be built to meet CALGreen. Thus, the Project would not conflict with goals and strategies of the 2017 Climate Change Scoping Plan; the SCAG 2020-2045 RTP/SCS; or any other applicable plan, policy, or regulation for the purpose of reducing GHG emissions. Therefore, construction and operational impacts related to the Project conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be less than significant.

3.9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.9.3.1	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
3.9.3.2	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?	☐	☐	☒	☐
3.9.3.3	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
3.9.3.4	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?	☐	☒	☐	☐
3.9.3.5	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?	☐	☐	☐	☒
3.9.3.6	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
3.9.3.7	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1. Existing Conditions

The Project Site is within a portion of the former MCAS El Toro, which was decommissioned in 1999. Hazardous materials, including chemicals and jet fuels, were stored and used on various portions of the former air station, including the OCMF site. These chemicals resulted in contamination of the soils, for

which the DON was required to perform environmental remediation. From records provided by the DON, two groundwater monitoring wells were installed within the Project Site after the closure of MCAS El Toro. One of the wells is in the middle of the proposed storage yard (between storage tracks), so it may need to be relocated. The other well is near the south entrance of the site and appears out of conflict with any major proposed improvements. The Project Site would be developed to provide for periodic access to the wells by the DON. Previous analysis related to hazardous materials has been prepared to address contamination on the Project Site. Figure 3.9-1 shows the known hazardous materials sites in the vicinity of the Project Site. A Phase I Site Assessment completed in 2014 did not find any recognized environmental condition (REC) sites (Kleinfelder, 2014). An updated Phase I Environmental Site Assessment has been completed and was used to inform this analysis (see Appendix E).

3.9.2. Regulatory Framework

Federal

Hazardous Materials Resources - EPA is the lead federal agency responsible for enforcing federal regulations regarding hazardous materials. The primary legislation governing hazardous materials includes the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Superfund Amendments and Reauthorization Act (SARA); and the Toxic Substances Control Act (TSCA).

Comprehensive Environmental Response, Compensation, and Liability Act - CERCLA, also known as Superfund, created a tax on the chemical and petroleum industries to provide for response and cleanup of hazardous substances that may endanger public health or the environment. CERCLA established requirements for abandoned hazardous waste sites and provided for liability of persons responsible for releases of hazardous waste at these sites.

Superfund Amendments and Reauthorization Act - SARA amended CERCLA to increase state involvement and required Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for underground storage tanks and the Emergency Planning and Community Right-to-Know Act (EPCRA).

State

In case of any chemical release of hazardous materials, the Project will comply with the Hazardous Materials Release Notification, including the following:

- Health and Safety Codes Sections 25270.7, 25270.8, and 25507
- Vehicle Code Section 23112.5
- Public Utilities Code Section 7673 (PUC General Orders #22-B, 161)
- Government Code Sections 51018, 8670.25.5 (a)
- Water Codes Sections 13271, 13272
- Labor Code Section 6409.1(b)10

Figure 3.9-1: Known Hazardous Material Sites

Source: AECOM, 2020

If more than a specified amount ("reporting quantity") of hazardous materials or extremely hazardous materials are to be handled at the Project Site, the Project shall develop and submit a Hazardous Materials Business Plan (HMBP) as mandated both by the federal government (Code of Federal Regulations [CFR]) and the State of California (Health and Safety Code) to the Orange County Health Care Agency (OCHCA).

Local

The Project would comply with the Irvine Municipal Code, especially Division 9 (Emergency Services) and Division 17 (Hazardous Materials) of Title 4 (Public Safety), as well as the Irvine Zoning Ordinance, Chapter 2-13 (Hazardous Waste Facility Procedure).

The Project would comply with the Hazardous Materials Disclosure Program and the Accidental Release Prevention Program. The Unified Program is implemented at the local government level by OCHCA. The Hazardous Materials Division of OCHCA is designated by the State Secretary for Environmental Protection as the Certified Unified Program Agency (CUPA) for Orange County. Inspections and business plans are managed by the Orange County Fire Authority (OCFA) on behalf of OCHCA.

AB 1130 authorized CUPAs to administer and implement programs related to the Aboveground Petroleum Storage Act (APSA) for any business with a total aboveground storage capacity of 1,320 gallons of petroleum products in tanks or containers larger than 55 gallons. APSA defines "petroleum" as crude oil, or any fraction thereof, which is liquid at a temperature of 60 degrees Fahrenheit and an absolute pressure of 14.7 pounds per square inch. Tank facilities regulated under APSA are also regulated by the EPA Region 9 Oil Program Clean Water Act Compliance Office. Since the Project will consider building underground storage tanks or aboveground tanks for petroleum products/fuels, the plan will need to comply with the CCR for underground and aboveground tanks, respectively, with oversight by OCHCA. APSA would require the following of the Project if storage of petroleum tanks meets or exceeds the 1,320-gallon aboveground petroleum products/fuels storage threshold:

- Complete and submit to OCHCA an initial Aboveground Petroleum Storage Tank Facility Statement Form.
- Prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan in accordance with 40 CFR 112.
- Conduct periodic inspections of ASTs to ensure compliance with the 40 CFR 112.
- Allow OCHCA to conduct periodic inspections.
- Immediately notify the California Emergency Management Agency (EMA) and OCHCA upon discovery of a spill or release of 42 gallons or more of petroleum.

Facilities regulated under APSA or the Federal SPCC Rule must prepare and implement an SPCC. Regulated facilities fall into three categories:

- Facility with aboveground storage capacity more than 10,000 gallons, for which a full plan must be prepared that has been certified by a Professional Engineer and approved by the facility or corporation management.
- Facility with aboveground storage capacity more than 1,320 gallons and less than 10,000 gallons, and with no history of release, can prepare and self-certify an abbreviated plan. These businesses are known as "Qualified Facilities." There are, in turn, two types of Qualified Facilities, Tier I and Tier II Qualified Facilities:
    - Tier I Qualified Facility has a capacity between 1,320 and 10,000 gallons with no single container greater than 5,000 gallons and has no single discharge to navigable waters or adjacent shorelines exceeding 1,000 gallons and no two discharges, each exceeding 42 gallons within any 12-month period in the past 3 years.
    - Tier II Qualified Facility has a capacity between 1,320 and 10,000 gallons with a single container greater than 5,000 gallons and has no single discharge to navigable waters or adjacent shorelines exceeding 1,000 gallons and no two discharges, each exceeding 42 gallons within any 12-month period in the past 3 years.

The Project will need to notify the appropriate state and local agencies (e.g., OCHCA, California Department of Toxic Substances Control [DTSC], or the RWQCB) since soil and groundwater contamination is present due to the MCAS site. Notification to these state and local regulatory oversight agencies will simultaneously satisfy coverage under the applicable federal agencies under Superfund. If requested as follow-up by the state and/or local regulatory oversight agency(ies), then an environmental site assessment or a risk assessment (e.g., human health risk assessment) shall be prepared to ensure that future site activities and/or uses pose no risks to human health and/or the environment.

In accordance with the State Water Resources Control Board's (SWRCB's) requirements for construction sites greater than 1 acre, a stormwater pollution prevention plan (SWPPP) must be prepared and implemented during construction for coverage under the NPDES Construction General Permit. Similarly, construction sites subject to the Construction General Permit are required to implement a SWPPP in the City of Irvine. While the SARWQCB issues the Construction General Permit, the Water Quality Ordinance (No. 10-06) gives the City adequate legal authority as may be necessary to carry out the requirements of the NPDES Permit and accomplish the requirements of the CWA.

3.9.3. Discussion

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

Determination: LESS THAN SIGNIFCANT IMPACT

Construction and Operational Impacts

Construction and operation of the Project Site would require the routine handling and storage of petroleum products and hazardous materials. Wastes, including used oils and hazardous wastes generated from the Project Site, would be properly managed, transported and disposed per regulatory standards specified under the CCR Title 22 Division 4.5. Criteria for identifying characteristics of hazardous waste are also designated in CCR Title 22 Division 4.5. Construction and operational impacts that would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials would be less than significant.

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

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

The primary incidents involving the routine handling and use of petroleum products and hazardous materials that could occur during construction of the Project include minor drips, leaks, or spills. Impacts from such incidents would be avoided by thoroughly cleaning up minor drips, leaks, or spills as soon as they occur, in compliance with all applicable regulations for proper handling of these materials. As discussed in Section 3.10 Hydrology and Water Quality, a site SWPPP would be developed and implemented as a compliance mechanism with the NPDES General Construction Permit to ensure quick response to minor drips, leaks, or spills. Therefore, construction impacts that would create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.

Operational Impacts

Operations of the Project include the routine handling and use of petroleum products and hazardous materials that could leak or spill if equipment such as tanks is damaged from a seismic event, fire, or other unforeseen incident. The Project would construct a Material Storage Building that would store hazardous materials and batteries. To minimize potential impacts, the design of the Project provides containment and/or diversionary structures or equipment to prevent illicit discharge of an oil or hazardous materials spill. The OCMF would

develop and implement an HMBP as required by the regulatory framework set forth by the CFR, the State of California Health and Safety Code, and OCHCA. The HMBP would be developed and approved before reportable quantities of hazardous materials/wastes or tanks/oil-filled equipment are handled or stored on-site. The HMBP includes an Emergency Response Plan element.

If the Project has aboveground petroleum products/fuel tanks larger than 55 gallons with the storage capacity of 1,320 gallons or more, the SPCC Plan would be required to comply with the regulatory framework set forth by the Aboveground Storage Tank Act. Tank facilities regulated under APSA are also regulated by the EPA Region 9 Oil Program Clean Water Act Compliance Office. The Project would be required to prepare and implement an SPCC Plan in accordance with 40 CFR 112. In addition, SCRRA would be required to immediately notify the California EMA and OCHCA upon discovery of a spill or release of 42 gallons or more of petroleum. These programs and plans would be developed to be consistent with other Metrolink maintenance facilities. Therefore, operational impacts that would create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.

3.9.3.3. Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Determination: NO IMPACT

Construction Operational Impacts

There are no existing schools or educational institutions within one-quarter mile of the Project Site. Cypress Elementary School and California State University, Fullerton's Irvine Center are the closest educational intuitions to the Project Site. Each is approximately one mile from the Project Site. Therefore, no construction or operational impacts related to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would occur.

3.9.3.4. Would the Project create a significant hazard to the public or environment as a result of being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction and Operational Impacts

The Project Site is located within a portion of the MCAS El Toro Superfund site, situated within a portion of Operating Unit (OU) 2A - Installation Restoration Program (IRP) Site 24 - water transfer facility. According to the Phase I Environmental Site Assessment (ESA), one groundwater monitoring well (18BGMW101A) and one groundwater extraction well (24EX11) in connection with IRP Site 24 are located within the Project Site boundaries. According to

additional information provided in site documents available in the online California DTSC's Envirostor database and on the EPA's Superfund Site El Toro MCAS webpage, buried water transfer conveyance lines associated with these wells are also within the Project Site boundaries. An Institutional Control (IC) is in effect in connection with IRP Site 24, which includes the following land use restrictions and/or requirements:

- Activities prohibited that disturb the remediation and monitoring systems without approval;
- Annual inspection and/or report;
- No drilling for drinking water, oil, or gas without approval;
- Notify damages to remedy and monitoring systems no later than 10 days upon discovery;
- Notify no later than 30 days after change of property owner; and
- Only extraction of groundwater for site remediation and/or construction dewatering permitted.

Before and after the Project's construction, proper notifications to the required parties shall be made in accordance with the IRP Site 24 IC in order to maintain compliance with the site management requirements/IC in connection with the ongoing military clean-up site operations. Therefore, construction and operational impacts related to the creation of a significant hazard to the public or environment as a result of being on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be less than significant with mitigation incorporated.

- **MM-HAZ-1: Notifications to federal, state, and local agencies.** The Project applicant shall notify the appropriate agencies (e.g., OCHCA, DTSC, EPA, or the Regional Water Quality Board) regarding soil, soil gas and/or groundwater contamination in connection with the ongoing military clean-up site associated with the former El Toro MACS Superfund site.

- **MM-HAZ-2: Groundwater monitoring requirements.** Where the Project Site construction and operational activities coincide with the current groundwater monitoring systems (e.g., wells, water transfer conveyance lines) the requirements of the IC in connection with IRP Site 24 for the ongoing military clean-up site associated with the former El Toro MCAS Superfund site shall be adhered to in order to protect human health and the environment from potential hazardous materials exposures.

- **MM-HAZ-3: Soil assessment for hazardous materials.** Prior to construction activities at the Project, if required by the state or local regulatory oversight agencies, then further assessment including soil, soil vapor and/or groundwater investigations shall be conducted to reveal the presence, if any, of potential hazardous materials at the Project Site that were identified as a result of the Phase I ESA, and would assist in determining

further mitigations required to address human health and/or the environment impacts due to potential hazardous materials exposures.

The implementation of Mitigation Measures HAZ-1 through HAZ-3 would reduce impacts related to the Project's location within the MCAS El Toro Superfund site to less than significant.

3.9.3.5. Would the Project create a safety hazard or excessive noise for people residing or working in the project area as a result of being located within an airport land use plan or within two miles of a public or public use airport?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not within 2 miles of a public airport or public use airport. The closest airport to the Project Site is John Wayne Airport in Santa Ana adjacent to the City of Irvine boundary, approximately 7 miles to the west. The Project Site is located outside of the John Wayne Airport Clear Zones according to the City of Irvine General Plan's Safety Element. Also, no private airstrip exists in the vicinity of the Project. Therefore, no construction or operational impacts related to the Project's creation of a safety hazard or excessive noise for people residing or working in the Project Site as a result of being located within an airport land use plan or within 2 miles of a public or public use airport would occur.

3.9.3.6. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Determination: NO IMPACT

Construction Impacts

In places where the components of the Project span a road or require a lane closure, construction activities would be coordinated with the City of Irvine to prevent closure of any emergency access route. While flaggers may direct and hold oncoming traffic during construction, emergency vehicles would be provided access even in the event of temporary road closures. Emergency access would not be directly impacted by construction of the Project because all streets would remain open to emergency vehicles at all times during construction. Therefore, no construction impacts related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would occur.

Operational Impacts

As discussed in Section Impact 3.20.3.1, the Project does not include any characteristics such as permanent road closure or long-term blocking of road access that would physically impair or otherwise conflict with the City's Emergency Preparedness Program. The Project

configuration would comply with required emergency response plan or emergency evacuation plan elements in accordance with Project design and permitting requirements. Emergency access roadways would be designed to meet OCFA fire prevention guidelines (Guideline B-09) and City Ordinance provisions Sec. 5-9-519 Emergency access. The OCMF would comply with the 2019 California Fire Code Part 9, Title 24 CCR. The City of Irvine Standard Condition 4.9 shall require an inspection by the Police Department and OCFA prior to the Project opening, to ensure compliance with the Emergency Access Plan requirements. Therefore, no operational impacts related to implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would occur.

3.9.3.7. Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site is not within or in proximity to an area designated as "High Fire Severity Rating & Open Space with Fire Potential" according to the City of Irvine General Plan's Safety Element. The Project Site is in an urbanized area and would be grubbed of vegetation and graded, further minimizing the potential for wildland fires. Therefore, no construction or operational impacts related to the Project exposing people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires would occur.

3.10. HYDROLOGY AND WATER QUALITY

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.10.3.1	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
3.10.3.2	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
	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:				
3.10.3.3	Result in substantial erosion or siltation on- of off-site;	☐	☐	☒	☐
3.10.3.4	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or offsite;	☐	☐	☒	☐
3.10.3.5	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; or	☐	☐	☒	☐
3.10.3.6	Impede or redirected flood flows?	☐	☐	☒	☐
3.10.3.7	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
3.10.3.8	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.1. Existing Conditions

The Project Site lies within the San Diego Creek Watershed and its water quality is managed by the SARWQCB. The San Diego Watershed covers approximately 122 square miles within Orange County comprising the cities of Irvine, Tustin, Santa Ana, Costa Mesa, and some portions of Laguna Hills and Lake Forest (Figure 3.10-1).

Existing topography consists of an existing upward grade of approximately 1.3 percent from the footprint's northwest limit at Ridge Valley to the footprint's southeast limit at the open storm drain culvert, Bee Canyon Channel (Metrolink, 2019). Existing drainage channels exist and are owned and maintained by the Irvine Ranch Water District (IRWD) and the OCFCD. The Bee Canyon Channel runs perpendicular to the site on its southern boundary while the Marshburn Channel is located approximately 1,400 feet to the north.

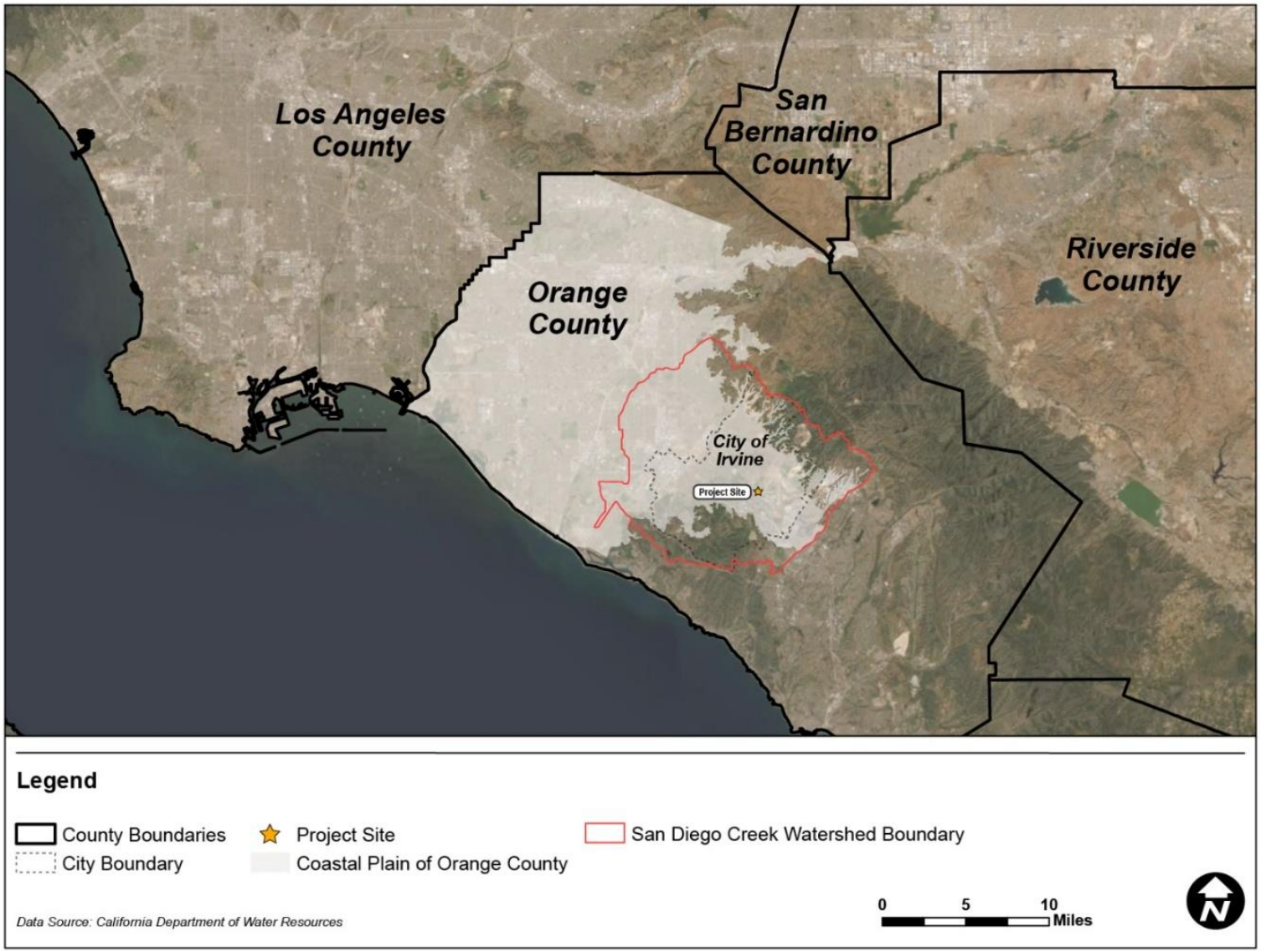
Formerly owned by the DON, the Project Site is currently located within the RWQCB's El Toro Marine Base Groundwater Plume Protection Boundary (Figure 3.10-2). The DON is currently remediating the contamination and has two existing groundwater monitoring wells on the Project Site.

The Project Site is within the Coastal Plain of the Orange County Groundwater Basin (also referred to as Basin 8-1). The basin's area spans approximately 350 square miles and is bordered by Los Angeles County to the north, the Santa Ana Mountains to the northeast, and the Pacific Ocean (refer to Figure 3-10-1). The Sustainable Groundwater Management Act (SGMA) is a landmark law that empowers local agencies to sustainably manage their groundwater and authorizes SWRCB intervention if local agencies are unable to do so. The Department of Water Resources (DWR) has identified the Coastal Plain of Orange County Groundwater Basin as a medium-priority basin due to its heavy reliance on groundwater as a source of water supply. The Orange County Water District (OCWD), IRWD, and the City of La Habra jointly prepared the Basin 8-1 Alternative and generated a water budget to ensure the sustainable recharge of the groundwater aquifer.

The segment of the existing Bee Canyon Channel adjacent to the existing SCRRA Orange Subdivision bridge consists of a double 11-foot-wide by eight-foot-high reinforced concrete box (RCB) at the upstream segment and changes to an open u-channel under the existing SCRRA Orange Subdivision bridge and at the downstream section. The concrete u-channel ranges between 21.67 to 24.30 feet in width and 6.5 to 14 feet in height. Just after the channel changes from the closed double RCB to open u-channel, a 60-inch reinforced concrete pipe (RCP) outlets into the channel from a tributary area on the south side. This segment of the existing Bee Canyon Channel was last modified and constructed in 2015 and is owned and maintained by the OCFCD.

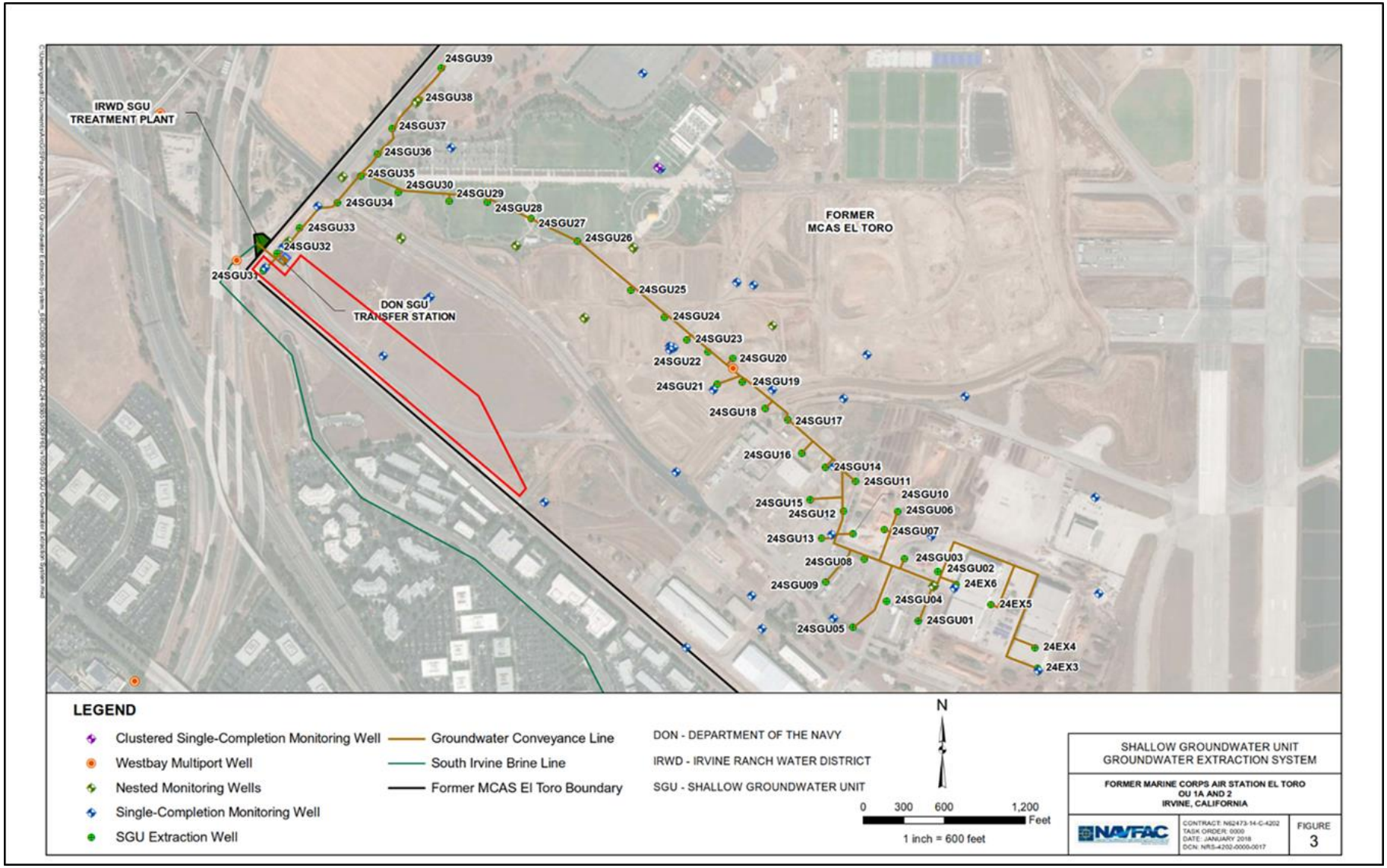
The existing channel was designed for a 100-year storm and takes in approximately 1,607.9 cubic feet per second (cfs) at the upstream section and 1,781 cfs at the downstream section after the 60-inch RCP is introduced.

Figure 3.10-1: Coastal Plain of Orange County Basin (Basin 8-1) and San Diego Creek Watershed



Source: DWR (2015), USGS (2020)

Figure 3.10-2: Department of Navy Groundwater Monitoring Well Locations



Source: Metrolink (2019)

A hydraulic analysis for the channel was provided in the as-builts (O.C.F.C.D. Facility No. F17 – 2014) and gave a flow depth ranging from 6.5 feet at the upstream section and 2.6 feet at the downstream section as shown in the as-builts. Using a minimum freeboard requirement of three feet above the flow depth, the required structural soffit clearance between the channel flow line and the top of the freeboard ranges from 9.5 feet at the upstream section and 5.6 feet at the downstream section.

Based on the information provided, it was found that the existing freeboard elevation encroaches over the top of the existing u-channel for approximately 30 feet at the upstream portion of the channel. To accommodate this, a grouted rock slope protection was added on the side slopes between the SCRRA Orange Subdivision bridge and the closed double RCB.

The Project Site does not lie within any flooding hazard zones. Federal Emergency Management Agency (FEMA) has designated the location of the Project Site as Zone X, which is defined as an area of minimal flooding (see Figure 3.10-3). The FEMA designated Zone A area adjacent to the Project Site is within the existing SCRRA ROW. The closest tsunami zone is approximately 10 miles from the Project at Upper Newport State Marine Conservation Area. In the event of seismic activity, the Salton Sea is the closest large body of water that could be subjected to a seiche; it lies across the Santa Ana Mountains approximately 21 miles from the Project Site. Santiago Dam is approximately eight miles from the Project Site; its flood zone does not affect the Project Site.

3.10.2. Regulatory Framework

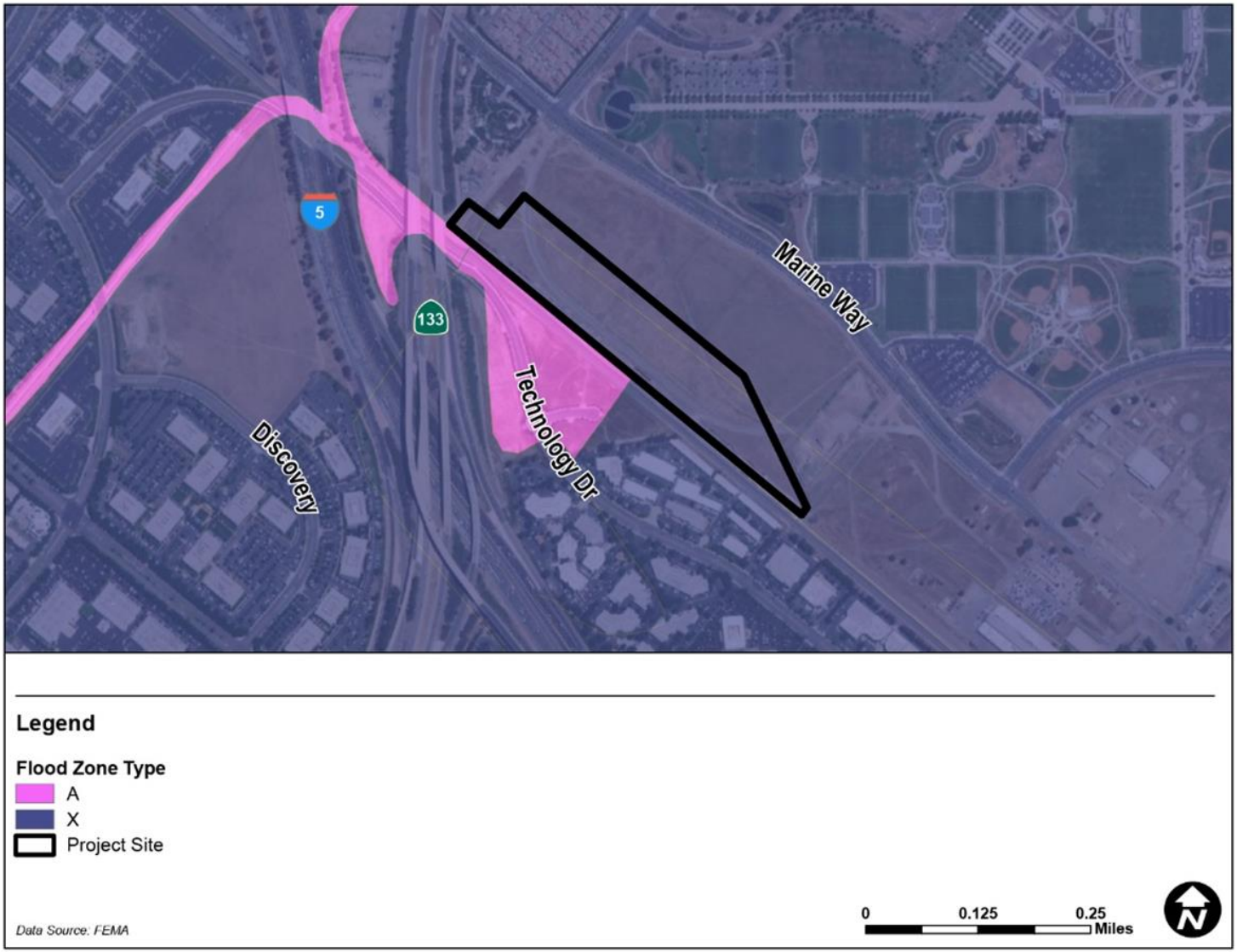
State

Clean Water Act Section 401 - The SWRCB has jurisdiction over all Waters of the State. Under CWA Section 401, the SWRCB must issue a 401 Water Quality Certification to ensure compliance with state water quality standards for any activity resulting in a discharge to a water body.

CWA Section 402 - Through delegated jurisdiction under the federal CWA, the SWRCB regulates point source discharges to Waters of the U.S. under the NPDES. Regulated discharges also include diffuse sources of discharge caused by general construction activities covering an area greater than 1 acre, and stormwater discharges in municipal separate storm sewer systems (MS4s) in which runoff is carried through a developed conveyance system to specific discharge locations. The SWRCB issues both a construction general permit for protection of water quality from stormwater discharges during construction activities, and an industrial general permit for protection of water quality from stormwater discharges during industrial activities.

Sustainable Groundwater Management Act - The SGMA is a landmark law that empowers local agencies to sustainably manage their groundwater and authorizes SWRCB intervention if local agencies are unable to do so. The SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Basins should reach sustainability within 20 years of implementing their sustainability plans.

Figure 3.10-3: FEMA Designated Floodplains



Source: FEMA (2018)

California Fish and Game Code Section 1602 - CDFW has jurisdiction over ephemeral, intermittent, and perennial waterways, including natural lakes and manmade reservoirs. CDFW's jurisdiction can also extend over the habitats adjacent to waterways. Under Section 1602, CDFW must be notified of any activity that substantially diverts or obstructs a waterway; changes or uses material from the bed, channel, or bank of a waterway; or deposits or disposes of debris, waste, or other material containing ground pavement where it may pass into any waterway. Notification of CDFW (through a Lake or Streambed Alteration Agreement) would be required prior to the start of construction.

Porter-Cologne Water Quality Control Act - The act authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and groundwater); regulates discharges to surface and groundwater; and directs the RWQCBs to develop regional basin plans. The Act divides the state of California into nine RWQCB areas. Each RWQCB implements and enforces provisions of the CWA, subject to policy guidance and review by the SWRCB. The Project Site is located in the Los Angeles Regional Water Quality Control Board (LARWQCB) Region 4, the Los Angeles Region.

Local

Irvine City Council Ordinance No. 10-6 - The purpose of the ordinance is to continue the City of Irvine's participation in the improvement of water quality and to ensure adequate legal authority exists for the City to enforce federal and state requirements for the control of pollutants from stormwater and urban runoff. The ordinance conforms to the policies and goals in the General Plan adopted by the City for protecting the regional watershed.

3.10.3. Discussion

3.10.3.1. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The SWRCB and RWCBs, the County of Orange, and the City of Irvine have set forth existing water quality regulations with which the Project would be required to comply. Since grading activities would disturb over 1 acre of soil, the Project would be required to obtain an NPDES General Construction Permit through the SWRCB' Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Approvals would be granted by the SARWQCB. The City of Irvine and the County of Orange utilize the Drainage Area Management Plan (DAMP) as their primary policy and implementation document for compliance with the NPDES Municipal Stormwater Permits for Orange County, which was adopted by the SARWQCB in 2003. The Water Quality Ordinance (No. 10-06) gives the City of Irvine adequate legal authority as may be necessary to carry out the requirements of the NPDES Permit and accomplish the requirements of the CWA.

To ensure that water quality is protected, the NPDES General Construction Permit would require that the Project develop and implement a SWPPP as the primary compliance mechanism. The SWPPP's objectives are to identify the sources of sediment and pollutants that affect the quality of stormwater discharges and to ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater discharges. The SWPPP would include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control. BMPs specified in the DAMP developed by the County of Orange; OCFCD; and incorporated Cities, including Irvine; are shown in Table 3-10-1. The Project would incorporate these BMPs to maintain water quality during its construction phase.

Table 3-10-1: Sediment Control BMPs

Category	BMP	BMP Name
Sediment Control BMPs	SE-1	Silt Fence
	SE-2	Sediment Basin
	SE-3	Sediment Trap
	SE-4	Check Dam
	SE-5	Fiber Rolls
	SE-6	Gravel Bag Berm
	SE-7	Street Sweeping and Vacuuming
	SE-8	Sandbag Barrier
	SE-9	Straw Bale Barrier
	SE-10	Storm Drain Inlet Protection
	SE-11	Active Treatment Systems
	SE-12	Temporary Silt Dike
	SE-13	Compost Socks and Berms
	SE-14	Biofilter Bags

BMP = Best Management Practice
Source: Orange County Public Works (2003)

The Project Site is located on the former MCAS El Toro where two regional groundwater contamination plumes of VOC exist. Both plumes are within the OCWD Management Area and are under active remediation by the DON. As discussed in Section 3.9 Hazards and Hazardous Materials, the Project would need to notify the appropriate state and local agencies (e.g., OCHCA, DTSC, or the SARWQCB) since soil and groundwater contamination is present due to the MCAS site. Notification to these state and local regulatory oversight agencies will simultaneously satisfy coverage under the applicable federal agencies under Superfund. If requested as follow-up by the state and/or local regulatory oversight agency(ies), then an environmental site assessment or a risk assessment shall be prepared to ensure that future site activities and/or uses pose no risks to human health and/or the environment.

While a groundwater contamination plume of VOC exists underneath the Project Site, discharging of groundwater associated with Project construction is not anticipated. Historical

data for the Project Site shows the groundwater depth below 30 feet and, as a result, the Project would not encounter groundwater. Adherence to federal, state, regional, County of Orange, and the City of Irvine regulations would make impacts related to the violation of any water quality standards or waste discharge requirements or that would otherwise substantially degrade surface or groundwater quality less than significant.

Operational Impacts

A Project WQMP must be submitted for new development and significant redevelopment projects in the City of Irvine to comply with the NPDES permit and the City's Low Implementation Plan standards. Project WQMPs shall be approved by the City of Irvine's Building and Safety Division prior to the issuance of building or safety permits. Monitoring of the Project WQMP and the integration of BMPs into the design would result in less than significant impacts related to the violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Since the Project would create over 10,000 square feet of impervious surfaces, the City of Irvine considers it a priority project under the Irvine Municipal Code 6-8-301 and mandates that a Project WQMP be prepared and executed. The SARWQCB and the City of Irvine would approve and adopt the Project WQMP that shall align with water quality standards set forth by the SWRCB. Of the 21.30 acres within the Project Site, the Project would convert 19.50 acres of undeveloped land into paved surface, train storage tracks, service platforms, and maintenance buildings. Of the 19.50 acres, 17.47 acres (761,000 square feet) would be impervious surfaces.

BMPs would minimize pollutants in stormwater discharge. Maintenance and servicing of trains would create pollutants of concern, including heavy metals, oil and grease, toxic organic compounds, and trash and debris in stormwater runoff. The Project drainage would consist of an underground cistern to capture and treat the 24-hour storm to eliminate the possibility of downstream modification. The cistern would have a capacity of 132,500 cubic feet and would capture the additional runoff created by the Project. Cartridge media filters would be used to filter pollutants prior to discharging stormwater.

Monitoring of the WQMP and implementation of the underground cistern into the Project design would result in less than significant operational impacts related to the violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

3.10.3.2. Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The Project is located within the Coastal Plain of Orange County (Basin 8-1) shown in Figure 3-10-1. The Pacific Ocean and Tertiary semi-permeable marine deposits define the basin's boundaries. San Diego Creek drains a portion of the southern region of Orange County.

The SGMA requires that all high and medium priority basins designated by DWR be sustainably managed. DWR designated Basin 8-1 as a medium-priority basin, primarily due to heavy reliance on the basin's groundwater as a source of water supply. The Project is within the South East Management Area, which contains portions of IRWD, El Toro Water District, and the City of Orange. The South East Management Area was formed in 2016 in collaboration with OCWD, an agency responsible for managing groundwater in Basin 8-1 within OCWD's boundaries. There is relatively little existing, or potential, groundwater development within the South East Management Area. The OCWD Management Area includes approximately 76 percent of the land area within Basin 8-1 where 98 percent of groundwater production occurs. This area includes the portion of Basin 8-1 that is within OCWD's service area. When pumping does occur, it is less than 200 acre-feet per year (afy), which is much less than the over 14,000 afy of recharge to the area. Water levels and storage levels are steady (Orange County Water District, City of La Habra, and Irvine Water District, 2017).

During the construction phase, the Project Site would remain similarly pervious as it currently exists. Construction would introduce some temporary impervious surfaces from equipment and materials stored on-site but would have minimal impact in the percolation of natural precipitation and overall recharge of the aquifer. Historical data for the Project Site anticipates a groundwater depth below 30 feet in some locations and, as a result, it is not expected to be encountered during construction activities. As a result, construction impacts related to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin would be less than significant.

Operational Impacts

As discussed in Section 3.10.3.1, operations would convert 19.50 acres of undeveloped land into paved surface, train storage tracks, service platforms, and maintenance buildings. Of the 19.50 acres, 17.47 acres would be impervious. In comparison to the 14,000 afy or recharge area, the impervious area introduced by the Project would account for 0.125 percent of the recharge area. Bee Canyon Channel's existing configuration is lined with concrete and is therefore impervious. As such, operational impacts related to substantially decreasing

groundwater supplies or interfering substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin would be less than significant.

3.10.3.3. 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: result in substantial erosion or siltation on- or off-site.

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Grading activities associated with the construction of the Project would result in the loss of existing vegetation and shrubs that act as an erosion barrier to the existing conditions of the Project Site. The County of Orange's 2003 DAMP requires industrial/commercial construction operations that result in a disturbance of 1 acre or more of total land area to be required to develop and implement BMPs to control erosion and siltation at construction sites. Grading ordinances and codes, the Green Book, and Public Works construction specifications contain requirements for construction practices for erosion control. The Project WQMP complies with the County's DAMP and would implement non-structural and structural BMPs for landscape management during construction activities. The DAMP enforces that sediments from areas disturbed by construction shall be retained on-site using an effective combination of erosion and sediment controls to the maximum extent practicable. Stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities, or adjacent properties via runoff, vehicle tracking, or wind. BMPs detailing erosion control by the City of Irvine and the 2003 DAMP can be found in the California Stormwater Quality Association (2003), Stormwater Best Management Practice Handbook, Construction, 2002 Edition, and are shown in Table 3-10-2.

The reprofiling of the existing Bee Canyon Channel would lower the channel by 2.5 feet. However, the gradient and shape of the Bee Canyon Channel would not be modified. Functionally, Bee Canyon Channel would be similar to existing conditions. During construction, any potential for erosion would be regulated by state and local jurisdictions.

Adherence to the County of Orange's 2003 DAMP and the City's WQMP would make construction impacts related to the alteration of existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site less than significant.

Operational Impacts

The existing topography of the site provides a drainage pattern that slopes from east to west. Runoff is collected at the surface via open earth channels and concrete drainage inlets and is then routed to the southwest end of the site through two 24-inch corrugated steel pipes.

Runoff leaves the site through an open concrete channel and empties downstream into Marshburn Channel, owned by the OCFCD. The site design will have a grading with a similar direction of flow as that of the existing topography. Water will continue to flow east to west across the Project Site and be routed to a series of underground cisterns. The water will then be treated through a cartridge media filter system, before reaching the existing channel. The cisterns would be located in the northern corner of the Project Site, underneath the proposed parking lot, and would provide enough storage to contain the Design Capture Volume. The Project would introduce 17.47 acres (OCTA, 2021) that would be impervious surfaces. However, with the implementation of the underground cisterns, runoff volumes and stormwater flow rates would be reduced to prevent erosion and siltation of the Project Site.

Table 3-10-2: Erosion Control BMPs

Category	BMP	BMP Name
Erosion Control BMPs	EC-1	Scheduling
	EC-2	Preservation of Existing Vegetation
	EC-3	Hydraulic Mulch
	EC-4	Hydroseeding
	EC-5	Soil Binders
	EC-6	Straw Mulch
	EC-7	Geotextiles and Mats
	EC-8	Wood Mulching
	EC-9	Earth Dikes and Drainage Swales
	EC-10	Velocity Dissipation Devices
	EC-11	Slope Drains
	EC-12	Streambank Stabilization
	EC-13	Reserved
	EC-14	Compost Blanket
	EC-15	Soil Preparation/Roughening
	EC-16	Non-Vegetative Stabilization

BMP = Best Management Practice
Source: Orange County Public Works (2003)

The current configuration of Bee Canyon Channel's invert is lined with a concrete bottom. The proposed design features related to the operation of the Project would match the existing impervious conditions.

Therefore, operational impacts related to the alteration of 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 that would result in substantial erosion or siltation on- or off-site, would be less than significant.

3.10.3.4. 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The use of BMPs during grading activities as required by the State of California would be implemented in accordance with state, regional, county and city regulations as noted in Impact 3.10.3.1, to preempt surface runoff and flooding on-site.

The reprofiling of the existing Bee Canyon Channel would lower the channel by 2.5 feet. However, the gradient and shape of Bee Canyon Channel would not be modified. Functionally, Bee Canyon Channel would be similar to existing conditions. During construction, there would be temporary impervious surfaces. However, this would be temporary any potential for runoff would be regulated by state and local jurisdictions.

Adherence to the City WQMP and the County DAMP would enforce the use of a Project-specific SWPPP plan and render construction impacts related to substantially altering the existing drainage pattern of the site or area, which would result in substantial increase of the rate or amount of surface runoff in a matter that would result in flooding on- or off-site, to be less than significant.

Operational Impacts

As discussed in Section 3.10.3.3, the existing topography of the Project Site would be similar to the final drainage configuration. While 17.47 acres of impervious surfaces would be introduced by the Project, stormwater would be routed to a series of underground cisterns that would provide enough storage to contain the Design Capture Volume and thereby prevent flooding on- or off-site. The existing Bee Canyon Channel within the Project Site is composed of an RCB that transitions into a concrete u-channel. The Project would design Bee Canyon Channel to be consistent with existing hydraulics and the reconfigured channel would match its existing impervious concrete conditions. Therefore, operational impacts associated with the Project substantially altering 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 that would result in flooding on- or off-site, would be less than significant.

3.10.3.5. 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 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?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

The use of BMPs during grading activities as required by the State of California would be implemented in accordance to state, regional, county, and city regulations as noted in Impact 3.10.3.1, to preempt surface runoff and flooding on-site. Adherence to the City WQMP and the County DAMP would enforce the use of a Project-specific SWPPP plan and would render construction impacts related to altering 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 that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, to be less than significant.

Operational Impacts

Maintenance and servicing of trains related to the Project's operations would create pollutants of concern including heavy metals, oil and grease, toxic organic compounds, trash, and debris. As discussed in Section 3.10.3.1, the existing topography of the site provides a drainage pattern that slopes from east to west. Although the Project would introduce 17.47 acres of impervious surfaces to the Project Site, the final grading configuration would have a similar direction of flow as that of the existing topography. Stormwater would continue to flow east to west across the Project Site and be routed to a series of underground cisterns. The water would then be treated through a cartridge media filter system, before reaching the existing channel. The cisterns would be located in the northern corner of the Project Site underneath the proposed parking lot, and would provide enough storage to contain the Design Capture Volume, which would include the additional stormwater as a result of the increase in impervious surfaces. Pollutants as a result of the stormwater runoff would collect in the basin of the underground cistern instead of discharging into the stormwater drainage systems. Bee Canyon Channel would maintain a concrete lining and match existing impervious conditions. With the implementation of the underground cisterns, operational impacts that would 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 that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, would be less than significant.

3.10.3.6. 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 impede or redirect flood flows?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

Construction activities related to the Project are determined to fall in FEMA Zone-X (Figure 3.10-2). Zone-X is an area of minimal flood hazard and therefore has no impact in impeding or redirecting flood flows. Therefore, no construction impacts would occur that would impede or redirect flood flows.

Operational Impacts

As discussed above, operational activities related to the Project are determined to fall in FEMA Zone-X. Zone-X is an area of minimal flood hazard and therefore has no impact in impeding or redirecting flood flows. The existing Bee Canyon Channel is designed for a 100-year storm. The Project would design Bee Canyon Channel to be consistent with existing hydraulics and would not alter flood flow so that it is redirected or impeded. Therefore, no operational impacts would occur that would impede or redirect flood flows.

3.10.3.7. In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?

Determination: NO IMPACT

Construction and Operational Impacts

The Project Site does not lie in a flooding hazard zone, tsunami zone, or seiche zone. Therefore, no construction or operational impacts related to the release of pollutants due to project inundation would occur.

3.10.3.8. Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The construction and operation of the Project would not conflict with or obstruct implementation of water quality control plans or sustainable groundwater management plans set forth by state and regional authorities. The Project falls within the authority of the SARWQCB that adheres to state water quality standards for any activity resulting in a discharge to a water body. At a minimum, local water management plans comply with these thresholds to meet water quality standards through the County of Orange DAMP and the City of Irvine's Water Quality Ordinance (No 10-06). It is anticipated that construction and

operations of the Project would not encounter groundwater or disrupt monitoring wells that may otherwise affect the Superfund remediation efforts performed by the DON to satisfy EPA requirements.

The OCWD, City of La Habra, and the IRWD filed Basin 8-1 Alternative Overview in January 2017 under the SGMA of 2014. The Sustainability Goal for the South East Management Area is to continue monitoring sustainable conditions to ensure that no significant and unreasonable results occur in the future. The Project's construction and operations would have a less than significant impact on the recharge of Basin 8-1 discussed in Impact 3.10.3.2. As a result, no construction or operational impacts related to conflicting with or obstruction of implementation of water quality control plans or sustainable groundwater management plans set forth by state and regional authorities would occur.

3.11. LAND USE AND PLANNING

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.11.3.1	Physically divide an established community?	☐	☐	☐	☒
3.11.3.2	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?	☐	☐	☐	☒

3.11.1. Existing Conditions

The Project Site is owned by OCTA and is located about 1.5 miles north of the existing Irvine Metrolink Station. The Project Site is bound by the existing SCRRA Orange Subdivision railroad corridor to the west. To the east, it is bound by County-owned land. Figure 3.11-1 presents the existing land use types in the vicinity of the Project Site, which is currently vacant. There is a senior residential community north of Marine Way along Ridge Valley approximately 650 feet from the Project Site. Most of the existing land uses to the south and southwest of the Project Site are industrial with one exception of the vacant land located southwest of I-5.

Land Use Designation

The Project Site is currently undeveloped and is designated by the City of Irvine General Plan as Planning Area 51 and the Great Park Land Use type. Planning Area 51 encompasses 1,233,000 square feet of institutional land uses, specifically on public facilities. The 1,233,000 square feet consists of the following: 122,500 square feet for OCTA facilities; 300,000 square feet for Orange County facilities; 263,000 square feet for warehousing for homeless providers; 468,000 square feet for institutional uses; 26,000 square feet for a sports park; and 53,500 square feet for a remote airport terminal (City of Irvine, 2015a).

To develop at the maximum intensities in Planning Area 51, the property owners of this planning area entered into a development agreement with the City on July 12, 2005, which requires the dedication of land and the development or funding of infrastructure improvements in excess of the City's standard requirements, and the long-term maintenance of public facilities (City of Irvine, 2015a). The detailed standard requirements can be referenced in the City of Irvine Zoning Ordinance Chapter 3.37, Section 3-37-11.-1.9 Great Park.

The City of Irvine is currently updating its General Plan to serve as the City's policy blueprint for the future. It will update community goals and public policy direction to ensure Irvine's high quality of life is preserved and enhanced as the city matures.

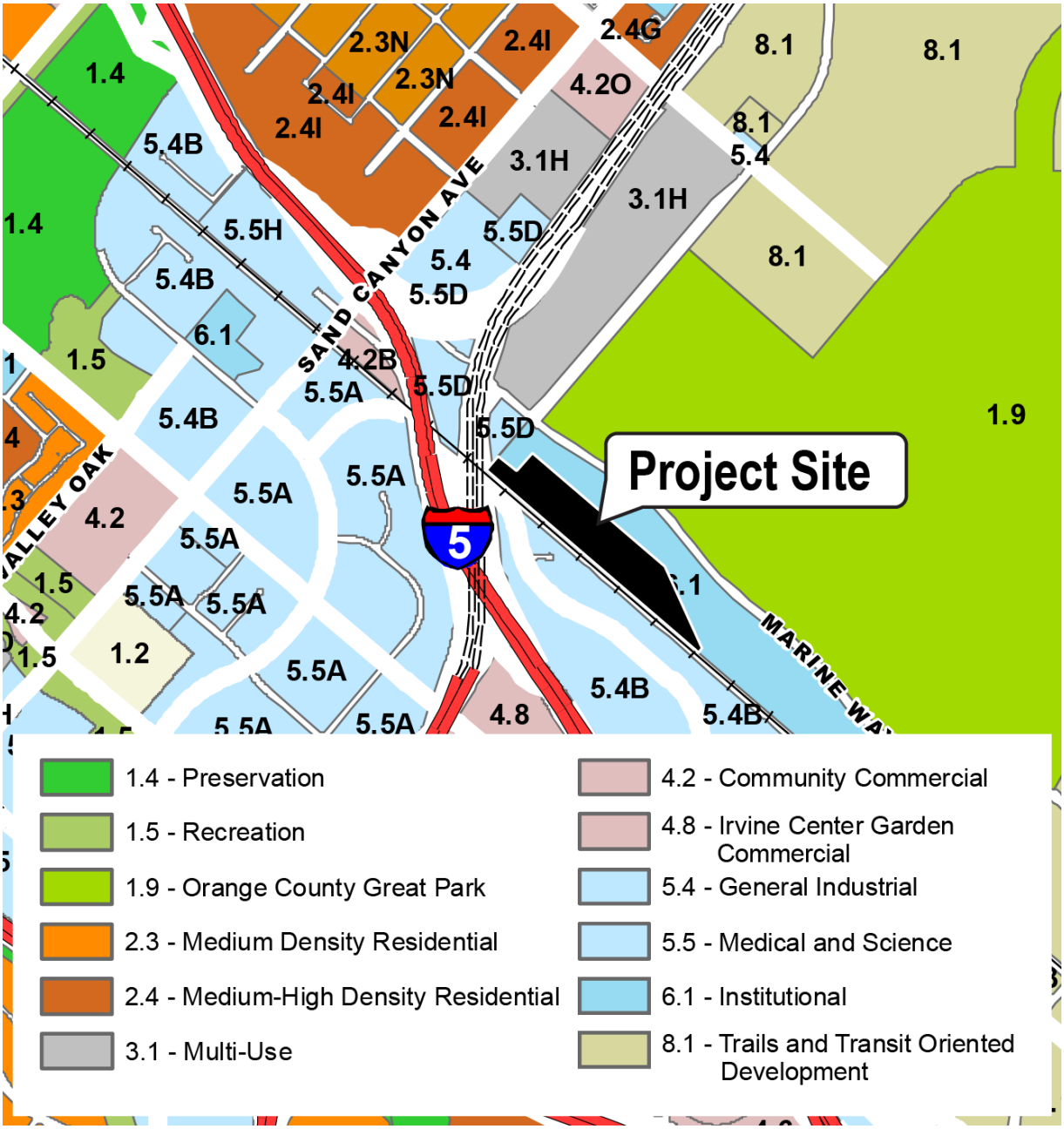
Figure 3.11-1: Existing Land Use Map

Source: City of Irvine, 2015a

Zoning

The existing zoning of the Project Site is "6.1 Institutional" as indicated in Figure 3.11-2. This category applies to land for public and quasi-public facilities such as churches, schools, or utilities. Table 3.11-1 summarizes the permitted uses and uses that require a CUP for institutional zoning areas.

Figure 3.11-2: City of Irvine Land Use Map (Project Site)



Source: City of Irvine, 2015b

Table 3.11-1: Institutional Usage

Permitted Uses	Conditional Uses
Accessory use	Dairy, commercial - Prohibited in Planning Areas 30 or 51
Agriculture	Kennel - Prohibited in Planning Area 30
Apiary - Prohibited in Planning Area 30	Manufactured structure (over 2 years)
Caretaker's quarters	Stable, public - Prohibited in Planning Area 30
Greenhouse	Transit
Manufactured structure permit (up to 2 years)	Passenger Vehicles
Packing plant for agricultural products - Prohibited in Planning Area 30	
Stable, private	
Wireless communication facility	

Source: City of Irvine, Irvine Strategic Energy Plan, 2020

3.11.2. Regulatory Framework

City of Irvine General Plan, Land Use Element, Objective A-4: Balanced Land Uses - Manage growth to ensure balanced residential and nonresidential development throughout the City.

- Policy (f): Attract land uses that generate revenue to the City, while maintaining a balance of other community needs such as housing, open space, and public facilities.

City of Irvine Zoning Ordinance Chapter 3.37, section 3-37-37. - 6.1 Institutional development standards.

3.11.3. Discussion

3.11.3.1. Would the Project physically divide an established community?

Determination: NO IMPACT

Construction and Operational Impacts

The closest established community is approximately 800 feet north of the Project Site on the north quadrant of Marine Way and Ridge Valley. The Project Site is not located within this established community and, consequently, would not cause it to be divided. No construction or operational impacts related to physically dividing an established community would occur.

3.11.3.2. Would the Project 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?

Determination: NO IMPACT

Construction and Operational Impacts

The City of Irvine does not have specific plans for the Project Site. The Project Site is currently undeveloped and is designated by the City of Irvine General Plan as Planning Area 51 and Great Park Land Use type. The zoning designation for the Project Site is "6.1 Institutional" as indicated in Figure 3.11-2.

Institutional zoning designates land for public and quasi-public facilities such as churches, schools or utilities. The Project can be categorized as one of the conditional uses under 6.1 Institutional zoning—government facility; therefore, it is consistent with local zoning requirements. The Project proposes to apply for a CUP that is allowed (Transit) as shown in Table 3.11-1.

In addition, the Project would be consistent with the City's General Plan, Land Use Element, Objective A-4: Balanced Land Uses, Policy (g). Encouraging large infrastructure improvements planned or built in the Project Site that have reduced land available for development. Building the Project could potentially help maintain the intensity ceilings of the current development in the General Plan as it would reduce about 21 acres of land available for development based on the Project Site.

Based on the information described above, no construction or operational impacts related to the Project causing 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 would occur.

3.12. MINERAL RESOURCES

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.12.3.1	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?	☐	☐	☐	☒
3.12.3.2	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?	☐	☐	☐	☒

3.12.1. Existing Conditions

In this section, the mineral resources at the Project Site are identified and their regional significance are evaluated pursuant to the two-phase classification-designation process, defined by The Surface Mining and Reclamation Act of 1975 (SMARA).

Mineral Resources Classification

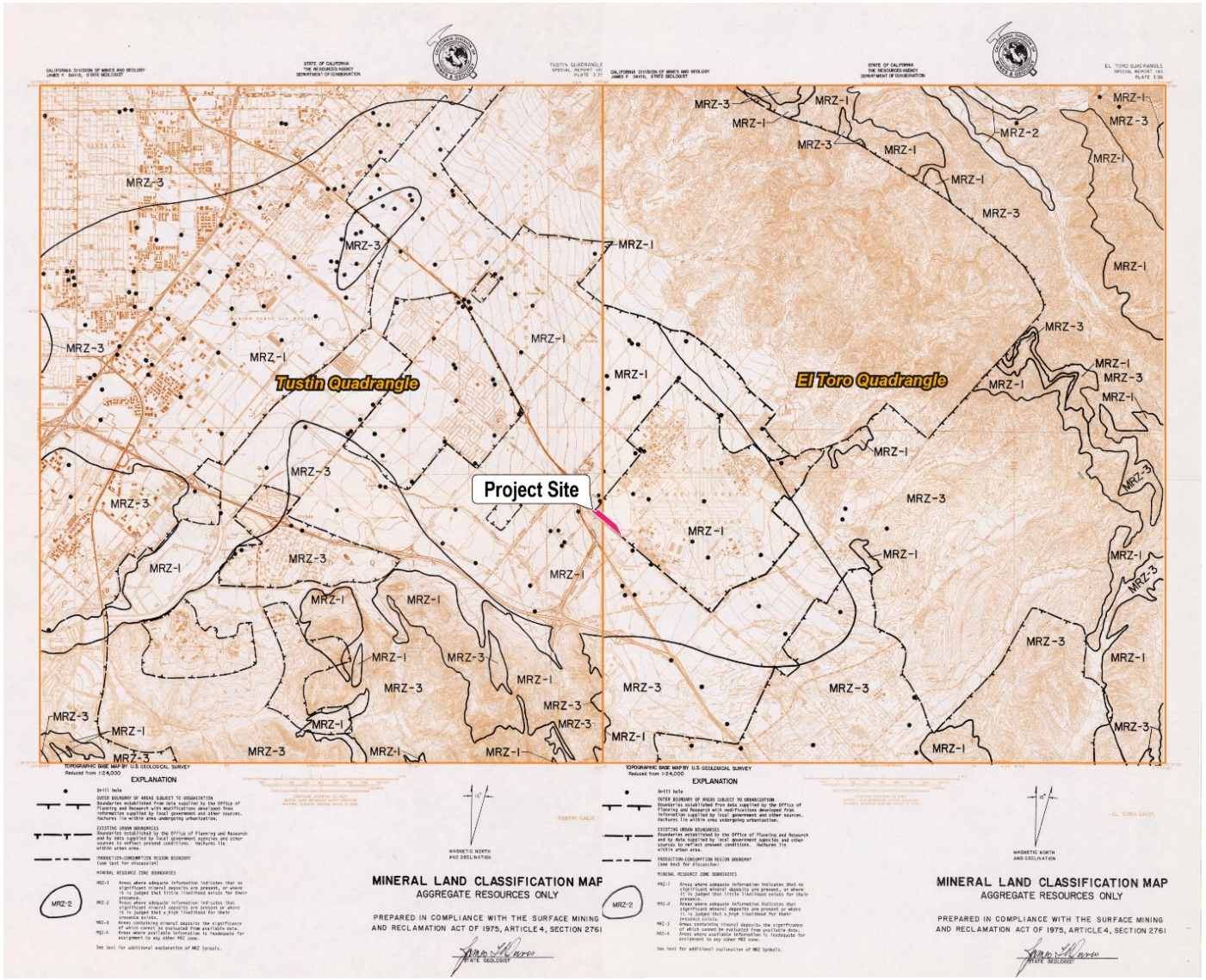
The *Mineral Land Classification Special Report 143 Part III - Classification of Sand and Gravel Resource Areas, Orange County-Temescal Valley Production-Consumption (P-C) Region* specifies the mineral classifications at the Project Site. As shown in Figure 3.12-1, the Project Site spans two of the U.S. Geological Survey defined 7.5-minute quadrangles: Tustin Quadrangle and El Toro Quadrangle. The existence of mineral resources within the Project Site are classified as MRZ-1. MRZ-1 areas are defined as areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence (DOC, 2000). As a result, the Project Site is not in any designated regionally significant construction aggregate resource areas.

3.12.2. Regulatory Framework

State

The Surface Mining and Reclamation Act of 1975 - SMARA mandated the State Geologist to produce Mineral Land Classification (MLC) studies to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving MLC studies from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance. This two-phase process is called classification-designation process. The MLC studies evaluate the mineral resources and present this information in the form of Mineral Resource Zones (MRZs).

Figure 3.12-1: The Mineral Land Classification in Tustin and El Toro Quadrangles



Source: California Department of Conservation, 2000

3.12.3. Discussion

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

Determination: NO IMPACT

Construction and Operational Impacts

In 1984, the SMGB designated MRZ-1 mineral resources within the Tustin Quadrangle and El Toro Quadrangle, which span the Project Site. As mentioned above, significant mineral deposits are not present within the Project Site or surrounding areas. As such, the Project is not on or in the vicinity of valuable regional or state mineral resources. Therefore, no construction or operational impacts related to loss of availability of a known mineral resource that would be of value to the region and the residents of the state would occur.

3.12.3.2. Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Determination: NO IMPACT

Construction and Operational Impacts

Since the Project Site is not on or within the vicinity of valuable mineral resources, the Project would not 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. Therefore, no construction or operational impacts related to 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 would occur.

3.13. NOISE

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.13.3.1	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?	☐	☐	☒	☐
3.13.3.2	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
3.13.3.3	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?	☐	☐	☐	☒

3.13.1. Existing Conditions

Noise measurements were conducted at the Project Site and selected nearby noise sensitive locations on July 30 and 31, 2020. The measurements were conducted with ANSI Type 1 sound level meters within their manufacturer's recommended 1-year calibration period. Measurements were conducted and documented in keeping with standard environmental noise measurement procedures. Weather conditions during the measurement period were generally typical for this location during this time of year.

Noise measurements were conducted at five locations in the vicinity of the Project Site, including one Long-Term (LT) measurement location for an entire 24-hour period, and four Short-Term (ST) locations with durations of approximately 20 to 30 minutes each. The noise measurement locations are shown in Figure 3.13-1 below.

The noise measurement locations were selected to represent the following acoustical environments:

LT-1. This location at the Project's northern fence line is intended to represent the typical hour-to-hour variation of noise levels in the general Project Site over the course of an entire day. Contributing sound sources here included traffic noise from I-5 and SR-133 and local roads, and occasional rail activity on the nearby SCRRA Orange Subdivision tracks, as well as minor contributions from other miscellaneous local sound sources.

Figure 3.13-1: Noise Measurement Locations

Source: AECOM, 2020

ST-1. This location represents the residential development to the north of the Marine Way and Ridge Valley intersection. The contributing sound sources here included traffic on SR-133 and local roadways, with lesser contributions from traffic on I-5, rail activity, and other local noise sources.

ST-2. This location represents a passive use area within the park (quiet area near the reflecting pond) and with direct exposure to the Project Site. Contributing sound sources here were similar to LT-1.

ST-3. This location represents an active sports area within the park (soccer field) with direct exposure to the Project Site. Noise sources here were similar to those observed at ST-2.

ST-4. This location represents an informal exterior use area in a commercial area south of the SCRRA Orange Subdivision tracks (a bench in a grassy area in the parking area presumably used as a short-term break area for employees).

Figure 3.13-2 provides the LT noise measurement data displaying the equivalent average (L_{eq}), maximum (L_{max}) and minimum (L_{min}) for each 10-minute measurement interval over the entire 24-hour measurement period (between 10:00 am on 7/30/2020 and 10:00 am on 7/31/2020). The L_{eq} level values range mostly between 45 A-weighted decibels (dBA) (during the early morning hours) and 60 dBA (during peak morning and afternoon hours). Individual spikes in the L_{eq} and L_{max} data are mostly caused by train pass-by events (the LT location was situated about 450 feet from the SCRAA Orange Subdivision tracks).

Figure 3.13-2: Long-Term Noise Measurement Data

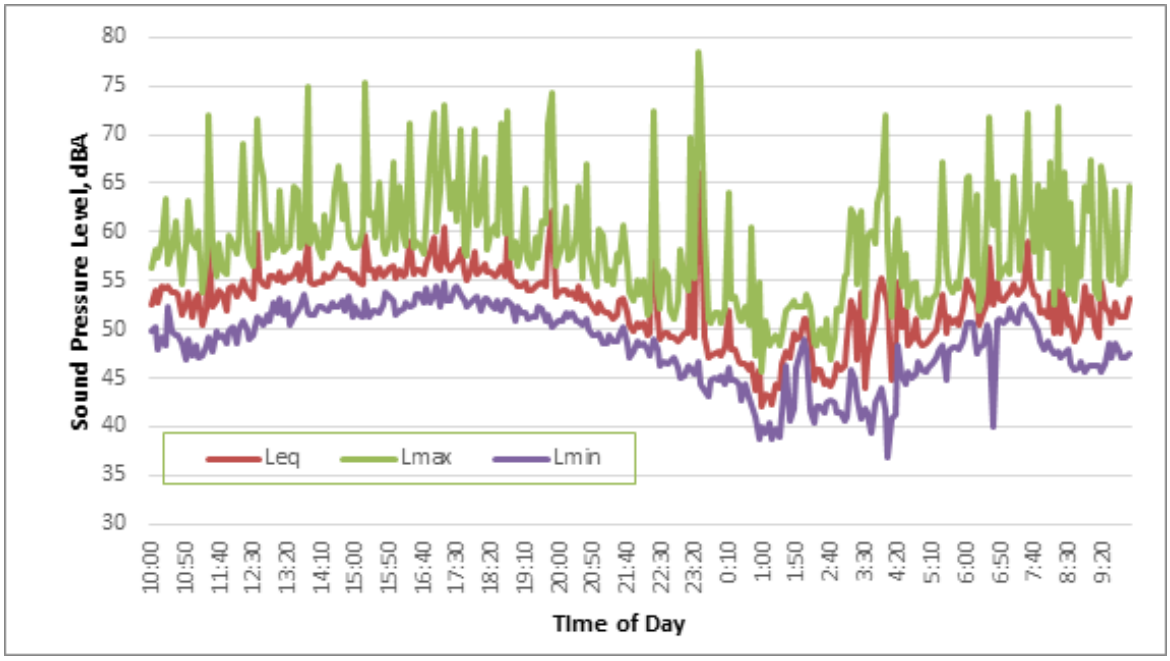


Table 3.13-1 provides a summary of the ST measurement locations. Each location was measured twice (L_{eq}-ST value) and the long-term metrics (L_{eq}-day, day-night average sound level [Ldn], and Community Noise Equivalent Level [CNEL]) were calculated by using a relative comparison to the 24-hour data collected at the central LT measurement location.

Table 3.13-1: Short-term Noise Measurement Summary

Measurement Time and Duration				Duration	Measured or Calculated Sound Level, dBA			
ID	Date	Start	End		L_{eq}-ST	L_{eq}-Day	Ldn	CNEL
ST-1	7/30/20	10:58	11:30	0:32	65.7	67.8	72.1	72.5
	7/31/20	10:00	10:24	0:24	66.9			
ST-2	7/30/20	12:46	13:12	0:26	54.7	54.5	58.7	59.1
	7/31/20	9:45	10:04	0:19	53.2			
ST-3	7/30/20	13:25	13:52	0:27	63.3	59.9	64.1	64.5
	7/31/20	9:05	9:24	0:19	57.5			
ST-4	7/30/20	14:10	14:40	0:30	51.5	51.8	56.1	56.4
	7/31/20	8:30	8:50	0:20	49.7			

dBA = A-weighted decibels; ST = Short-Term; L_{eq} = equivalent sound level; L_{dn} = day-night average sound level; CNEL = Community Noise Equivalent Level
Source: AECOM, 2020

Noise measurement site photos and field data sheets and sound level meter equipment calibration certificates are maintained on file and are available for inspection upon request.

3.13.2. Regulatory Framework

Federal

Federal Transit Administration - As a transit project, the primary source used for the prediction and assessment impacts associated with noise and vibration for the Project would come from the Federal Transit Administration (FTA) Noise and Vibration Impact Assessment Manual (2018), which provides prediction methodology and impact assessment guidance for both construction and operational phases of the Project as outlined below.

Construction Noise and Vibration

FTA recommended construction noise impact criteria are presented in Table 3.13-2, as a function of land use.

Table 3.13-2: Construction Noise Impact Criteria

Land Use	$L_{eq\text{-}equip.(8hr)}$, dBA		$L_{eq\text{-}equip.(30\ day)}$, dBA
	Day	Night	30-day Average
Residential	80	70	75
Commercial	85	85	80*
Industrial	90	90	85*

dBA = A-weighted decibels

Note: *Uses a 24-hour $L_{eq(24hr)}$ instead of $L_{dn\text{-}equip(30day)}$

Source: FTA, 2018 (Table 7-3)

For construction vibration, FTA guidance provides impact criteria for two different impact types, potential building damage and potential human annoyance, both categorized by building type or land use, which are presented in Table 3.13-3 and Table 3.13-4, respectively.

Table 3.13-3: Construction Vibration Damage Criteria

Building/Structural Category	PPV, in/sec	Approximate L_v*
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

PPV = peak particle velocity; in/sec = inches per second

*RMS = root mean square velocity in decibels, VdB re 1 micro-in/sec

Source: FTA, 2018 (Table 7-5)

Table 3.13-4: Indoor Ground-Borne Vibration (GBV) and Ground-Borne Noise (GBN) Impact Criteria for General Vibration Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dBA re 20 micro Pascals)		
	Frequent Events	Occasional Events	Infrequent Events	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB *	65 VdB *	65 VdB *	N/A **	N/A **	N/A **
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

VdB = velocity level in decibels (vibration); dBA = A-weighted decibels; N/A = not applicable

* This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a Detailed Vibration Analysis must be performed.

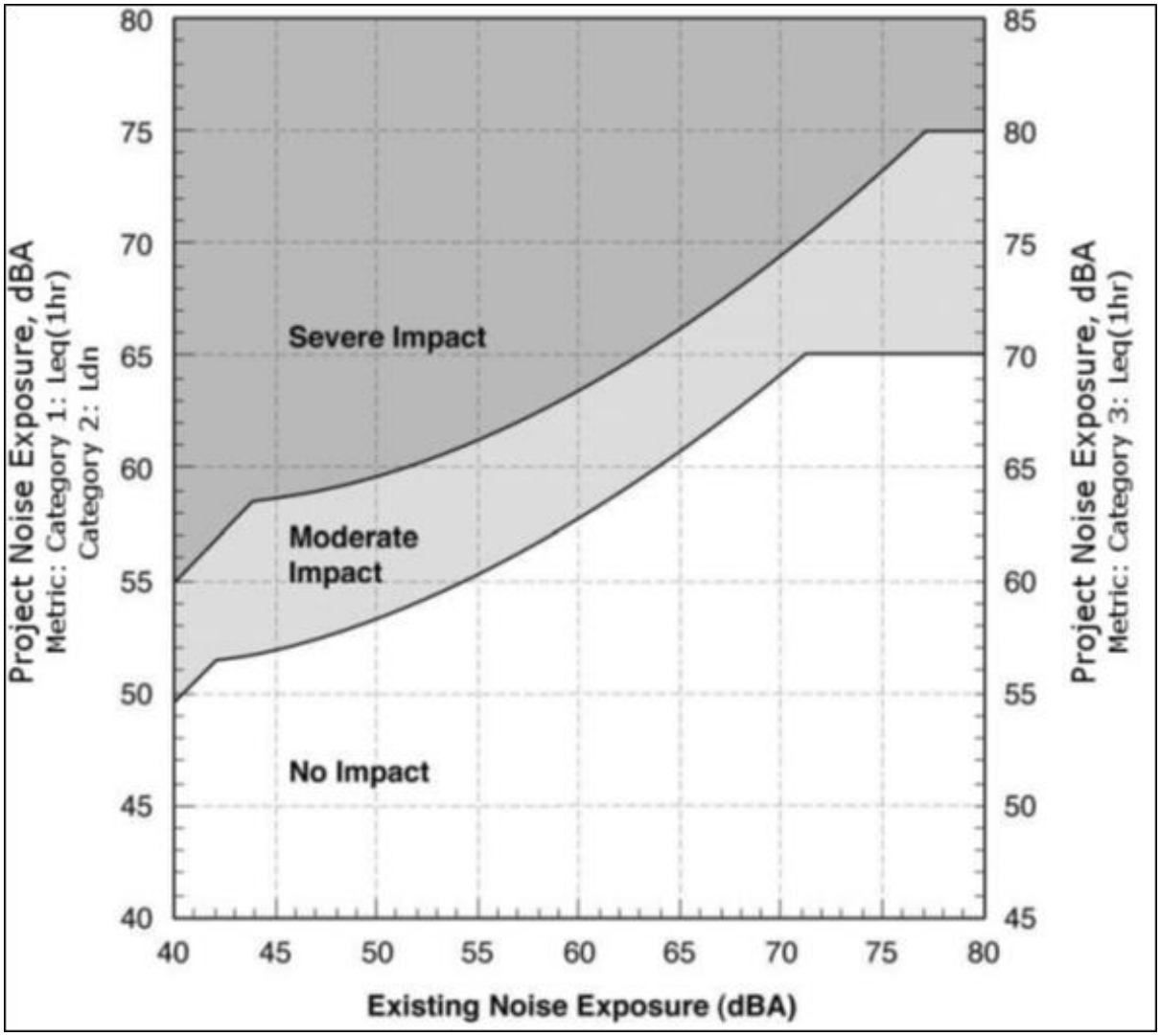
** Vibration-sensitive equipment is generally not sensitive to ground-borne noise; however, the manufacturer's specifications should be reviewed for acoustic and vibration sensitivity.

Source: FTA, 2018 (Table 6-3)

Operational Noise and Vibration

FTA operational noise impacts are determined as a function of the predicted project noise and existing noise exposure and land use category, as shown in Figure 3.13-3. Generally, the higher the existing noise exposure, the higher the limit for moderate and severe impacts. For example, at a Category 2 (residential) receptor location with an existing noise exposure level of 55 dBA Ldn, a moderate noise impact would be triggered with a project noise exposure of 56 dBA Ldn and a severe impact at a project noise level of 61 dBA Ldn. However, for the same receiver location with an existing exposure of 60 dBA Ldn, a moderate impact would exist at a project noise level of 58 dBA Ldn, and a severe impact at 63 dBA Ldn. Operational ground-borne-vibration impact criteria are the same as for construction activity, as shown in Table 3.13-4.

Figure 3.13-3: FTA Operational Noise Impact Criteria



Source: FTA, 2018

Local

City of Irvine General Plan, Noise Element - The noise standards specified in the City's General Plan Noise Element (shown in Table 3.13-5) are used as a guideline to evaluate the acceptability of the noise levels generated by the traffic flow. These standards are for assessment of long-term vehicular traffic noise impacts. The City has exterior noise criteria for outdoor living areas associated with residential uses and requires that interior areas of new residential homes not exceed 45 dBA CNEL and that exterior active use areas not exceed 65 dBA CNEL. Other short-term noise impacts (e.g., construction activities or on-site stationary sources) are regulated by the noise ordinance.

Table 3.13-5: City of Irvine Interior and Exterior Noise Standards

Land Use Categories		Energy Average (CNEL)	
Categories	**Uses**	**Interior[1]**	**Exterior[2]**
Residential	Single-Family, Multiple-Family	45[3], 55[4]	65[7]
	Mobile Home	—	65[5]
Commercial/ Industrial	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial, Retail, Bank, Restaurant	55	—
	Office Building, Professional Office, Research & Development	50	—
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	—
	Gymnasium (Multipurpose)	50	—
	Health Clubs	55	—
	Manufacturing, Warehousing, Wholesale, Utilities	65	—
	Movie Theater	45	—
Institutional	Hospital, School Classroom	45	65
	Church, Library	45	—
Open Space	Parks	—	65

Notes:
[1] Interior environment excludes bathroom, toilets, closets, and corridors.
[2] Outdoor environment limited to private yard of single-family or multifamily residences private patio, which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
[4] Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
[5] Exterior noise level shall be such that interior noise level will not exceed 45 dBA CNEL.
[6] Except those areas affected by aircraft noise.
[7] Multifamily developments with balconies that do not meet the 65 dBA CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
CNEL = Community Noise Equivalent Level; UBC = Uniform Building Code
Source: City of Irvine General Plan Supplement No. 3, Noise Element, Table F-1 (2005).

Municipal Code. Section 6-8-204 of the City's Municipal Code (City of Irvine, 2015a) establishes the maximum permissible noise level that may intrude into a neighbor's property. The Noise Ordinance (adopted in 1975 and revised in 2015) establishes noise level standards for various land use categories affected by stationary noise sources. Land use categories in Irvine are defined in four noise zones, as listed below. Table 13.3-5 provides the City's maximum noise standard based on the noise zone, the location of the noise (exterior/interior), and the time period. As shown in Table 3.13-6, the City's noise standards do not apply to multifamily residence private balconies (City of Irvine, 2015a).

Noise Zone 1: All hospitals, libraries, churches, schools, and residential properties

Noise Zone 2: All professional office and public institutional properties

Noise Zone 3: All commercial properties excluding professional office properties

Noise Zone 4: All industrial properties

Table 3.13-6: City of Irvine Maximum Noise Level Standards

Noise Zone	Exterior/ Interior	Time Period	L50 (30 mins)	L25 (15 mins)	L8 (5 mins)	L2 (1 min)	L_{max} (Anytime)
1	Exterior	7:00 AM to 10:00 PM	55	60	65[1]	70	75
		10:00 PM to 7:00 AM	50	55	60	65[1]	70
	Interior	7:00 AM to 10:00 PM	—	—	55	60	65
		10:00 PM to 7:00 AM	—	—	45	50	55
2	Exterior	Anytime	55	60	65	70	75
	Interior	Anytime	—	—	55	60	65
3	Exterior	Anytime	60	65	70	75	80
	Interior	Anytime	—	—	55	60	65
4	Exterior	Anytime	70	75	80	85	90
	Interior	Anytime	—	—	55	60	65

Notes:
It shall be unlawful for any person at any location within the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any property within designated noise zones either within or without the City to exceed the applicable noise standard. Each of the noise standards specified above shall be reduced by 5 dBA for impact, or predominant tone noise or for noises consisting of speech or music. In the event the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.
[1] This standard does not apply to multifamily residence private balconies. Multifamily developments with balconies that do not meet the 65 dBA CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
Source: City Municipal Code (City of Irvine, 2015a).

The City's Municipal Code Noise Ordinance has not established any upper limits for construction noise because construction noise is temporary and will stop after Project construction is complete. Section 6-8-205a of the City's Municipal Code Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. Construction activities shall occur only between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday. No construction shall be permitted outside of these hours or on Sundays and federal holidays, except for Columbus Day, unless a temporary waiver is granted by the Chief Building Official or his or her

authorized representative. Trucks, vehicles, and equipment that are making or are involved with material deliveries, loading, or transferring materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take into consideration the potential impact on the community. No construction activity will be permitted outside of these hours except in emergencies, including maintenance work on the City ROWs that might be required.

Zoning Ordinance. Sections 5-8-4.A.5a and 5-8-4.A.5b of the City's Zoning Ordinance (City of Irvine, 2015b) establish requirements to minimize construction noise and vibration impacts. Although these requirements are intended for residential and mixed-use spaces in the Irvine Business Complex, the requirements listed below are applicable for the Project. Section 5-8-4.A.5a of the City's Zoning Ordinance requires that, before the issuance of grading permits, the project applicants shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved:

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
- Construction staging areas shall be located away from off-site sensitive uses during the later phases of Project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site, whenever feasible.
- For construction of sound walls that have been incorporated into the Project design, prior to construction of the building foundation, installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with absorbent inner insulation) shall be placed along the boundary of the Project Site during construction activities.

Section 5-8-4.A.5b of the City's Zoning Ordinance requires that, before the issuance of a grading permit, applicants for individual projects that involve vibration-intensive construction activities (e.g., pile drivers, jack hammers, and vibratory rollers) near sensitive receptors shall submit a noise vibration analysis. If construction-related vibration is determined to exceed the FTA vibration annoyance criterion of 78 Velocity Level in Decibel (Vibration) (VdB) for residential uses during the daytime (FTA, 2018), additional requirements, such as the use of less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of a vibration-intensive pile driver). In the same FTA guidelines, 84 VdB is the vibration annoyance criterion for offices and non-sensitive areas.

3.13.3. Discussion

3.13.3.1. Would the Project cause 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?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

The Project would require the use of heavy civil equipment to support construction activities related to utilities, drainage, roadway, structures, track, and buildings for the OCMF. Construction noise impacts were assessed by predicting construction noise levels using methods consistent with the FTA Noise and Vibration Manual (FTA, 2018) and comparing these values to identified impact thresholds (AECOM, 2021). The methodology is discussed in Appendix F (Noise and Vibration Technical Memorandum).

The range of predicted construction values presented in Table 3.13-7 represents the predicted noise levels over the 30-month Phase 1 schedule (i.e., for ST-1, 50 dBA during the least noisy month up to 68 dBA during the noisiest month). Locations of the Receiver ID can be viewed in Figure 3.13-1 of this section. Additionally, impact thresholds shown in Table 3.13-7 relate to the FTA thresholds discussed in Table 3.13-8. The predicted range of construction noise related to the Project is less than the FTA thresholds. Therefore, construction impacts related to the 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 would be less than significant.

Table 3.13-7: Construction Noise Levels and Impacts Summary (Worst Case for All Phases)

Receiver ID/ Land Use	Impact Metric	Impact Threshold (L_{dn}/L_{eq})	Distance to Project Center (feet)	Acoustical Shielding (dBA)	Predicted Range (L_{dn}/L_{eq})	Impact
ST-1/Residential	L_{dn}	75	1,275	5[1]	50-68	None
ST-2/Park	L_{eq}	80	1,100	0	57-74	None
ST-3/Park	L_{eq}	80	1,220	0	56-73	None
ST-4/Commercial	L_{eq}	80	650	5[2]	56-73	None

ST = Short-Term; L_{dn} = day-night average sound level; L_{eq} = equivalent sound level;
dBA = A-weighted decibels;
Source: AECOM, 2021

Operational Impacts

Table 3.13-8 below provides a summary of the operational noise level predictions and impact assessment. The total Project noise level includes contributions from both on-site operational noise sources associated with the Rail Shops and Yard, as well as automobile and truck traffic in and out of the site. Methodologies detailing the calculations and noise estimates related to

the Project's construction can be found in Appendix F (Noise and Vibration Technical Memorandum). Total Project sound levels would not meet or exceed the FTA thresholds shown in Table 3.13-8. Operational impacts related to the Project that could cause the 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 would be less than significant.

Table 3.13-8: Operational Noise Levels and Impacts Summary

Receiver info						Impact Thresholds (dBA)		Prediction (dBA)
ID	Land Use	Distance to Project Center (feet)	Analysis Metric	Existing Noise Level	Total Project-Only Sound Level	Moderate Impact Threshold	Severe Impact Threshold	Impact
ST-1	Residential	1,275	L_{dn}	67	52*	63	67	None
ST-2	Park	1,100	$L_{eq\text{-}1hr}$	55	41	61	66	None
ST-3	Park	1,220	$L_{eq\text{-}1hr}$	60	39	63	68	None
ST-4	Industrial	650	$L_{eq\text{-}1hr}$	52	51	60	65	None

dBA = A-weighted decibels; ST = Short-Term
*Predicted Project-only noise level at ST-1 includes contributions from both facility site and Project-related traffic on adjacent local roads.
Source: AECOM, 2021

3.13.3.2. Would the Project cause the generation of excessive groundborne vibration or groundborne noise levels?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction Impacts

Construction vibration typically only generates potential impacts at existing structures within a maximum of a few hundred feet, and only then with the use of equipment with particularly high vibration levels such as vibratory roller and impact pile drivers. Of these, impact pile drivers were identified for potential use on just two construction sub-phases, Foundations and Bridges. The exact locations of the potential pile driving activity are currently unknown, but if pile driving is conducted within approximately 250 feet of an occupied commercial building, a short-term significant impact could occur with a predicted vibration level of 75 VdB or greater (corresponding to vibration annoyance for "frequent" events). Only the commercial buildings on the southwest side of the existing SCRRA Orange Subdivision tracks could potentially be within this distance.

Ground-borne vibration for construction activities would not be expected to approach potential damage thresholds at any nearby structures. The closest distance between a pile driver and an existing building might be approximately 120 feet from the existing commercial building south of the SCRRA Orange Subdivision tracks, with an estimated vibration level from

impact pile driving of 0.144 inches per second (in/sec) peak particle velocity (PPV), which is well below the damage threshold of 0.5 in/sec PPV for modern commercial buildings.

Construction impacts that could be considered significant would be construction vibration annoyance resulting from pile-driving equipment if these are used within 250 feet of an existing structure. The commercial buildings on the southwest side of the existing SCRRA Orange Subdivision tracks could potentially be within this distance. The following mitigation measures should be implemented to reduce or eliminate vibration impacts associated with the use of impact pile drivers during construction:

- **MM-NOI-1:** If feasible, relocate Project elements requiring pile driving to locations greater than 250 feet from occupied buildings.
- **MM-NOI-2:** If MM-NOI-1 is not feasible, use a less intrusive form of pile insertion, such as pre-augured piling.
- **MM-NOI-3:** Arrange to conduct pile driving activities during a period when the affected building(s) are not in use (such as Saturdays).

Operational Impacts

Metrolink actively operates on the railroad corridor that the Project would be servicing. No additional train services or increase of any train vehicles is associated with operations of the Project. While ground vibration may be generated by some types of operational rail or industrial activity, no significant ground vibration sources are anticipated from the operation of the OCMF. Methodology and findings for this topic can be found in Appendix F. Therefore, operational impacts related to the generation of excessive groundborne vibration or groundborne noise levels would be less than significant.

3.13.3.3. 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?

Determination: NO IMPACT

Construction and Operational Impacts

With a distance of approximately 7 miles, John Wayne Airport is the closest airport to the Project Site. The Project would not locate new or additional sensitive receptors in the area of influence of any airports. Therefore, no construction or operational impacts would occur related to being within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that would expose people residing or working in the vicinity of the Project to excessive noise levels.

3.14. POPULATION AND HOUSING

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.14.3.1	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
3.14.3.2	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1. Existing Conditions

Housing does not currently exist on the Project Site and the nearest residences of a senior community are approximately 650 feet to the northeast of the Project Site. The City of Irvine has designated the existing Project Site's land use as the Great Park and zoned for 6.1 Institutional (City of Irvine, 2015). Institutional uses include a variety of publicly or privately owned and operated facilities such as hospitals, schools, religious facilities, and other nonprofit land uses.

3.14.2. Regulatory Framework

Local

City of Irvine General Plan Housing Element:

Goal 1.0 Policy 1.6: Ensure proper land use planning for adequate infrastructure, services, and facilities is provided to serve existing and future residents. The City of Irvine takes measures to ensure dedicated land for infrastructure development in support of future residents' transportation needs.

3.14.3. Discussion

3.14.3.1. Would the Project induce substantial unplanned population growth in an area either directly or indirectly?

Determination: NO IMPACT

Construction Impacts

Due to the Project's proximity to urban centers, such as the cities of Irvine and Tustin, the Project would likely draw workforce from the existing local market. If construction workers from outside the region were employed during the construction period, the temporary nature

of the work suggests that it would be unlikely those non-local workers would permanently relocate. Therefore, no construction impacts related to inducing substantial unplanned population growth directly or indirectly would occur.

Operational Impacts

The Project does not include a housing component, so there would be no direct population growth induced. The nature of the work proposed under the Project is not likely to require relocation of staff, given the proximity of the Project Site to urban centers and the extended network of highways in the vicinity. Therefore, no operational impacts related to inducing substantial unplanned population growth directly or indirectly would occur.

3.14.3.2. Would the Project displace substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?

Determination: NO IMPACT

Construction and Operational Impacts

The Project would be located on vacant land where no housing currently exists. Therefore, no construction or operational impacts related to displacing substantial numbers of housing or people necessitating the construction of replacement housing elsewhere would occur.

3.15. PUBLIC SERVICES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:					
3.15.3.1	Fire protection?	☐	☐	☒	☐
3.15.3.2	Police protection?	☐	☐	☒	☐
3.15.3.3	Schools?	☐	☐	☐	☒
3.15.3.4	Parks?	☐	☐	☐	☒
3.15.3.5	Other public facilities?	☐	☐	☐	☒

3.15.1. Existing Conditions

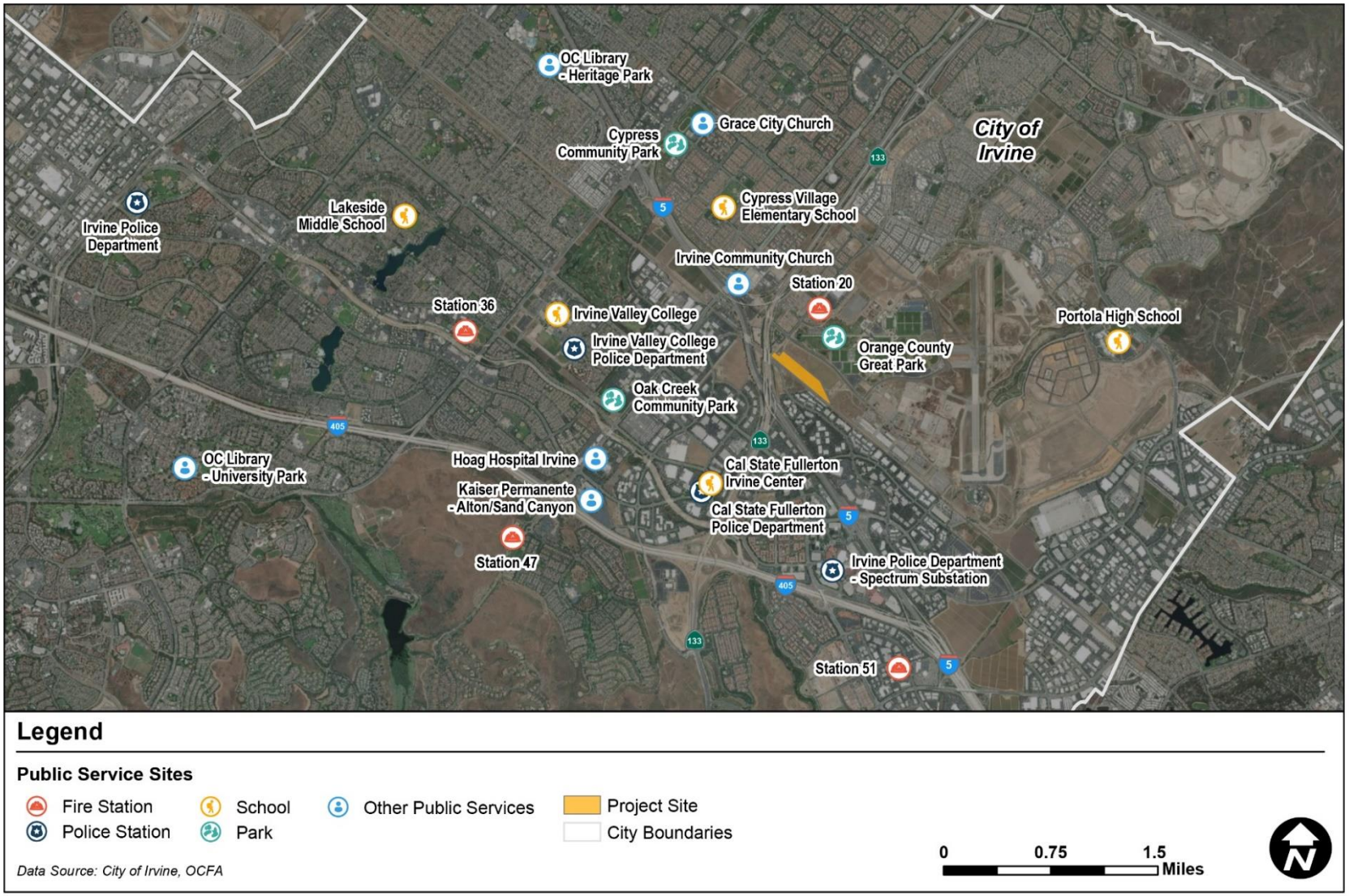
Table 3.15-1 lists the closest public service facilities to the Project Site. Figure 3.15-1 shows their geographical relation to the Project Site. The City of Irvine contracts with OCFA to provide fire suppression, and emergency medical, rescue, and fire prevention services to the City. Eleven OCFA fire stations serve the City, 10 of which are within a five-mile buffer from the Project Site. In addition, the Irvine Police Department serves as the main location responsible for receiving all 911 calls. The four fire and police stations located closest to the Project Site are identified in Table 3.15-1.

Table 3.15-1: Public Service Facility Summary

Public Service Category	Name	Distance	Direction to the Project Site
Fire and Emergency	Fire Station #20 – Irvine	0.4 mile	Northeast
	Fire Station #36 – Woodbridge	2 miles	West
	Fire Station #47 – Irvine	2.1 miles	Southwest
	Fire Station #51 – Irvine Spectrum	1.9 miles	Southeast
Police Protection	Irvine Valley College Police Department	1.4 miles	West
	Cal State Fullerton Police Department	1 mile	Southwest
	Irvine Police Department – Spectrum Substation	1.1 miles	South
	Irvine Police Department	4.4 miles	Northwest
Schools	Irvine Valley College	1.4 miles	Northwest
	Cal State Fullerton Irvine Center	1 mile	Southwest
	Portola High School	2 miles	East
	Lakeside Middle School	2.6 miles	Northwest
	Cypress Village Elementary School	1 mile	Northwest
Parks	Cypress Community Park	1.5 miles	Northwest
	Oak Creek Community Park	1.1 miles	Southwest
	Great Park	600 feet	Northeast
Other Services	Hoag Hospital Irvine	1.4 miles	Southwest
	Kaiser Permanente – Alton/Sand Canyon Medical Offices	1.5 miles	Southwest
	Irvine Community Church	0.5 mile	Northwest
	Grace City Church	1.6 miles	Northwest
	Orange County Library – Heritage Park	2.4 miles	Northwest
	Orange County Library – University Park	4 miles	Southwest

Source: AECOM, 2020

Figure 3.15-1: Public Service Facility Location Map



Source: AECOM 2020

Table 3.15-2 summarizes the fire responses and incidents that occurred in the City of Irvine in 2019.

Table 3.15-2: City of Irvine Response Data Summary

Jurisdiction	Population (2019)	Unit Responses	Fire Stations	Fire Incidents	EMS Incidents	Other Incidents	Total Incidents
Irvine	280,202	25,385	11	252	12,729	5,091	18,072

Source: OCFA, 2019

The OCFA - Standards of Coverage and Deployment Plan published in 2014 delineated that, during larger incidents, OCFA is typically acting together with one or more neighboring fire departments in providing fire and life protection through a coordinated regional response system of mutual and automatic aid agreements. It is suggested in the plan that a prompt arrival of at least four personnel is critical for structure fires (OCFA, 2014). According to OCFA, three of the four fire stations located nearest to the Project Site all have less than 1,000 annual responses. This means that the stations have less workload than 70 percent of the other OCFA fire stations and are not at full capacity and would be able to handle additional fire service needs.

Police Services

The Irvine Police Communications Bureau serves as the primary answering point for all 911 emergency calls and is responsible for dispatching of police and animal services field resources. It functions under the Business Services Division in the Irvine Police Department. The Communications Bureau staff is composed of one communications bureau supervisor, four supervising dispatchers, 15 full-time dispatchers, and two part-time dispatchers (City of Irvine, 2020a).

Table 3.15-3 summarizes the existing police service level in Irvine. Currently, every 10,000 Irvine residents are served by eight officers and 11 law enforcement employees.

Table 3.15-3: Police Service Staffing Summary

Jurisdiction	Officers per 10k Population	Officers	Total Law Enforcement per 10k Population	Total Law Enforcement
Irvine	8.0	213	11.3	301

Source: Governing calculations of employment and population data from 2016 FBI Uniform Crime Reporting program

As shown in Table 3.15-1, three police stations are located near the Project Site. They are the Irvine Valley College Police Department, the Cal State Fullerton Police Department, and the Irvine Police Department – Spectrum Substation. The Spectrum Substation will be the principal service provider to the Project Site. The two school police departments do not usually answer requests outside of their respective campuses; however, additional staff could be dispatched for emergencies. In addition, the Irvine Police Department headquarters located 4.4 miles northwest of the Project Site could also serve as a backup in situations where the other three closer police departments are short in staff. With a low crime rate, the capacity of police service is sufficient for the Project Site through coordination of the three police departments.

School Services

The Irvine Unified School District (IUSD) provides service to the Project Site. As indicated in Table 3.15-1, the closest schools to the Project Site are Cypress Village Elementary School, Lakeside Middle School, and Portola High School.

Park Services

There are currently 23 community parks, six special facilities, and 39 neighborhood parks serving the City of Irvine. As of 2019, approximately 1,926 acres of park facilities are serving a population of 280,202. On average, 1 acre of park facility is serving 145 Irvine residents (City of Irvine, 2020b).

The community parks closest to the Project Site are Cypress Community Park, Oak Creek Community Park, and the Great Park.

Other Services

Other services include public facilities such as libraries, churches, and hospitals. The facilities located closest to the Project Site are identified in Figure 3.15-1 and described in Table 3.15-1.

3.15.2. Regulatory Framework

Regional

Orange County Fire Authority - Standards of Coverage and Deployment Plan (2014)

The Orange County Fire Authority - Standards of Coverage and Deployment Plan lays out the response time objectives in the scenarios below:

- Total response time for arrival of the first arriving response unit at a core incident. The first response unit capable of initiating effective incident intervention shall arrive at a core emergency within the time specified for each level of service area from receipt of the call at the dispatch center 90 percent of the time. In Urban Areas, the goal is 8 minutes, 45 seconds.
- Total response time for arrival of the first arriving Advanced Life Support response unit at a core medical incident. The first response unit capable of initiating effective incident intervention shall arrive at a core emergency within the time specified for each level of service area from receipt of the call at the dispatch center 90 percent of the time. In Urban Areas, the goal is 9 minutes and 54 seconds.

Local

City of Irvine General Plan Public Service Element

The City of Irvine also established response time standards in its General Plan:

- For fire and basic life safety incidents in urban areas, a first due unit shall be on scene within a five-minute response time, 80 percent of the time.

- For advanced life support incidents, units shall be located and staff available within an eight-minute response time, 80 percent of the time.

The standards for typical school sizes are as follows:

- Elementary School (K-6): Permanent core building to house 600 students, with provisions for relocatable buildings to house a maximum of 720 students on an average site of 10 acres.
- Middle School (7-8): Permanent facilities for 700 students with provision for relocatable buildings and short-term overload of facilities to house a maximum of 900 students on an average site of 20 acres.
- High School (9-12): Permanent facilities for 1,800 students with provisions for relocatable buildings and short-term overload of facilities to house a maximum of 2,400 students on an average site of 40 acres.

3.15.3. Discussion

3.15.3.1. 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 fire protection?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Construction of the Project would require the use of temporary construction workers. However, as discussed in the Section 3.14 Population and Housing, these construction workers would not result in a permanent increase in residential population. Therefore, no substantial increase in demand for fire services would result and no new facilities would be required. As such, construction impacts related to the provision of new facilities as a result of an increase in demand for fire services would be less than significant.

Operational Impacts

Operation of the Project would generate some work-based trips in the Project Site. As discussed in Section 3.14, this increase in work-based trips would not result in a generation of a permanent residential population. Nevertheless, an increase in demand for fire services is likely due to the increase in workforce in this area. As part of the design process, coordination with the local fire department would be required before any building occupancy to ensure worker safety measures are in place. As previously stated, three of the four fire stations that would be serving the Project Site, including Fire Stations #20, #47, and #51, are not at full capacity and would be able to handle additional fire service needs through local coordination. Coordination across the four existing fire stations would sufficiently meet any potential

increase in fire service demand due to operations of the Project. Therefore, operational impacts related to the provision of new facilities as a result of increased demand for fire services would be less than significant.

3.15.3.2. 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 police protection?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Construction of the Project would generate temporary construction workers. However, the construction workers are not anticipated to generate a permanent residential population and, therefore, no substantial demand increase for police services. Therefore, construction impacts related to the provision of new facilities as a result of an increase in demand for police services would be less than significant.

Operational Impacts

Operation of the Project would generate some work-based trips in the Project Site. Increased work-based activities would not result in generation of a permanent residential population but would still increase demand for police services. However, police service needs induced by the Project are small enough to be covered by the existing police and sheriff resources in the vicinity of the Project. The Irvine Police Department – Spectrum Substation would be the principal service provider to meet the additional police service needs at the Project Site. Furthermore, the Irvine Police Department headquarters, as well as the nearby Irvine Valley College Police Department and Cal State Fullerton Police Department, would be available for situations when the aforementioned resources have been exhausted. It is anticipated that the capacity of police service is sufficient for the Project Site through coordination of three police departments. Therefore, operational impacts related to the provision of new facilities as a result of increased demand for police services would be less than significant.

3.15.3.3. 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 schools?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate school-age population. Workers, temporary or permanent,

are not anticipated to generate a permanent residential population that would generate school age children that would in turn increase demand for school services. Therefore, no construction or operational impacts related to the provision of new facilities as a result of an increase in demand for school services would occur.

3.15.3.4. 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 parks?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate demand for parks. Workers, temporary or permanent, are not anticipated to generate a permanent residential population that would generate demand for parks. Therefore, no construction or operational impacts related to the provision of new facilities as a result of an increase in demand for parks would occur.

3.15.3.5. 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 other public service facilities?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate demand for other public services facilities. Workers, temporary or permanent, are not anticipated to generate a permanent residential population that would generate increased demand for other public services facilities. Therefore, no construction or operational impacts related to the provision of new facilities as a result of an increase in demand for other public service facilities would occur.

3.16. RECREATION

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.16.3.1	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
3.16.3.2	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1. Existing Conditions

The City of Irvine's public park system can be broken down into two categories: community parks and neighborhood parks. Community parks are owned and maintained by the City. These parks are generally a minimum of 20 acres in size and able to accommodate 10,000 persons (City of Irvine, 2015). There are two types of neighborhood parks: public neighborhood parks and private neighborhood parks. Public neighborhood parks are generally a minimum of 4 acres in size and able to serve a minimum of 2,500 persons (City of Irvine, 2015). Currently, 23 community parks and 39 neighborhood parks serve the City of Irvine. Additionally, the City is providing special recreation services to their residents through six special facilities such as the Irvine Animal Care Center, Harvard Skate Park, and Aquatic Centers such as the William Woollett Jr. Aquatics Center and the Northwood Aquatics Center. Recreational facilities and services can also be provided by the private sector and by jurisdictions other than the City. Private parks are owned and maintained by homeowner associations or maintenance districts (City of Irvine, 2015). In terms of jurisdictions other than the City, a county-wide regional park is located in the City and adjacent to the Project Site, which is known as the Great Park.

According to the City of Irvine General Plan, developers of residential subdivisions are required to dedicate parkland, or pay fees in lieu of dedication, at the rate of 5 acres per 1,000 population. The allocation of 5 acres of parkland is apportioned as 2 acres for community parks and 3 acres for neighborhood parks (City of Irvine, 2015).

One of the objectives in the City's General Plan is to "provide community parks which serve residents of a planning area to citywide level by providing facilities appropriate for citizens of various ages and interests, such as: community centers, athletic facilities, and picnic areas" (City of Irvine, 2015). Therefore, many community parks also function as community centers with athletic and picnic facilities. Parks are not the only facilities that can provide recreation services. Several other commercial

recreational facilities such as the Ranch House - Recreation Center and the Trabuco Center also offer spaces for community activities and programs.

Table 3.16-1 lists the nearest recreational facilities to the Project Site. Figure 3.16-1 shows their geographical relation to the Project Site.

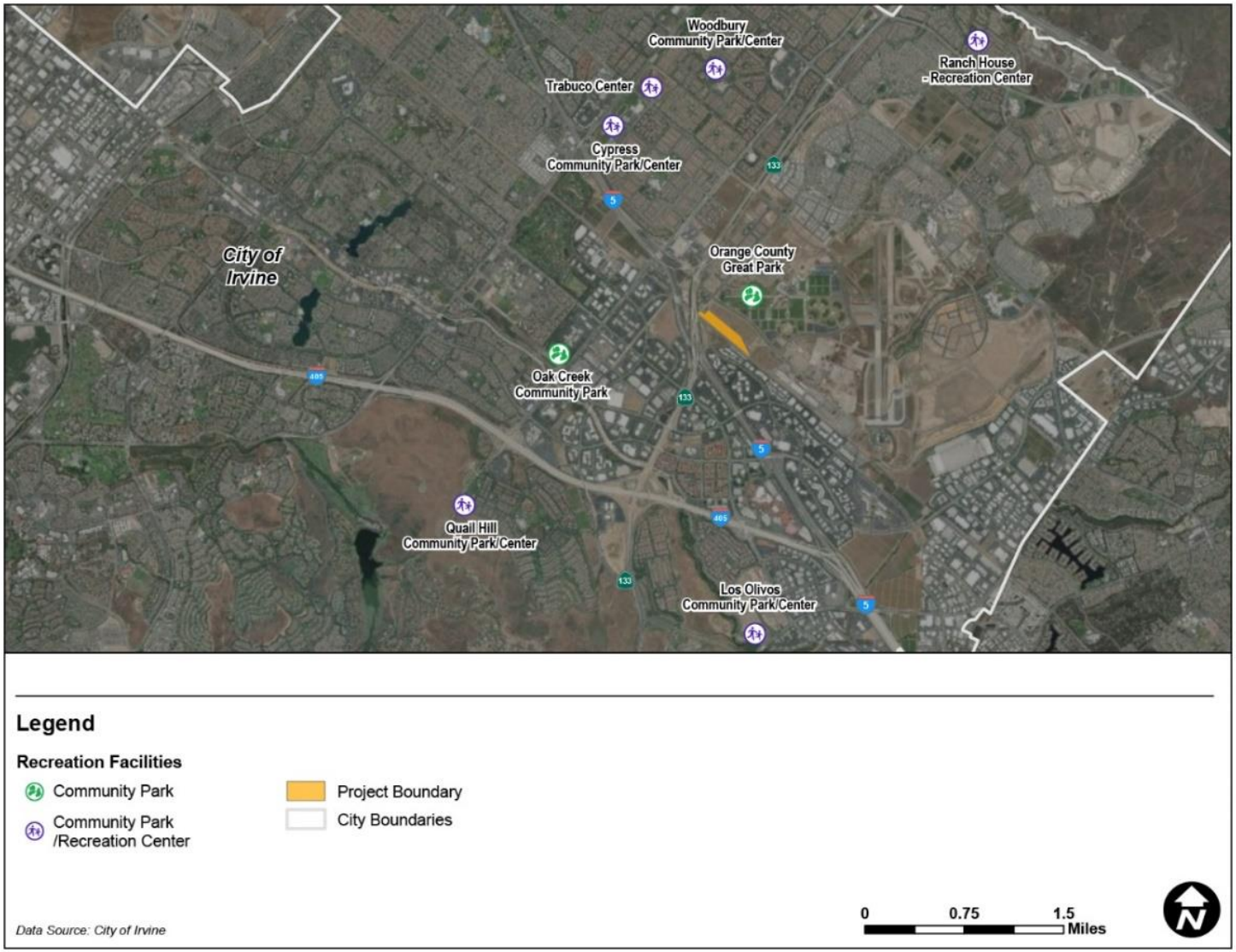
Two community parks, four community parks/community centers, and two recreation centers are within a three-mile radius of the Project Site.

Table 3.16-1: Recreational Facility Summary

Recreational Facility Name	Distance to Project Site	Direction from the Project Site
Great Park	600 feet	Northeast
Oak Creek Community Park	1.1 miles	Southwest
Cypress Community Park/Recreation Center	1.5 miles	Northwest
Trabuco Center	1.7 miles	Northwest
Woodbury Community Park/Recreation Center	1.8 miles	North
Los Olivos Community Park/Recreation Center	2.1 miles	South
Quail Hill Community Park/Recreation Center	2.3 miles	Southwest
Ranch House - Recreation Center	2.8 miles	Northeast

Source: AECOM, 2020

Figure 3.16-1: Recreational Facility Location Map



Source: AECOM, 2020

3.16.2. Regulatory Framework

City of Irvine General Plan, Parks and Recreation Element Objective K-1, Recreational Opportunities: Developers of residential subdivisions are required to dedicate park land, or pay fees in lieu of dedication, at the rate of 5 acres per 1,000 population. The allocation of 5 acres park land is apportioned as 2 acres for community parks and 3 acres for neighborhood parks.

Provide for a broad spectrum of recreational opportunities and park facilities, in either public or private ownership, to accommodate a variety of types and sizes of functions.

Policy (a) Provide community parks which serve residents of a planning area to citywide level by providing facilities appropriate for citizens of various ages and interests, such as:

- Community centers
- Athletic facilities
- Competition-level swimming pools
- Picnic areas
- Cultural centers
- Day care centers

3.16.3. Discussion

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

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include a housing component that would induce direct population growth that would then generate demand for parks or recreational facilities. Workers, temporary or permanent, are not anticipated to generate a permanent residential population that would generate demand for parks or recreational activities. As such, the Project would not conflict with the city's General Plan because the proposed OCMF would not be required to dedicate park land, or pay fees in lieu of dedication. Therefore, there are no construction or operational impacts related to the increase in use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

3.16.3.2. Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Determination: NO IMPACT

Construction and Operational Impacts

The Project does not include new recreational facilities or require the expansion of existing recreational facilities. Therefore, no construction or operational impacts would occur.

3.17. TRANSPORTATION

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

3.17.1. Existing Conditions

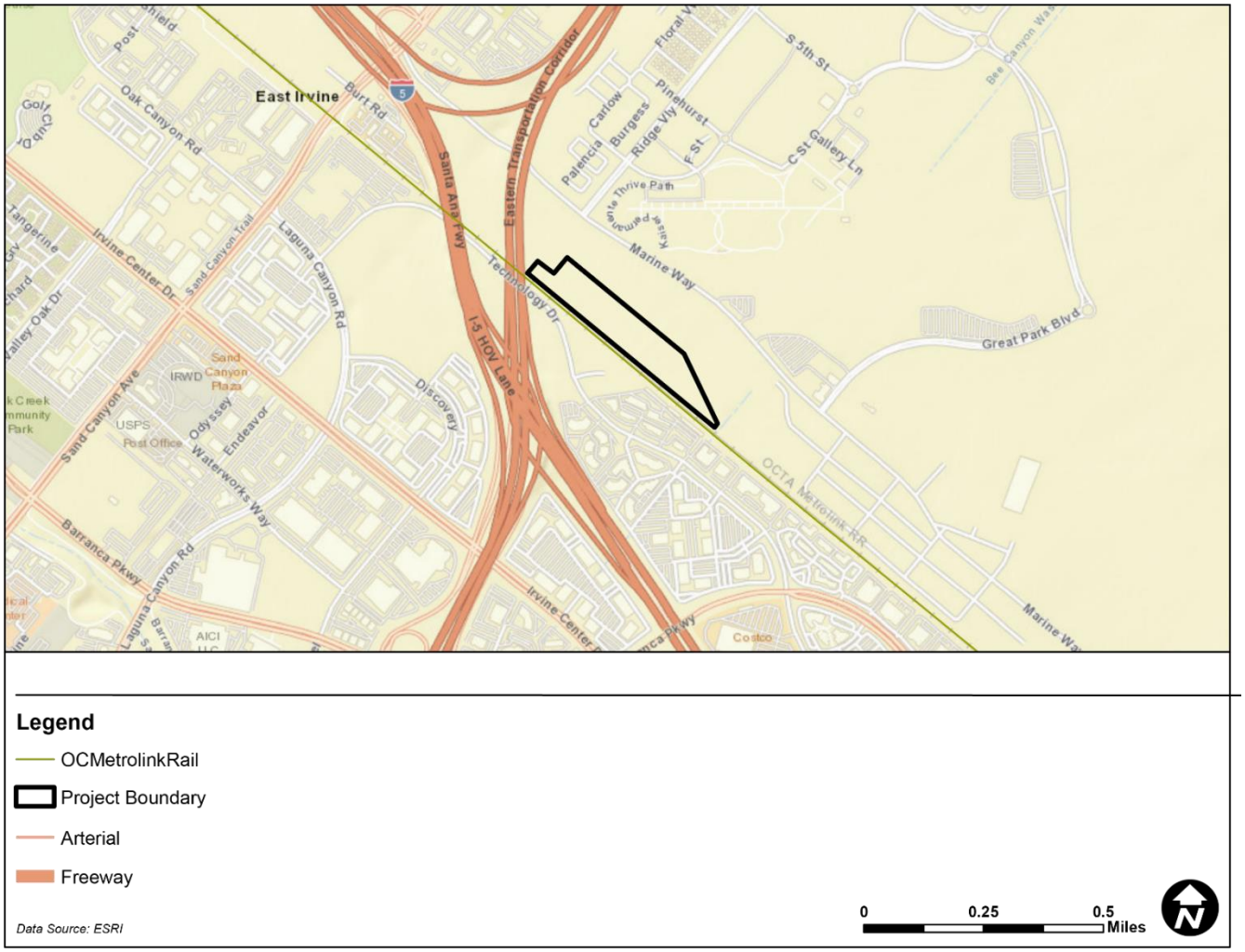
The 21.3-acre Project Site, which is undeveloped and vacant, lies directly northeast of the existing SCRRA Orange Subdivision railroad tracks (between mileposts 183.50 and 184.00) and south of Marine Way and the Great Park. Regional vehicle access to the Project Site is from I-5 at Sand Canyon Avenue. Local vehicle access is via Marine Way to Ridge Valley. The Project Site is bordered by a property owned by Orange County to the northeast, which connects to I-5 through ramps to/from Sand Canyon Avenue. To the southwest, the Project Site is bound by the existing SCRRA Orange Subdivision ROW (Figure 3.17-1).

Pedestrian access to/from the Project Site would be available via public sidewalks on Marine Way. Bicycle access to/from the Project Site would be available via Class II bikeways on Marine Way.

Surface parking spaces are available in two parking lots of the Great Park are northeast of the site on the north side of Marine Way.

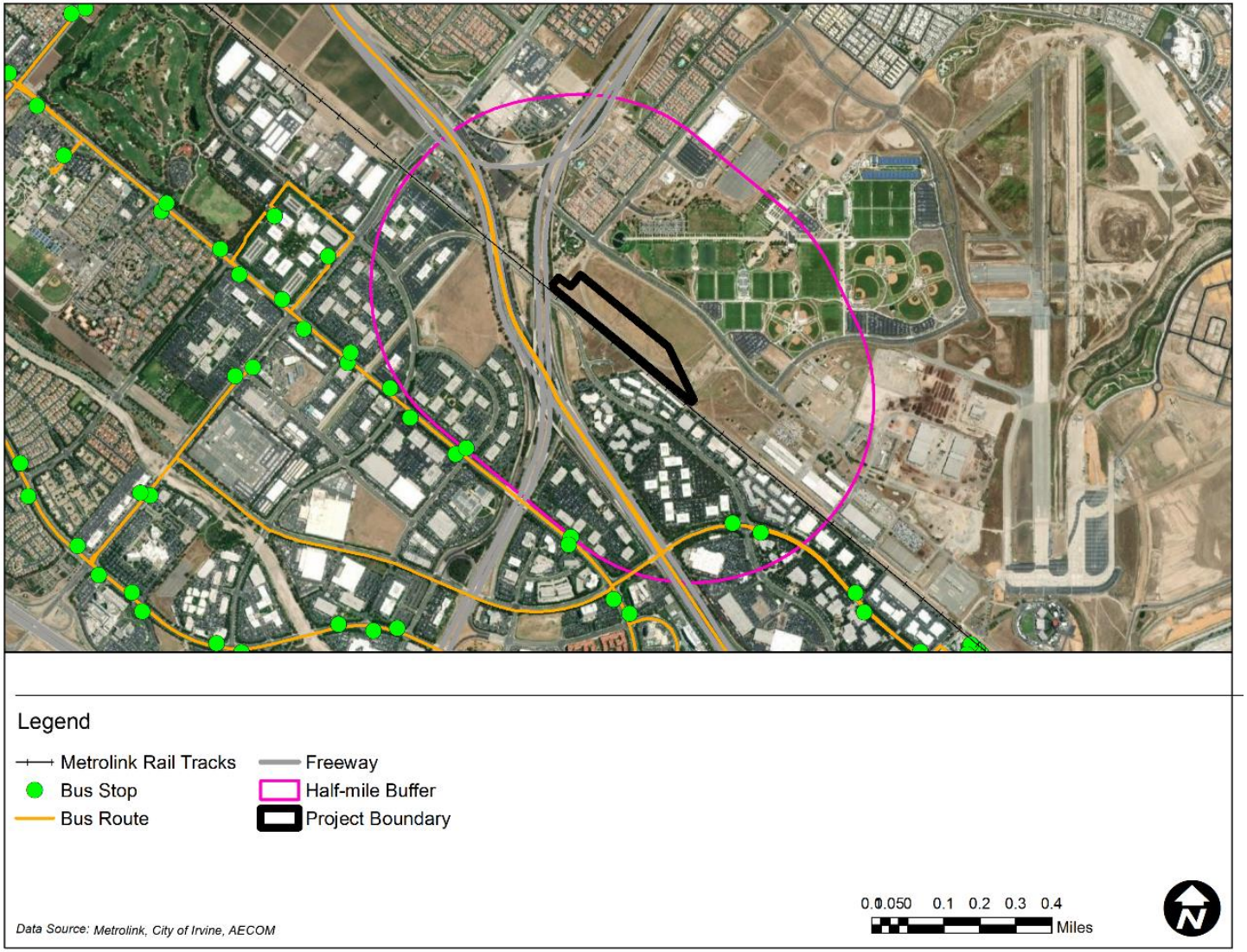
OCTA currently operates bus Routes 90, 402, and 403 in the vicinity of the Project Site, with four stops within 1.3 miles of the Project (Figure 3.17-2).

Figure 3.17-1: Roadway Network in the Project Site Vicinity



Source: AECOM, 2020

Figure 3.17-2: Transit Network in the Project Site Vicinity



Source: AECOM, 2020

3.17.2. Regulatory Framework

Local

City Standard Condition 3.17 (Emergency Access Plan) - An Emergency Access Plan will need to be submitted and approved by the Chief of Police, identifying and locating all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements.

City Standard Condition 4.9 (Emergency Access Inspection) - An inspection will need to be arranged prior to the Project opening, which is to be performed by the City of Irvine Police Department and OCFA, to ensure compliance with the Emergency Access Plan requirements. Test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan will need to be verified.

- The Project will also need to comply with the following City of Irvine municipal/zoning code items: Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities).
- Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 7 (North Irvine Transportation Mitigation Program).

Irvine Sustainability Community Initiative (Initiative Ordinance 10-11) - The Irvine Sustainability Community Initiative, adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy, and sustainability. For example, the City will continue to develop and implement participation in alternative transportation modes, including but not limited to alternate fuel, reduced emission or zero emission vehicles, mass transit services, carpooling, bicycling, and walking.

City of Irvine Engineering Standard Plans - The City's Engineering Standard Plans provide detailed requirements (e.g., dimensions, location) and illustrations for the design and construction of, among other things, roadways, driveways, curbs, raised medians, and sight distances.

City of Irvine Street Design Manual - All grading and improvement projects, whether public or private, are required to be designed in accordance with the City of Irvine Design Manual, Section 101 Street Design (2013). The Project will need to comply with the Design Manual since driveways and private roads will be added.

3.17.3. Discussion

3.17.3.1. Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Determination: LESS THAN SIGNIFCANT IMPACT

Construction Impacts

Transportation-related programs, plans, ordinances, and policies relevant to the Project are listed below:

- City of Irvine General Plan (Amended through June 2015)
- Connect SoCal (SCAG, 2020)
- OCTA Long-Range Transportation Plan (OCTA, 2018)
- City of Irvine Traffic Study Guidelines (City of Irvine, 2021)
- City of Irvine Transportation Design Procedures (City of Irvine, 2007)
- Orange County Foothills Bikeways Strategy (OCTA, 2016)
- City of Irvine Active Transportation Plan (City of Irvine, 2015)

During construction of the Project, a temporary increase in VMT is anticipated along the roadway network at the Project Site and along Marine Way and Ridge Valley due to construction activities.

No transit, freight, or pedestrian infrastructure is identified in the immediate vicinity of the Project Site. There are existing Class II bikeways along Marine Way and Ridge Valley. The construction of the Project would not require new or additional transit, freight, bicycle, or pedestrian infrastructure because the existing roadway network would provide sufficient construction access to the Project Site.

Therefore, no construction impacts related to the Project being in conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, freight, bicycle, and pedestrian facilities, would occur.

Operational Impacts

Level of Service (LOS) Impacts

The Project Site can be accessed by I-5 at Sand Canyon Avenue, supplemented by SR-133 for regional trips. Local access is primarily provided by Marine Way and Ridge Valley. The LOS of four intersections and three roadway segments were analyzed to determine the LOS deficiency resulting from the Project. The four intersections analyzed are:

1. Sand Canyon Avenue / I-5 Northbound Ramps
2. Sand Canyon Avenue / Marine Way
3. Sand Canyon Avenue / I-5 Southbound Ramps

4. Ridge Valley / Marine Way

The three roadway segments analyzed are:

A. Marine Way between Sand Canyon Avenue and Ridge Valley
B. Marine Way east of Ridge Valley
C. Ridge Valley between Great Park Boulevard and Marine Way

Table 3.17-1 summarizes the LOS for the four intersections analyzed under six scenarios during AM Peak hours and PM Peak hours, respectively. Table 3.17-2 summarizes the LOS for the three roadway segments analyzed under six scenarios.

Table 3.17-1: Summary of Traffic Effects (Intersection LOS) in OCTA Project Vicinity

Scenario	Time Period	Intersection LOS			
		Sand Canyon Ave./ I-5 NB Ramps	Sand Canyon Ave./ Marine Way	Sand Canyon Ave./ I-5 SB Ramps	Ridge Valley/ Marine Way
Existing Baseline	AM Peak	A	B	A	A
	PM Peak	B	A	A	A
Existing Baseline + Project	AM Peak	A	B	B	A
	PM Peak	B	A	A	A
Short-term Interim Year Alt 1	AM Peak	C	A	B	A
	PM Peak	D	C	C	A
Short-term Interim Year Alt 1 + Project	AM Peak	C	A	B	A
	PM Peak	D	C	C	A
Short-term Interim Year Alt 2	AM Peak	C	A	B	A
	PM Peak	C	A	C	A
Short-term Interim Year Alt 2 + Project	AM Peak	C	A	B	A
	PM Peak	C	A	C	A

Source: AECOM (2022)

Based on the results of the LOS analysis in Table 3.17-1 and Table 3.17-2, all study intersections and roadway segments would operate at acceptable LOS under all scenarios based on the City's LOS thresholds, with the exception of the segment of Marine Way between Sand Canyon Avenue and Ridge Valley, which would be deficient under Short-Term Interim Year Alternative 1, with and without the Project. However, a peak-hour link analysis indicates that this segment would operate at acceptable conditions based on peak-hour LOS, even with the addition of the Project. Therefore, the Project would not result in or substantially contribute to LOS deficiencies at any study intersections or roadway segments and no improvements are required.

Table 3.17-2: Summary of Traffic Effects (Roadway Segment LOS) in OCTA Project Vicinity

Scenario	Roadway Segment LOS		
	Marine Way between Sand Canyon Avenue and Ridge Valley	Marine Way East of Ridge Valley	Ridge Valley between Great Park Boulevard and Marine Way
Existing Baseline	D	A	A
Existing Baseline + Project	D	A	A
Short-term Interim Year Alt 1	F	A	A
Short-term Interim Year Alt 1 + Project	F	A	A
Short-term Interim Year Alt 2	A	A	A
Short-term Interim Year Alt 2 + Project	A	A	A

Source: AECOM (2012)

An analysis of the City of Irvine's Transportation Design Procedures (TDPs) was conducted to determine if the roadway modifications to provide direct access to the Project Site would satisfy the City's TDPs. The Transportation Technical Memorandum (Appendix H) concluded that all Project modifications comply with all applicable TDPs, including TDP-10 (Distance Between Driveways and Intersections), TDP-11 (Corner Clearance), and TDP-14 (Driveway Lengths).

Congestion Management Program Impacts

Table 3.17-3 indicates the Project's weekday daily trip generation to be 220. As a result, a VMT impact analysis is not required for the Project, in accordance with the project screening criteria established in Exhibit 8 of the City of Irvine Traffic Study Guidelines (City of Irvine, 2021).

Table 3.17-3: Project Trip Generation

Trip category	Vehicle Trips								
	Daily			AM peak hour			PM peak hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Worker commutes 80 employees	80	80	160	8	24	32	0	8	8
Fleet vehicles 10 vehicles	10	10	20	3	1	4	1	6	7
Other	20	20	40	3	3	6	3	3	6
Total	**110**	**110**	**220**	**14**	**28**	**42**	**4**	**17**	**21**

Notes: "Other" includes deliveries, visitors, and other ancillary traffic. No "other" trips are assumed during a.m. and p.m. peak hours.
Source: AECOM (2022)

The daily weekday trip generation of 220 is also below the general threshold of 2,400 daily trips for all development projects and the specific threshold of 1,600 daily trips for development projects with direct access to, or in proximity to, the Congestion Management Program (CMP) Highway System. Therefore, a CMP Traffic Study to determine the Project's consistency with the CMP is not required, in accordance with Exhibit 6 of the City of Irvine Traffic Study Guidelines (City of Irvine, 2021).

Freight

The Project would not contribute to increased traffic on the SCRRA Orange Subdivision,. Therefore, no operational impacts would occur related to the Project being in conflict with a program, plan, ordinance, or policy addressing the circulation system.

Bicycles

While the Project is a specialized use with limited access for the general public and would not be a major activity generator or attractor for bicycle activities, bicycle access would be provided by existing Class II bikeways along Marine Way, Ridge Valley, and Sand Canyon Avenue, as well as Class I bikeways along Sand Canyon Avenue (Sand Canyon Side Path) and within the Great Park and the surrounding neighborhoods. The Project would not physically alter existing bikeways, and the proposed modifications at the Ridge Valley / Marine Way intersection as part of the Ridge Valley extension would be designed in accordance with applicable standards to facilitate safe bicycle circulation at this location.

Bicycle infrastructure at the Project's operational phase conforms to Objective B-4 of the Circulation Element of the City's General Plan, which is to "plan, provide and maintain a comprehensive bicycle trail network that together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes."

Pedestrians

The Project would be considered a specialized use without access for the general public and would not be a major activity generator or attractor. Pedestrian circulation from the general public is not anticipated for the Project and therefore sidewalks would not be provided on the Ridge Valley extension. The Project would provide two sidewalk curb ramps on the Ridge Valley and Marine Way intersection. These modifications would generally support Objective B-3 and the three associated policies by providing safe, convenient, and direct pedestrian access. Proposed modifications would also be designed in accordance with applicable standards (such as City of Irvine street design standards and Americans with Disabilities Act [ADA] design standards) and would facilitate safe pedestrian circulation at this location.

Transit

As shown in Figure 3.17-2, there are no transit services in the immediate vicinity of the Project Site. The closest major route is OCTA's Route 90, with the closest stops located approximately 1.3 miles away from the Ridge Valley / Marine Way intersection. Supplemental peak-period-only bus service is provided by two OCTA Shuttle routes (402C and 403D) at Metrolink's Irvine Station. Route 402C is approximately 1.1 miles away from the Ridge Valley / Marine Way intersection and Route 403D is approximately 1.4 miles away from the Ridge Valley / Marine Way intersection.

These two routes are designed to connect Metrolink passengers with workplaces in the areas surrounding the station, and only operate in commute directions (departing the station during the a.m. peak period and arriving at the station during the p.m. peak period).

Given the above considerations, construction and operation of the Project would generally conform to and support—and not conflict with—programs, plans, ordinances, and policies addressing the circulation system, and the associated impacts of Project operation related to the regulatory setting would be less than significant.

3.17.3.2. Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction Impacts

During the construction phase of the OCMF, an increase of VMT induced by construction-related vehicular activities to and from the proposed OCMF is anticipated. However, these activities are not anticipated to generate a permanent increase in VMT. Therefore, construction impacts related to the Project being in conflict with CEQA Guidelines section 15064.3 subdivision (b) would be less than significant.

Operational Impacts

While some increase in localized VMT is anticipated due to vehicles traveling to and from the proposed OCMF, impacts resulting from increased VMT would be minor and would not generate a permanent increase in VMT. Therefore, operational impacts related to the Project being in conflict with CEQA Guidelines section 15064.3 subdivision (b) would be less than significant.

3.17.3.3. Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Determination: NO IMPACT

Construction and Operational Impacts

The Project would involve construction and operation of a new commuter rail storage and maintenance facility, along with associated trackwork and site access improvements.

There are no existing at-grade crossings along the SCRRA Orange Subdivision near the Project Site. The service tracks, storage tracks, access tracks, and run-around track would be constructed on the existing vacant land. The lead tracks and some set-out tracks would be constructed within the existing SCRRA ROW. The inside circulation, including at-grade crossings within the Project Site, would be designed to avoid geometric features that would increase hazards or incompatible uses. No new at-grade crossing or any permanent physical barriers on existing public streets would be created as part of the Project.

In addition, the design, construction, and operation of the Project would comply with applicable standards at the federal, state, and local level. Similarly, design, construction, and operation of site access improvements, including new roadways or modifications to existing roadways, would adhere to applicable standards such as the California Manual on Uniform Traffic Control Devices and the City of Irvine's standard plans and design guidelines. Design approval for specific Project components would be sought from the appropriate agencies as part of detailed design and subsequent stages of the Project.

Given these considerations, no construction or operational impacts related to hazards from geometric design features or incompatible uses would occur.

3.17.3.4. Would the Project result in inadequate emergency access?

Determination: NO IMPACT

Construction and Operational Impacts

Local vehicle access in the area is currently provided primarily by Marine Way and Ridge Valley. Emergency access to the Project would be through the extension of Ridge Valley on the northwest side of the Project Site. Although the emergency access would be on the west side

of the Project Site, the internal circulation design would ensure easy access to the east side of the Project Site.

The Project does not involve elimination of a through-route, nor does it involve the narrowing of a roadway. However, the Project would include the modification of the traffic signal at the existing Marine Way/Ridge Valley intersection for vehicles leaving the Project Site. The proposed access road and drive lanes extending from the existing Ridge Valley would be required to meet standards. The access road design for the Project must be coordinated with third-party stakeholders including but not limited to the County of Orange, City of Irvine, IRWD, and Heritage Fields LLC. The design also needs to comply with all building, fire, and safety codes, and plans are subject to review and approval by the City of Irvine's Public Works and the Transportation Departments, the Building Division, and OCFA. Any temporary roadway closures would be coordinated with local agencies to minimize any disruptions to the circulation system, including to emergency vehicle response.

Given these considerations, no construction or operational impacts related to the Project resulting in inadequate emergency access would occur.

3.18. TRIBAL CULTURAL RESOURCES

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:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.18.3.1	Listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k) or	☐	☒	☐	☐
3.18.3.2	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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1. Existing Conditions

No resources eligible for listing in the NRHP, CRHR, or local register were identified during the course of the archival research or archaeological survey. No potential tribal cultural resources were identified during the courses of archival research or the archaeological survey.

On July 8, 2020, AECOM contacted the Native American Heritage Commission (NAHC) and requested the Sacred Lands File be searched for documented sacred sites within the APE or its vicinity. The NAHC responded in a letter dated July 9, 2020. According to the NAHC letter, “The results were positive [meaning that there are known sacred lands or resources in the vicinity of the APE]. Please contact the Juaneno Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information.” The response also included a list of 11 Native American representatives of nine State-recognized tribal governments who may have interest in and knowledge of resources that may be impacted by the Project.

OCTA contacted each of the tribal contacts by mail on June 2, 2021, to invite them to consult under both AB 52. One of these letters was returned by the U.S. Postal Service as undeliverable. Follow-up emails were sent on June 30, 2021, to each tribal contact who did not respond to the mailing.

To date, one tribal representative has responded to the request for AB 52 consultation. Chairperson Andrew Salas of the Gabrieleno Band of Mission Indians-Kizh Nation requested a meeting with OCTA to discuss his tribe's concerns regarding the project. On September 9, 2021, a meeting was held between OCTA representatives and Chairperson Salas and Tribal Archaeologist John Torres representing the Kizh Nation. At the meeting, Chairperson Salas expressed that the Project APE is sensitive for buried tribal cultural resources. He pointed out that his tribe, and his family in particular, have ties to the region. He noted that railroads often followed traditional Native American trails, and also observed that military bases often encompassed ancient village sites. Moreover, he informed OCTA that his monitors are currently involved in projects elsewhere in the Irvine area where buried human remains were identified by his tribal monitors. Chairperson Salas recommended tribal monitoring during ground-disturbing activities in order to identify and protect any tribal cultural resources that may exist within the APE. Chairperson Salas provided OCTA with more historical information regarding the general project region, the project APE, as well sample language to help guide mitigation measures to be developed for this project.

3.18.2. Regulatory Framework

State

CEQA - CEQA was modified in 2014 with the passage of AB 52. AB 52 established a new category of protected resources in CEQA called tribal cultural resources. The purpose of establishing this new category of resources is to consider tribal cultural values in addition to scientific and archaeological values when determining project impacts and mitigation measures during the planning process.

Assembly Bill 52 - AB 52 recognizes that "California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because the California Environmental Quality Act calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

According to PRC Section 21074, tribal cultural resources consist of either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

   (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Additionally, PRC Section 21080.3.1 was also added to the Public Resources Code by Assembly Bill 52. Section 21080.3.1 recognizes that California Native American tribes which are traditionally and culturally affiliated with a geographic area may have expertise regarding potential tribal cultural resources that may be impacted by proposed projects. Section 21080.3.1 also mandates that a lead agency consult with geographically and culturally affiliated Native American tribes prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project in order to identify potential impacts to tribal cultural resources and, if necessary, craft mitigation measures to reduce impacts to tribal cultural resources.

3.18.3. Discussion

3.18.3.1. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Determination: LESS THAN SIGNIFCANT WITH MITIGATION INCORPORATED

Construction Impacts

A resource is generally considered "historically significant" if the resource meets at least one of the four criteria for listing in the CRHR (PRC Section 5024.1[a]). The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR evaluation criteria are similar to NRHP criteria. For a property to be eligible for inclusion in the CRHR, it must meet one or more of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage;
- It is associated with the lives of persons important in California's past;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- It has yielded, or may be likely to yield, important information in prehistory or history.

An archival records search for the Project Site was conducted at the SCCIC. Previously conducted cultural resources investigations and previously identified cultural resources were reviewed as part of this investigation. A half-mile radius around the Project Site was examined. Archival research indicates that the entire Project Site has been previously studied. A pedestrian survey was conducted within all portions of the Project Site to identify and record cultural resources that are at least 45 years old and evaluate any discovered resources for historical significance based on criteria for listing in the CRHR.

In the course of the archival research, one previously-recorded Venus shell fragment was identified within the Project Site (P-30-100372), refer to Section 3.5.3.2. The resource was not relocated during the survey. The clam shell fragment may or may not have been deposited as a result of Native American use of the Project Site. As described in detail above, a resource is generally considered "historically significant" if the resource meets at least one of the four criteria for listing in the CRHR (PRC Section 5024.1[a]). Isolated resources such as the shell fragment are by their nature generally not eligible for inclusion in the CRHR and therefore are not considered cultural resources for the purposes of CEQA. It is therefore by definition not a tribal cultural resource unless additional "substantial evidence" provided during tribal consultation indicates that it possesses significance to a California Native American Tribe.

The subsurface investigations conducted to identify potential buried archaeological resources was negative. However, Native American consultation indicates that the Project area has a heightened sensitivity for potential buried tribal cultural resources.

Project construction requires ground-disturbing activities that have the potential to impact archaeological resources that may be eligible for inclusion in the NRHP, CRHR, or local register. Most of the Project's three-dimensional area of direct impact has been previously disturbed by past farming or by the construction and use of MCAS El Toro. However, unknown archaeological resources may be encountered during ground-disturbing activities associated with the Project, with the sensitivity for archaeological resources increasing with depth.

Mitigation Measures TCR-1 and TCR-2 would be implemented during construction. With the implementation of Mitigation Measures TCR-1 and TCR-2, construction impacts to archaeological tribal cultural resources would be less than significant.

- **MM-TCR-1: Native American Monitoring.** Prior to construction, OCTA shall retain a qualified Native American monitor, with preference given to the consulting Native American tribes. The CRMDP described in MM-CUL-2 will define the scope of Native American monitoring and will be prepared with the input of the consulting Native American tribe(s). The monitoring plan will define pre-construction coordination, archaeological and tribal construction monitoring for the excavations based on activities, and depth of disturbance planned for each Project component. The CRMDP will define the role and responsibilities of the Native American monitor and identify thresholds where additional consultation with Native American tribe(s) is required.

- **MM-TCR-2: Unanticipated Discovery of Tribal Cultural Resources.** If prehistoric or ethnohistoric cultural resources are encountered during the course of construction, the consulting Native American tribe(s) will be consulted as to the significance and treatment of these resources. OCTA will determine whether the resources constitute tribal cultural resources in consultation with the Native American tribe(s) and if necessary, a mitigation plan will be prepared.

Operational Impacts

Operation of the OCMF would result in the complete excavation of the Project Site. Operation of the OCMF is not anticipated to result in the disturbance of any native soils. Therefore, no operational impacts would occur related to tribal cultural resources.

3.18.3.2. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource that is 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Determination: LESS THAN SIGNIFCANT WITH MITIGATION INCORPORATED

OCTA contacted the NAHC and requested that a Sacred Lands File (SLF) search be conducted for the Project Site. The NAHC responded in a letter dated July 9, 2020, and stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Juaneno Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites." The response included the names and contact information for eleven Native American representatives who may have knowledge of and interest in tribal cultural resources located within the Project Vicinity and Project Site.

On June 2, 2021, the eleven Native American representatives were notified by mail of the project and invited to consult. One Native American representative, Chairperson Andrew Salas of the Gabrieleno Band of Mission Indians—Kizh Nation responded by letter on June 18, 2021, and requested formal consultation.

To date, one tribal representative has responded to the request for AB 52 consultation. Chairperson Andrew Salas of the Gabrieleno Band of Mission Indians-Kizh Nation requested a meeting with OCTA to discuss his tribe's concerns regarding the project. On September 9, 2021, a meeting was held between OCTA representatives and Chairperson Salas and Tribal Archaeologist John Torres representing the Kizh Nation. At the meeting, Chairperson Salas expressed that the Project APE is sensitive for buried tribal cultural resources. He pointed out that his tribe, and his family in particular, have ties to the region. He noted that railroads often followed traditional Native American trails, and also observed that military bases often encompassed ancient village sites. Moreover, he informed OCTA that his monitors are currently involved in projects elsewhere in the Irvine area where buried human remains were identified by his tribal monitors. Chairperson Salas recommended tribal monitoring during ground-disturbing activities in order to identify and protect any tribal cultural resources that may exist within the APE. Chairperson Salas provided OCTA with more historical information

regarding the general project region, the project APE, as well sample language to help guide mitigation measures to be developed for this project. Consultation is ongoing.

Background research and Native American consultation have not identified specific resources within the Project Site that may be tribal cultural resources. However, tribal consultation indicates that there is a high probability that resources that may be considered tribal cultural resources exist within the Project Site.

Due to the Project APE's sensitivity, an XPI study was also conducted to probe the APE for subsurface archaeological deposits. No resources were identified during the execution of the XPI for this project. Although the entire Project APE has been subject to surficial ground disturbance including farming and the construction of Marine Corps Station El Toro and despite the negative findings of the XPI, the likelihood of encountering native sedimentary deposits that may preserve significant archaeological remains increases with depth. With the implementation of Mitigation Measures CUL-2, construction impacts to archaeological tribal cultural resources would be less than significant.

Construction Impacts

No tribal cultural resources were identified within the Project Site as a result of background research or Native American consultation. However, Project construction requires ground-disturbing activities that have the potential to impact archaeological resources that may be eligible for inclusion in the NRHP, CRHR, or local register, or that may otherwise be of significance to a California Native American tribe. Unknown archaeological resources may be encountered during ground-disturbing activities associated with the Project, with the sensitivity for archaeological tribal cultural resources increasing with depth.

Compliance with TCR-1 would ensure tribal input is included in the treatment and final disposition of any resources of Native American origin encountered during ground-disturbing activity.

Operational Impacts

Operation of the OCMF would result after the complete excavation of the Project Site. Operation of the OCMF is not anticipated to result in the disturbance of any additional native soils. Therefore, no operational impacts would occur related to archaeological resources that may be tribal cultural resources.

3.19. UTILITIES AND SERVICE SYSTEMS

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.19.3.1	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
3.19.3.2	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
3.19.3.3	Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
3.19.3.4	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?	☐	☐	☐	☒
3.19.3.5	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1. Existing Conditions

The Project Site is adjacent to existing water, sewer, storm, gas, and underground electrical and communication lines on Ridge Valley, Marine Way, and Skyhawk. IRWD owns several water facilities including a 12-inch PVC potable water mainline on Marine Way and multiple PVC reclaimed water lines that tie into a shallow groundwater unit (SGU) pump next to the northeast corner of the Project Site. Additionally, a six-inch reclaimed water line is located approximately 80-feet from the westerly edge of the site. There are 12-inch and 24-inch IRWD sewer lines located on Ridgeway Valley and Skyhawk that transverse underneath the Metrolink ROW. Bee Canyon Channel and other storm drain lines of varying sizes run on Ridge Valley and Skyhawk. An SCE duct bank and 30-inch SCG line runs parallel with the railroad track alignment within the SCRRA Orange Subdivision ROW is south of the proposed OCMF perimeter road.

Some existing and abandoned utilities are within the Project Site. Metrolink's Composite Utility Plan suggests that one 24-inch corrugated metal pipe storm drain would require removal (Figure 3.19-1). A sanitary sewer line, a 30-inch SCG gas line, and a 2-inch MCI communication (subsidiary of Verizon) conduit line would require protect-in-place measures. Two DON groundwater monitoring wells exist on the Project Site; one well would require relocation.

Utility as-builts (Figure 3.19-2) from IRWD show multiple sewer and storm drain manholes that can serve as future connections for the Project. Similarly, a water service feed stub-out wye from the 12-inch IRWD waterline on Marine Way is oriented towards the Project Site and can serve as a future connection point.

The regulatory framework set forth by the State of California and the City of Irvine would require the Project to implement waste reduction detailed in the Regulatory Framework Section below. The Project encompasses over 5,000 square feet and would be subjected to the City's Pre-Project Waste Management Plan per City Council Ordinance No. 07-18.

3.19.2. Regulatory Framework

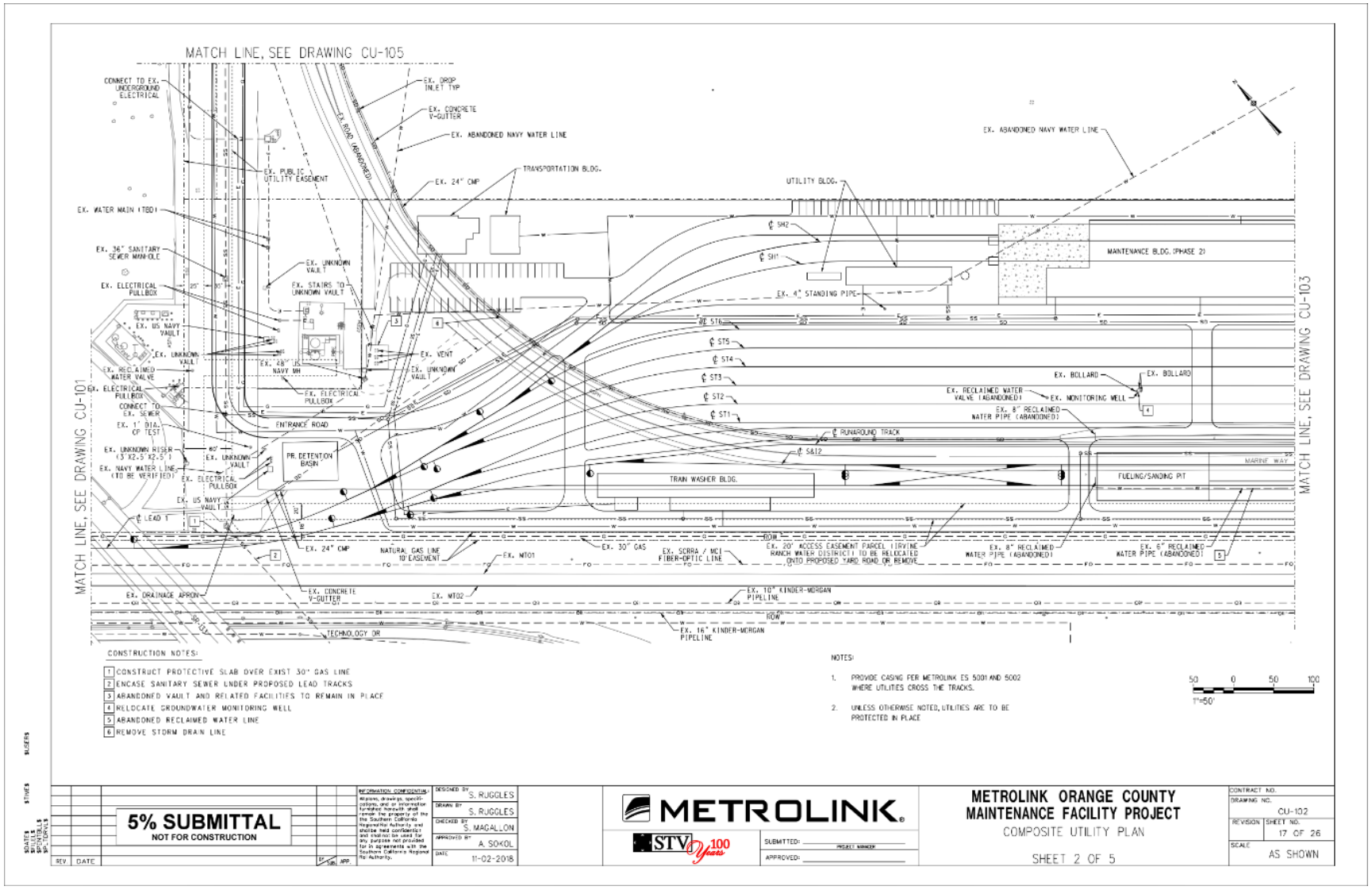
State

Integrated Solid Waste Management Act (AB 939) - AB mandates each city and county to develop and implement waste reduction and recycling plans. AB 939 requires all jurisdictions to divert 50 percent of solid waste generated (as compared to 1990 levels) from landfills by the year 2000.

Local

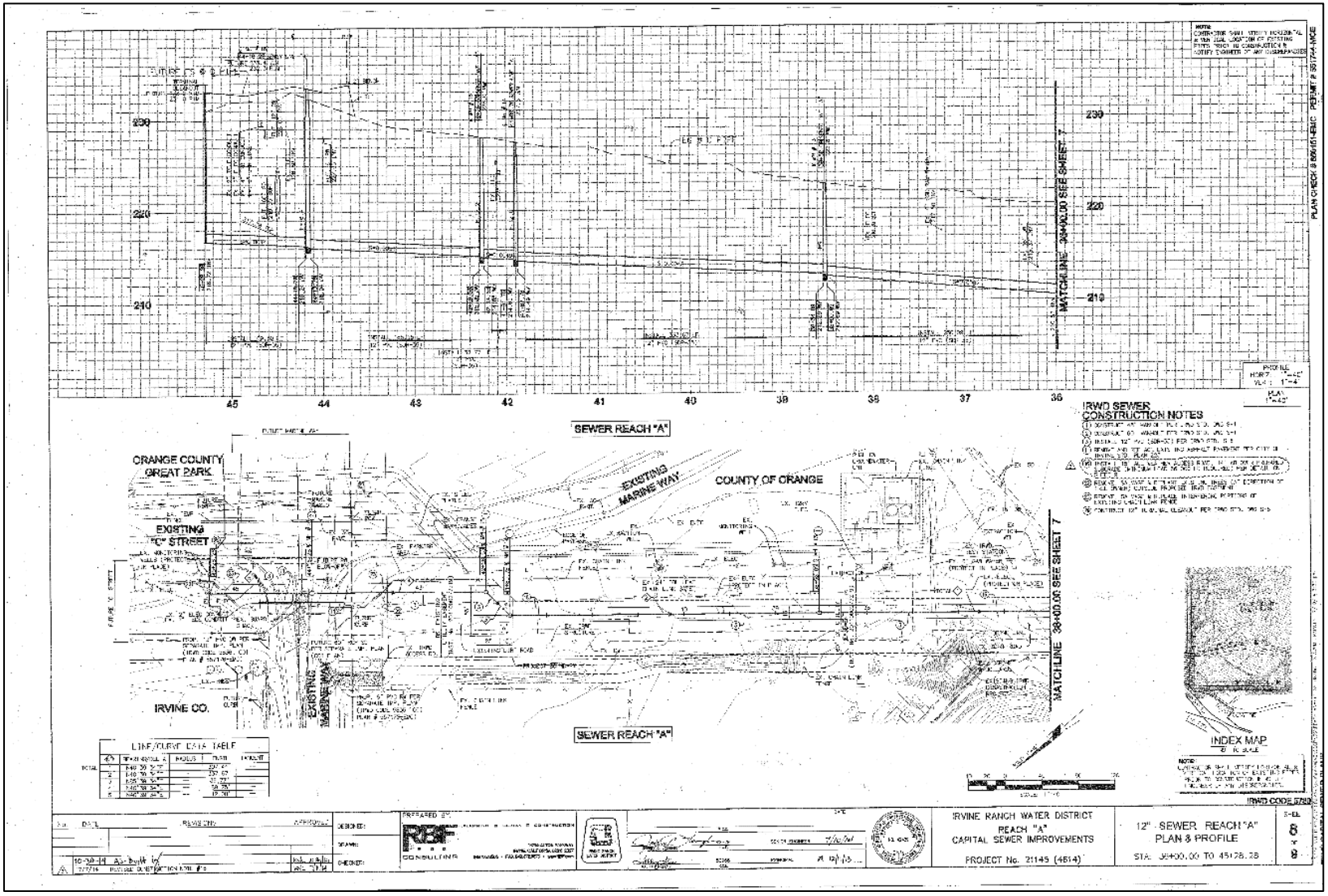
Irvine City Council Ordinance No. 07-18 - Projects involving new non-residential development of at least one structure with a Project Site of 5,000 square feet or greater require a Pre-Project Waste Management Plan (WMP) from the City of Irvine Department of Public Works. The ordinance requires the City of Irvine to implement source reduction and recycling plans to reach landfill diversion goals to regulate the volume of waste materials going to landfills and to otherwise remain in compliance with AB 939. The ordinance requires at least 75 percent of all concrete and asphalt construction and demolition debris and 50 percent of all other construction and demolition debris generated by an approved Project to be delivered to a material recovery facility, wherein the material would be recycled or diverted from landfills.

Figure 3.19-1: Metrolink Composite Utility Plan



Source: Metrolink, 2019

Figure 3.19-2: IRWD Capital Water Line Improvement As-Builts



Source: IRWD, 2014

3.19.3. Discussion

3.19.3.1. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project would require the relocation of existing drainage facilities as well as the installation of new drainage infrastructure for new storage and grading needs. It is anticipated that new or expanded water or stormwater drainage for the Project would tie into existing City and County facilities within the Project Site. Additionally, existing electrical, natural gas, and telecommunication facilities would require protect-in-place measures. In addition to typical fire service (hydrant) and sanitary facilities, other project needs include the expansion of water, gas, and sanitary services for proposed train wash operations and emergency fixtures (safety shower/eyewash), which would tie into existing facilities located along the permitter of the Project Site.

Sanitary waste would be generated during construction activities and for building facilities during operation. As such, the construction of new underground wastewater pipes would occur as part of this Project. Michelson Water Recycling Plant in Irvine has been IRWD's primary source of recycled water for more than half a century. Tertiary treatment of sewage there results in excellent-quality recycled water, which is used for landscape and agricultural irrigation, and for industrial and commercial needs. IRWD is currently developing a new master plan that will identify optimal locations and methods for conveying, treating, and distributing sewage and recycled water within their service area. This includes an evaluation of expanding the capacity at Michelson Water Recycling Plant. As mentioned above, a water service feed stub-out wye from the 12-inch IRWD waterline on Marine Way is oriented towards the Project Site and can serve as a future connection point for sewer or wastewater drainage. As such, connections to this existing line would minimize construction of new or expanded wastewater facilities. Therefore, construction or operational impacts related to new wastewater drainage systems would be less than significant.

The Project would require the construction of new stormwater drainage facilities within the Project Site with the development of the access road and buildings. As such, a stormwater drainage system would be constructed to provide drainage for stormwater from the access road and other maintenance facility amenities. Because the Project is located within the SARWQCB's jurisdiction, it shall follow the Model WQMP that the OCFCD uses to address post-construction urban runoff and stormwater pollution from new developments or significant redevelopments. Additionally, the Project is within the Upper San Diego Creek Watershed, which is a high-risk receiving watershed. The San Diego Creek Reach 2 has established TMDLs

that need to be considered during the development of the WQMP. Based on this, the preferred BMP type would be infiltration, evapotranspiration, or harvest/use. Therefore, the Project would integrate a 115-foot by 115-foot by 5-foot deep underground cistern that would hold approximately 552,254 gallons for retention and capture/reuse.

The existing topography of the Project Site provides a drainage pattern that slopes from east to west. Runoff is collected at the surface via open earth channels and concrete drainage inlets and is then routed to the north end of the site through two 24-inch corrugated steel pipes. Runoff leaves the site through an open concrete channel and empties downstream into a channel owned by OCFCD. The Bee Canyon Channel, located on the south end of the site, runs east to west and does not take runoff from the Project Site. It is anticipated that this existing drainage pattern would not be altered or rerouted after the development of the OCMF. The existing outlet discharges and volumes would also be maintained so that the OCFCD facilities are not impacted. Prior to construction, a drainage analysis shall be performed to establish the Project requirements in order to establish the correct sizing of the drainage facilities. Implementing standard construction practices such as Best Available Technology Economically Feasible (BATs), Best Conventional Pollutant Control Technology (BCTs), and BMPs would help reduce potential impacts related to stormwater drainage systems. Therefore, construction or operational impacts related to new stormwater drainage systems would be less than significant.

As discussed in the Project Description, the Project would reprofile Bee Canyon Channel. This will result in a lower Hydraulic Grade Line and a 2.5-feet channel drop at the inlet of the 60-inch reinforced concrete pipe lateral to the channel. An existing 30-inch SCG crosses the storm drain perpendicularly and would require relocation and/or protect in place measures to maintain vertical clearance from the invert of the storm drain. The Project would require the construction of electrical and telecommunication facilities, such as lighting, wireless security cameras, and information panels. However, construction or operational impacts related to the expansion of electrical and telecommunication facilities would be minimal and less than significant.

3.19.3.2. Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Determination: <u>NO IMPACT</u>

Construction and Operational Impacts

IRWD provides water supply for areas within the Project Site and for more than 370,000 residents in its service area. IRWD's drinking water comes from two primary sources: local groundwater and imported water. The blending of these sources varies according to the time of year and the geographic location within the IRWD. Approximately 48 percent of the overall supply comes from local groundwater wells in the Orange County Groundwater Basin, and the

Irvine and Lake Forest sub-basins. The Dyer Road Wellfield Project extracts low-cost, high-quality water from deep within the Orange County Groundwater Basin. IRWD now operates 25 groundwater wells within its service area. IRWD imports 27 percent of its water through the Municipal Water District of Orange County, which purchases water from the Metropolitan Water District of Southern California (MWD), a regional water wholesaler that delivers imported water from Northern California and the Colorado River.

Additionally, IRWD produces approximately a quarter of the recycled water supply by capturing water that normally would run out to the ocean, treating it, and reusing it for irrigation and other non-potable, or non-drinking, uses. IRWD supplements their supplies by cleaning non-potable groundwater to make it suitable for irrigation.

IRWD manages its supply and demand with careful research and analysis regarding flow, diversions, climate, customer demand, and population estimates to ensure an adequate supply of clean, reliable water well into the future. Since future land use within the Project Site is designated for the Great Park use, it is assumed sufficient water supplies would be available to serve the Project and future developments during normal, dry and multiple dry years.

During Project operations, water irrigation would be required for landscape within the Project Site and for train washing activities. In addition, the proposed OCMF would require onsite irrigation that would be tied to an existing recycled water main line located on Ridge Valley. Domestic water requirements are estimated under 250 gallons per minute (gpm) and would require a two to four-inch connection line to an existing 12-inch water main line on Marine Way, which would adequately support the project needs. Therefore, no construction or operational impacts related to having sufficient water supplies would occur.

3.19.3.3. Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Determination: NO IMPACT

Construction and Operational Impacts

As described under Impact 3.19.3.1, the Project would generate wastewater from building facilities with restrooms, as well as for train washing. As described under Impact 3.19.3.1, the Project would require the construction of new underground wastewater pipes, that would tie into existing utilities located on Marine Way. A 12-inch sewer line and a 24-inch IRWD sewer line are located on Ridge Valley and Skyhawk, and transverse underneath the SCRRA Orange Subdivision ROW. A water service feed stub-out wye from a 12-inch IRWD waterline on Marine Way is oriented towards the Project Site, which can serve as a future connection point.

Wastewater produced by restrooms would not likely exceed existing capacity. Wastewater was estimated under 150 gpm and would be connected to the existing 12-inch sanitary sewer main line fronting the property on Ridge Valley via a proposed four to eight-inch service line. Water and service connection requirements are being coordinated with the IRWD and OCFA. As such, no construction or operational impacts would occur that would result in a determination by the wastewater treatment provider that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

3.19.3.4. Would the Project 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?

Determination: NO IMPACT

Construction and Operational Impacts

During Project construction and operations, waste would be disposed of by using bins for both recycling and waste material in compliance with IRWD, local, state, and federal criteria, standards, regulations, or laws, and would be disposed of through a commercial collector. Solid waste collected during construction within the Project Site would be sent to the Prima Deshecha Landfill approximately 20 miles south in the City of San Juan Capistrano within Orange County. Any contaminated soil removed from the Project Site as a result of grading activities would require testing by California ELAP Certified Laboratories for amounts more than 5 cubic yards. The laboratory would submit a report to a Materials Regulation Specialist who would review the lab results and determine if the soil meets criteria for disposal. The landfill is owned and operated by Orange County. The total acreage permitted is 1,530, with 697 acres designated for waste disposal. The Prima Deshecha landfill has a projected capacity to serve residents and businesses until approximately 2102. As such, there is adequate capacity at the landfill site within Orange County to dispose of solid waste from Project construction. The Project would need to notify the appropriate agencies (e.g., OCHCA, DTSC, or the RWQCB) since soil and groundwater contamination is possible due to the MCAS El Toro site.

As discussed in Section 3.10 Hydrology and Water Quality, the Project would be required to obtain the NPDES General Construction Permit, which requires that the Project develop and implement a SWPPP as the primary compliance mechanism. The SWPPP would include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

During Project operations, solid waste would be collected by underground pipes that would connect to existing utilities on Marine Way that would transfer wastewater from the Project Site. The Project would also be required to divert (recycle) 50 percent of the solid waste generated by both construction and operation to comply with the 50 percent solid waste diversion rate mandated by the California Integrated Waste Management Act of 1989 (AB

939). Additionally, monitoring of the Project WQMP and the integration of BMPs would reduce impacts related to solid waste. As such, no construction or operational impacts would occur that exceed state or local standards, including excess capacity of local infrastructure that would impair the attainment of solid waste reduction goals.

3.19.3.5. Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Determination: NO IMPACT

Construction and Operational Impacts

As described in Impact 3.19.3.1 through Impact 3.19.3.4 above, construction and operation of the Project would meet the requirements of applicable federal, state, and local statutes for regulating solid waste. This is accomplished by implementing BATs, BCTs, and BMPs, as well as applying for all the required water and disposal permits from the City and County for construction and operation permits. Therefore, no construction or operational impacts related to compliance with federal, state, and local statutes and regulations related to solid waste would occur.

3.20. 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 with Mitigation Incorporated	Less Than Significant Impact	No Impact
3.20.3.1	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
3.20.3.2	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?	☐	☐	☒	☐
3.20.3.3	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?	☐	☐	☒	☐
3.20.3.4	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slop instability, or drainage changes?	☐	☐	☒	☐

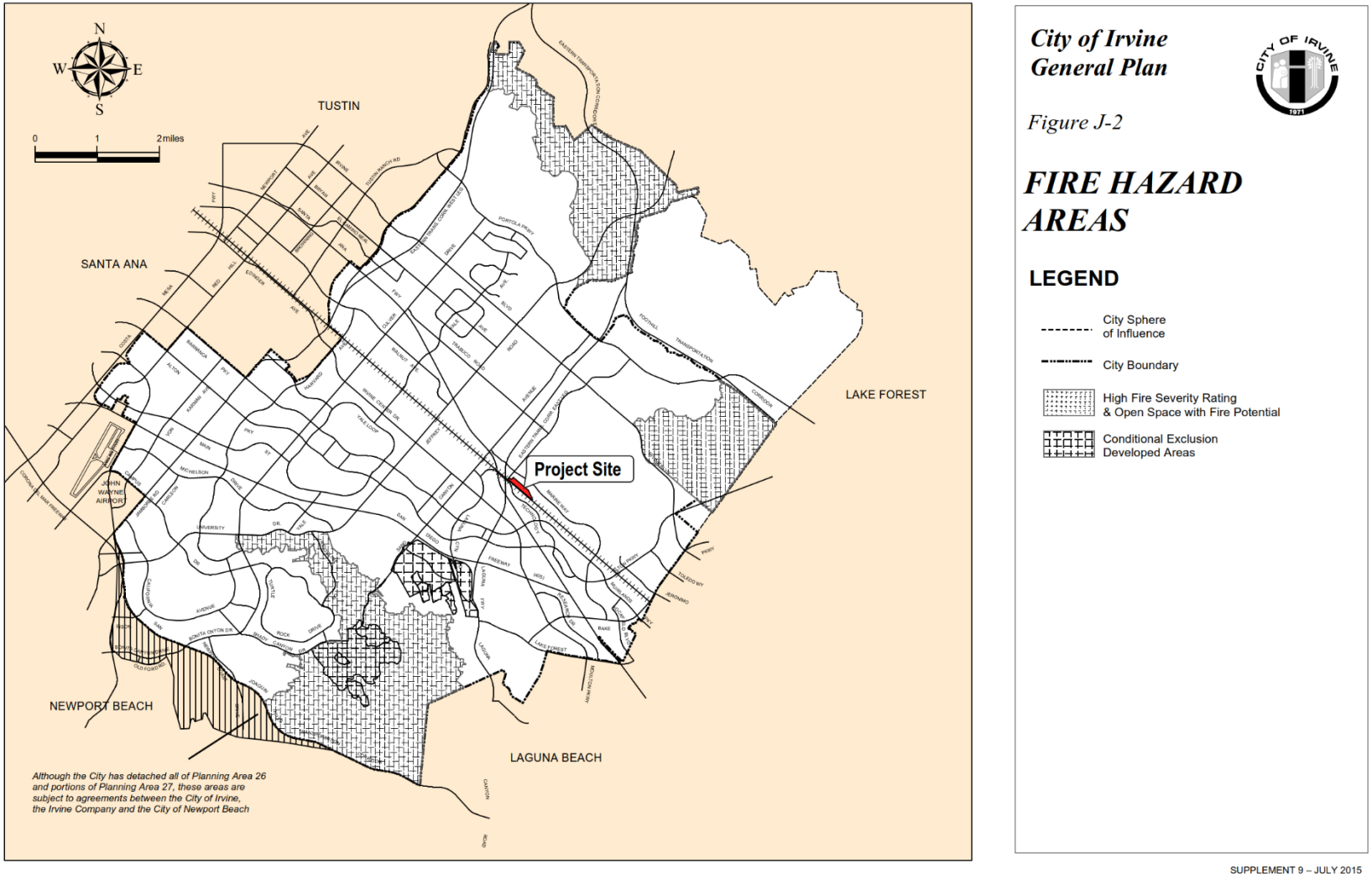
3.20.1. Existing Conditions

According to the City of Irvine General Plan's Safety Element, the Project Site is not within fire hazard areas (Figure 3.20-1). Additionally, according to the CAL FIRE Fire and Resource Assessment Program, the Project Site is not within or near a Very High Fire Hazard Severity Zone of a State or Local Responsibility Area (Figure 3.20-2).

The Project Site is located in a developed portion of the City. According to the track plan and profile developed for this Project, the Project Site is relatively flat (up to 2 percent grading) and there are no significant slopes adjacent to the site. The Project does not include any characteristics (such as permanent road closure or long-term blocking of road access) that would physically impair or otherwise conflict with the City's Emergency Preparedness Program.

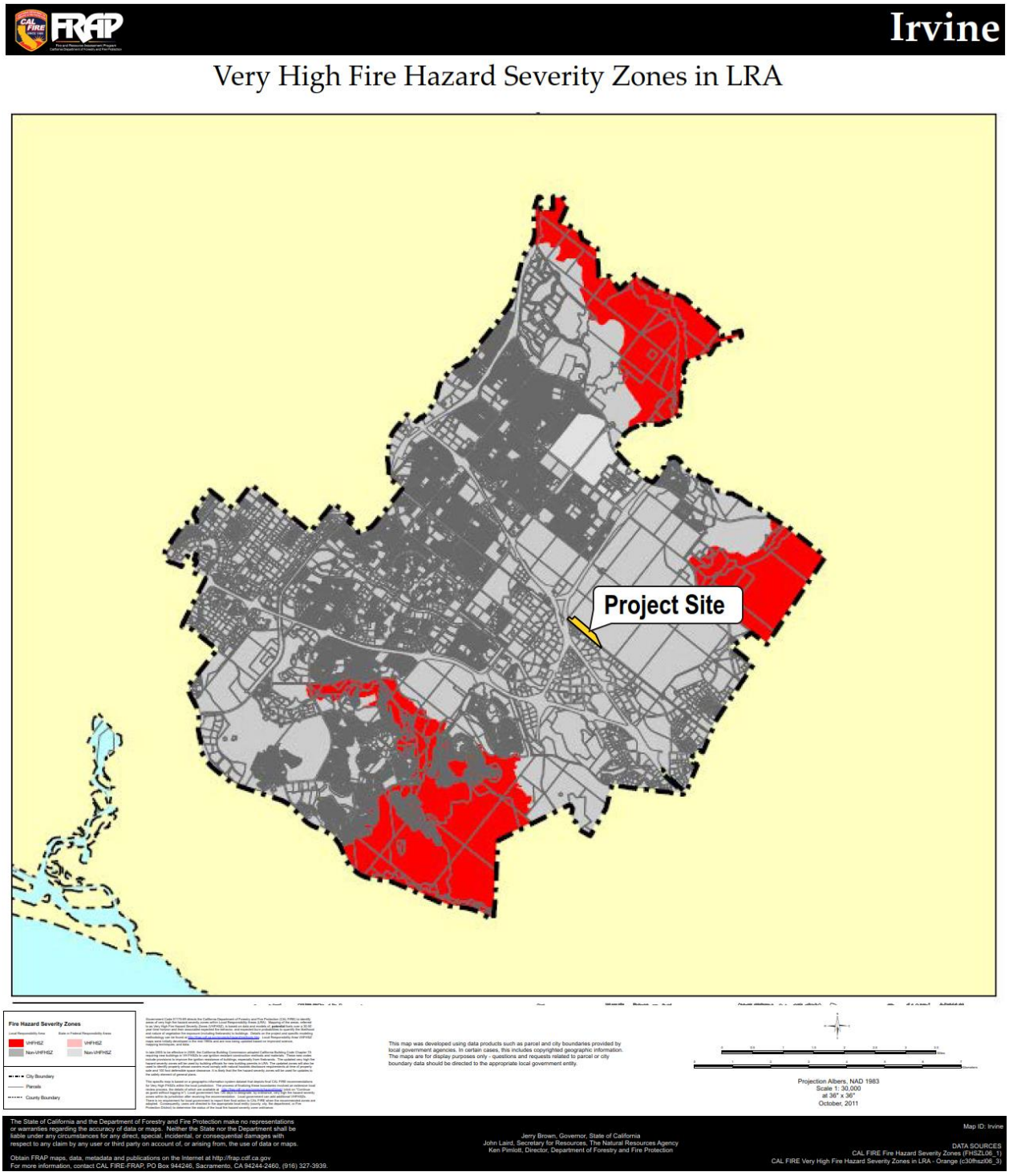
The Project is in an urbanized area and would require wet and dry utilities service connections from existing mainlines in the vicinity of the Project Site. In addition, a 30-inch SCG line runs longitudinally along the east edge of the railroad ROW. The extension of the tracks to and from the Project Site would necessitate a crossing of the line. Appropriate protect-in-place details incorporated into the track design would be required and coordinated with the utility owner.

Figure 3.20-1: City of Irvine Fire Hazard Areas



Source: City of Irvine, 2015

Figure 3.20-2: City of Irvine Very High Fire Hazard Severity Zones in LRA (CAL FIRE)



Source: Office of the State Fire Marshal, 2011

Moreover, the Project Site is not in a flood hazard zone according to the Safety Element of the General Plan; based on the FEMA Flood Insurance Rate Map (FIRMs) (panel number 06059C0315J, dated December 3, 2009), the Project Site is within Zone X, which is defined as an area of minimal flooding.

3.20.2. Regulatory Framework

State

California Fire Plan - The Project would comply with terms where applicable as listed in the California Fire Plan, which is a roadmap for reducing the risk of wildfire through planning and prevention.

Regional

County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan - The County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan promotes "sound public policy designed to protect residents, critical facilities, infrastructure, key resources, private property, and the environment from natural hazards in County unincorporated area, fire hazards in the OCFA service area, and County and OCFA owned facilities."

Orange County Fire Authority - OCFA has set forth fire prevention guidelines in the Fire Master Plans for Commercial and Residential Development Guideline B-09. The document is a general guideline 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 2016 California Fire and Building Codes and as amended by local ordinance.

Local

City of Irvine Standard Condition 4.9 (Emergency Access Inspection) - An inspection would need to be arranged prior to the Project opening, which is to be performed by the Police Department and OCFA, to ensure compliance with the Emergency Access Plan requirements. Test acceptance and locations of all Knox boxes, key switches, and Click2Enter devices as depicted on the approved plan would need to be verified.

City of Irvine the Irvine Uniform Security Code Sec. 5-9-518. Special parking facilities provisions:

Structures or fencing designed to screen trash enclosures from public view shall be designed with no more than three solid walls and (an) access gate(s). They shall be designed in such a manner as to allow a maximum of six inches clearance between trash bins, walls and gates.

Exterior pedestrian doors which provide access into the parking facility, shall be constructed and equipped as follows:

1. A minimum 18-gauge steel and equipped with automatic hydraulic closure device.

2. A minimum 100-square-inch vision panel, with the width not less than five inches, to provide visibility into the area being entered. Vision panels shall meet requirements of the Uniform Building Code.
3. Vision panels shall preclude manipulation of the interior locking device from the exterior.
4. No openings within twenty-four inches of the locking device which would allow a piece of metal, 1/16-inch diameter or greater to be inserted and access gained to the interior side of the door.
5. When panic hardware is required, it shall have a self-locking mechanism and be constructed/equipped.
6. Emergency exits not intended as a primary entrance shall have no exterior handles, knobs, or levers.
7. Hinges shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins.

Sec. 5-9-519. Emergency access:

Private roads and parking areas or structures controlled by unmanned mechanical parking type gates shall provide for police emergency access utilizing an approved key switch device and designed as follows:

1. A control pedestal consisting of a metal post/pipe shall be installed at a height of 42 inches and a minimum of 15 feet from the entry/exit gate. It shall be located on the driver's side of the road or driveway and accessible in such a manner as to not require a person to exit their vehicle to reach it; nor to require any back-up movements in order to enter/exit the gate.
2. A control housing consisting of a heavy gauge metal, vandal and weather resistant square or rectangular housing which shall be installed on the top of the control pedestal. The key switch is to be mounted on the side facing the roadway.

Nonresidential multi-tenant buildings utilizing electronic access control systems on the main entry doors, and enclosed retail shopping centers shall provide police emergency access utilizing an approved key switch-device or approved key vault which shall be installed as follows:

1. All doors using an electromagnetic type lock shall install a key switch device within the building's exterior telephone/intercom console or in a control housing as described in section (a)(2) above, located within close proximity and in a visible area near the door.
2. Exterior main entry doors of an enclosed shopping center utilizing mechanical door locks shall install a key vault within close proximity and in a visible area near the door.

City of Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations) - The code provides regulations on the state fire code with local considerations, which would require compliance.

City of Irvine Local Hazard Mitigation Plan - The Plan provides a comprehensive assessment of threats that the City faces (both natural and man-made), as well as an assessment of the current conditions. The Project would comply with the strategy developed as part of this plan to lessen the vulnerability and severity of future disasters and hazardous situations.

3.20.3. Discussion

3.20.3.1. Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Determination: NO IMPACT

Construction and Operational Impacts

The City of Irvine's Local Hazard Mitigation Plan (LHMP) focuses on minimizing the harm caused by a disaster. The LHMP provides a comprehensive assessment of the threats that the City faces from natural and human-caused hazard events and a coordinated strategy to reduce these threats. The Project Site is in an urbanized area not located in a Fire Hazard Zone and, therefore, would not be subject to wildland fire risks. The Project does not include any characteristics such as permanent road closure or long-term blocking of road access that would physically impair or otherwise conflict with the City's Emergency Preparedness Program. Furthermore, the Project shall comply with fire prevention regulations codified by local, regional, and state authorities. Emergency access roadways would be designed to meet OCFA fire prevention guidelines (Guideline B-09) and City Ordinance provisions Sec. 5-9-519 Emergency access. The OCMF would comply with the 2019 California Fire Code Part 9, Title 24 CCR. The City of Irvine Standard Condition 4.9 shall require an inspection by the Police Department and OCFA prior to the Project opening, to ensure compliance with the Emergency Access Plan requirements. Therefore, no construction or operational impacts related to substantially impairing an adopted emergency response plan or emergency evacuation plan would occur.

3.20.3.2. Would the Project, 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?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The Project is not located in a Fire Hazard Zone according to the City of Irvine General Plan. In Southern California, the most common type of severe wind event is Santa Ana winds, which are often the leading cause of wildfires in California. While the City of Irvine is often affected by Santa Ana winds blowing through the Santa Ana Mountain range, the Project Site is in an urbanized area wherein the existence of brush and dry plant material would not exist during construction or operations. The City notes that sometimes the start of wildfires may occur if

power lines located around overgrown trees or fuel cause a spark and ignite a fire. Existing electrical lines within the Project Site are underground and the service feeds associated with the Project would also be routed underground. The Project Site's profile would be flat with drainage and track grade ranging at approximately 1 percent slope. As a result, construction and operational impacts related to the Project, due to slope, prevailing winds, and other factors, that would exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

3.20.3.3. Would the Project 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?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

While the addition of utility service feeds would be required for the OCMF, the Project is in an urbanized area where utility mainlines already exist in the vicinity of the Project Site. Electrical service feeds for the OCMF would tie into an existing underground duct bank. Roadways within the Project Site would meet design standards to allow for emergency services per OCFA (OCFA, 2020). Additionally, the OCMF would be designed to meet building codes per City of Irvine Municipal Code, Title 5, Division 9. Building design, materials, and operations would comply with state regulations set forth in the 2019 California Fire Code Part 9, Title 24 CCR. Therefore, construction and operational impacts related to the installation and maintenance with associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment would be less than significant.

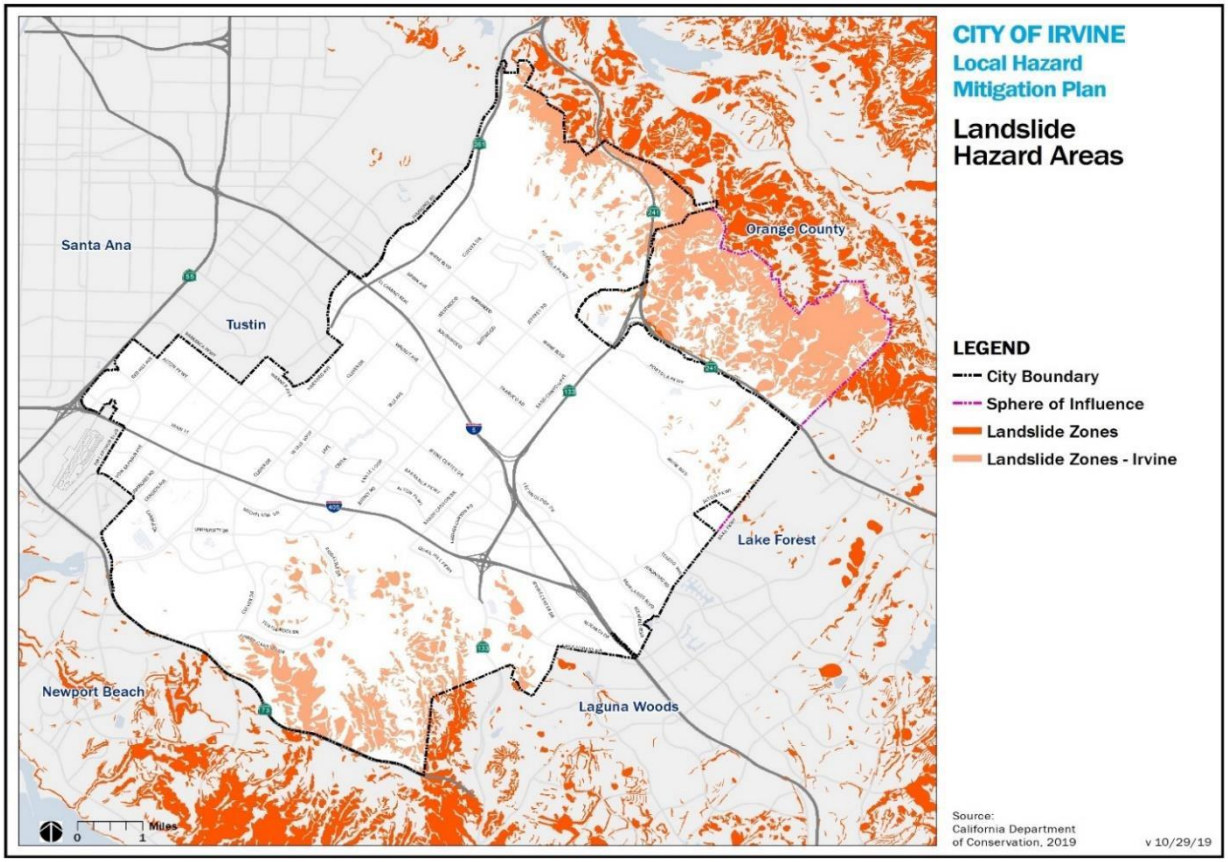
3.20.3.4. Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slop instability, or drainage changes?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

A majority of the City's identified landslide hazards are located in the foothills of the San Joaquin Hills and Santa Ana Mountains. These areas are characterized by steep slopes that have the potential to create landslides after long periods of heavy rainfall. The Project Site is not located in a landslide zone (Figure 3.20-3) and, as a result, would not be susceptible to landslides or post-fire slope instability. As discussed in the Section 3.10.3.1 Hydrology and Water, the existing topography of the site provides a drainage pattern that slopes from east to west. The Project's final grading configuration would have a similar direction of flow as that of

Figure 3.20-3: City of Irvine - Landslide Hazards



Source: City of Irvine, 2019

the existing topography. Underground cisterns would be located in the northern corner of the Project Site underneath the proposed parking lot and would provide enough storage to contain the Design Capture Volume and collect excess stormwater runoff. As a result, stormwater runoff and drainage changes related to the Project would not induce any downslope or landslides. Post-fire slope instability would also not be of concern since the Project is not within a landslide hazardous area.

The Project Site is not located in a flood hazard zone according to the Safety Element of the General Plan. Based on the FEMA FIRMs (panel number 06059C0315J, dated December 3, 2009), the Project Site is within Zone X, which is defined as an area of minimal flooding. Additionally, reconfigurations of Bee Canyon Channel would match runoff conditions since the existing concrete-lined bottom is impervious. Bee Canyon Channel's drainage would have similar drainage capacity and runoff conditions as in existing conditions. Therefore, construction and operational impacts related to the Project's exposure to 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 would be less than significant.

3.21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1) Does the project 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?	☐	☒	☐	☐
2) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1. Discussion

3.21.1.1. Does the Project 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?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction and Operational Impacts

Refer to Sections 3.4 Biological Resources, 3.5 Cultural Resources, and 3.7 Geology and Soils.

Mitigation measures MM-BIO-1 and MM-BIO-2 would reduce any potential impacts related to degrading the quality of the environment, substantially reducing the habitat of a fish or

wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant or animal community, substantially reducing the number or restrict the range of a rare or endangered plant or animal to less than significant.

Mitigation measures MM-CUL-1, MM-CUL-2, MM-GEO-1, and MM-GEO-2 would reduce any potential impacts related to eliminated important examples of the major periods of California history or prehistory to less than significant.

Therefore, impacts would be less than significant with mitigation incorporated.

3.21.1.2. Does the Project have impacts that are individually limited, but cumulatively considerable?

Determination: LESS THAN SIGNIFICANT IMPACT

Construction and Operational Impacts

The related projects (

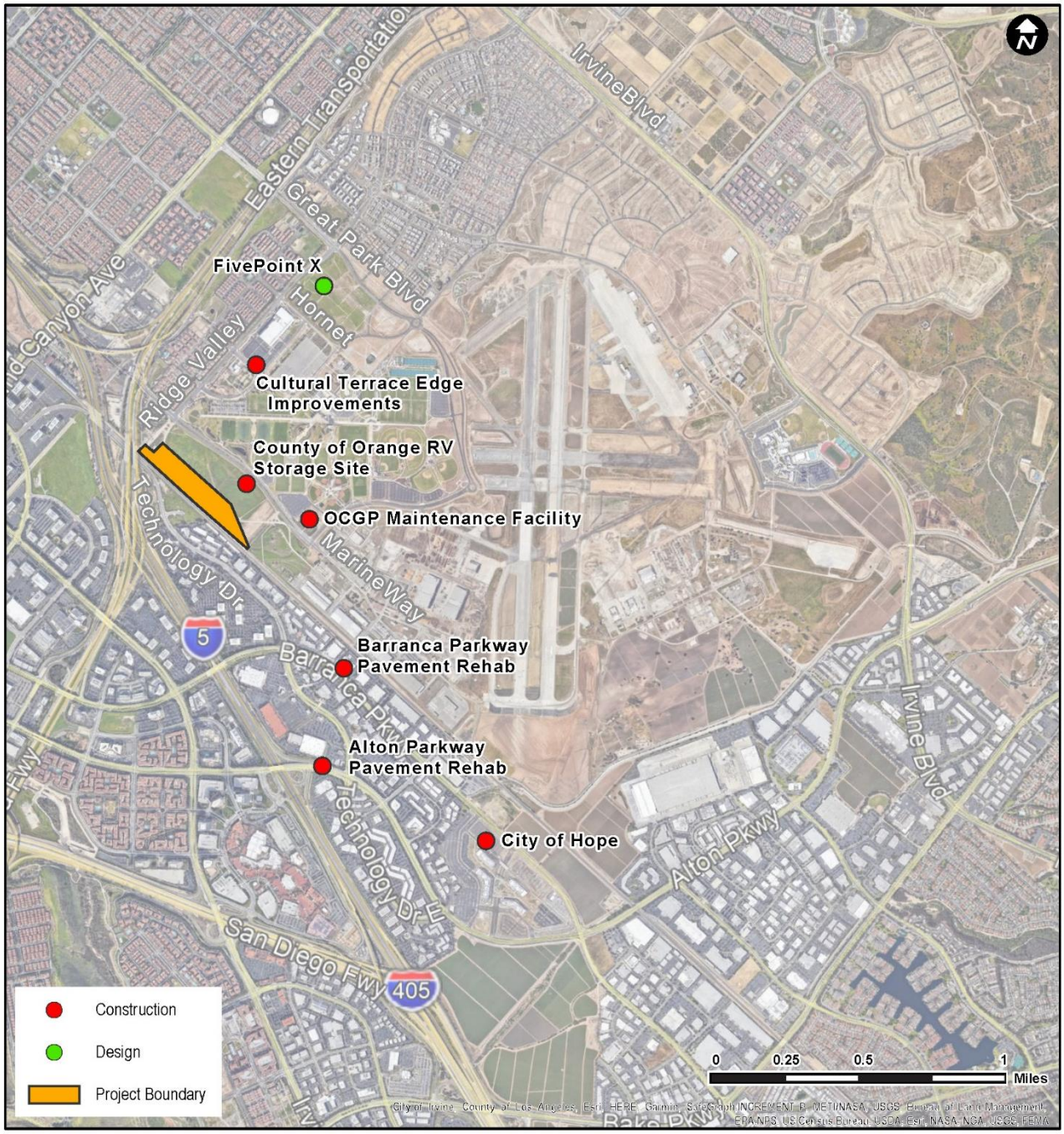
Figure 3.21-1) that would be in construction or be developed during the construction and operations of the Project include:

1. Great Park Maintenance Facility – The City of Irvine has design plans to expand the maintenance facility that serves and maintains the Great Park, and Bee and Bosque Trail. The location of the proposed maintenance facility is near the intersection of Marine Way and Skyhawk and approximately 850 feet from the Project Site. Construction is scheduled to begin in Summer 2022.

   The Great Park Maintenance Facility would require construction related vehicles. In the event that the construction of the Project and the Great Park Maintenance Facility project occur simultaneously, it is anticipated that Marine Way would experience a temporary increase in VMT from both projects. As a decommissioned military site, the area surrounding the Project Site has a limited roadway network and the projects would utilize Marine Way as a primary roadway to access the I-5 freeway during construction. The increase in traffic impacts as a result of the Great Park Maintenance Facility's construction activities would be less than the Project due to the nature of the Great Park Maintenance Facility's size and lesser extent of its construction scope. Therefore, the impacts related to traffic due to the Project and the Great Park Maintenance Facility would not be cumulatively considerable.

   The Great Park Maintenance Facility exists within a portion of the MCAS El Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implement measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the Great Park Maintenance Facility would not be cumulatively considerable.

Figure 3.21-1: Related Projects



Source: City of Irvine, 2021

2. Barranca Parkway Pavement Rehab – This project consists of pavement rehabilitation from the I-5 Freeway to Ada. Specific improvements include cold mill damaged roadway and pave rubberized asphalt concrete, construction of ADA-compliant access ramps and driveways, and reconstructing damaged curb, gutter and sidewalk. Construction began March 2021 and will be completed in November 2021.

   In addition to the one-mile distance between the two projects, the existing Metrolink ROW serves as a physical barrier between the Barranca Parkway Pavement Rehab and the Project. Geographical constraints (distance of projects and existing Metrolink ROW barrier) and lack of construction overlap would result in no cumulatively considerable impacts.

3. Cultural Terrace Roadway Edge Improvements – The project consists of continuing the Great Park landscape into the Cultural Terrace road network. Construction activities include improving the edge conditions along future roadways in the Cultural Terrace including landscape, sidewalks, lighting, irrigation, signage, and water quality. The project location is bounded by Marine Way, Skyhawk, and Great Park Avenue and is approximately 0.25 miles from the Project Site. The start date for construction has not been determined.

   The Cultural Terrace Roadway Edge Improvements project would require construction related vehicles. As a decommissioned military site, the area surrounding the Project Site has a limited roadway network. In the event that the construction of the Project and the Cultural Terrace Roadway Edge Improvements project occur simultaneously, it is anticipated that Marine Way would experience a temporary increase in VMT. The projects would utilize Marine Way as one of the primary roadways to access the I-5 freeway. However, the Cultural Terrace Roadway Edge Improvements project would utilize Skyhawk and Great Park Boulevard as alternative routes for access to the I-5 freeway. Additionally, the increase in traffic as a result of the Cultural Terrace Roadway Edge Improvements would be less than the Project due to the project's scope of construction. Therefore, the impacts related to traffic due to the Project and the Cultural Terrace Roadway Edge Improvements would not be cumulatively considerable.

   The Cultural Terrace Roadway Edge Improvements project exists within a portion of the MCAS El Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implement measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the Cultural Terrace Roadway Edge Improvements project would not be cumulatively considerable.

4. FivePoint X – This new mixed-use commercial project would be located just south of the Great Park Neighborhoods. The project is approximately one-half mile from the Project Site and is bound by Great Park Boulevard, Ridge Valley, and Hornet. The commercial center is designed to provide amenities for Great Park visitors and neighboring residential communities. Two hotels situated along Hornet and a warehouse for operations and shopping will also be part of the project. This project has been approved by the City; however, the construction start date has not been determined. The Irvine City Council approved the Orange County Great Park (OCGP) Final Environmental Impact Report (FEIR) on May 27, 2013, which outlines roadway and utility improvements for future developments within the Great Park.

   Due to the nature of the project and its location, in the event that the FivePoint X development and the Project would be constructed simultaneously, it is anticipated that impacts on traffic, utilities, noise, and hazardous materials could be cumulatively considerable. The FivePoint X development would require construction related vehicles, new or expanded water and wastewater utilities, and would be located on decommissioned military site. The area surrounding the project site has a limited roadway network and the project would utilize Ridge Valley and Marine Way as primary roadways to access the I-5 freeway during construction. As such, it is anticipated that Ridge Valley and Marine Way would experience a temporary increase in VMT from both projects. The 2013 OCGP EIR concluded that all transportation impacts resulting from increased traffic congestion in relation to the existing traffic load and capacity of the street system would result in less than significant impacts with mitigation incorporated. The report also concluded that impacts to emergency vehicle access would be less than significant with mitigation incorporated. The increase in traffic impacts as a result of the FivePoint X development construction activities would be less than the Project due to the distance from the Project Site and the number of alternative roadways, including Great Park Boulevard and Ridge Valley, that can be used to access the site. Therefore, impacts related to increased traffic due to the Project and FivePoint X development would not be cumulatively considerable.

   The FivePoint X development would require the construction of utilities and service systems. Commercial and residential projects typically result in increased demands on water supply, and more substantial generation of wastewater and solid waste. In the event that the construction and operations of the Project and FivePoint X development occur simultaneously, it is anticipated that an increase in sufficient water supplies would occur from both projects. However, the FivePoint X development would be required to comply with all applicable regulations and standards that control these utilities. In addition, mitigation measures outlined in the 2013 OCGP EIR would reduce impacts related to utilities, wastewater systems, and sufficient water supply to be less than significant during project construction and operations. Therefore, the impacts related to

utilities and service systems due to the Project and the FivePoint X development would not be cumulatively considerable.

The FivePoint X development would require the use of construction related vehicles and machinery. In the event that the construction of the Project and the FivePoint X development occur simultaneously, it is anticipated that a temporary increase in noise levels would occur from both projects. However, due to geographical constraints (distance of projects) and lack of construction overlap would result in no cumulatively considerable impacts.

The FivePoint X development exists within a portion of the MCAS El Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implement measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the FivePoint X development would not be cumulatively considerable.

5. City of Hope – This new cancer treatment center of approximately 60,000 square feet, as well as medical offices of approximately 190,000 square feet is located between Alton Parkway and Barranca Parkway approximately 1.4 miles southeast of the proposed OCMF site. Construction of the medical office was completed in December 2017, and a new aboveground parking structure is currently under construction along Barranca Parkway near the intersection of Marine Way, which is a separate roadway from the Marine Way used for the Project.

   The parking structure requires construction related vehicles and dewatering activities. In the event that the construction of the Project and the City of Hope parking structure occur simultaneously, it is anticipated that both projects would experience a temporary increase in water usage. Due to geological barriers (Metrolink ROW and separate roadway for Marine Way), any increase in VMT is not anticipated if both projects were to be constructed concurrently, and would not be cumulatively considerable.

   Operations of the City of Hope medical office and parking structure could also result in impacts to local utilities and service systems. Commercial projects typically result in increased demands on electrical and water supply, and the generation of wastewater and solid waste. This project would be required to comply with all applicable regulations and standards that control these utilities. Demand on utilities and services systems during operations would not result in new facilities being required and would not exceed applicable requirements. In addition, the existing Metrolink ROW serves as a physical barrier between the proposed OCMF and the City of Hope project. Therefore, the

proposed OCMF in conjunction with the City of Hope project would not be cumulatively considerable.

6. County of Orange RV Storage Site - The vacant parcel between the Project Site and Marine Way is currently being developed into an RV (recreational vehicle) storage area by the County of Orange. The intended use of this parcel is for storage of unoccupied vehicles. However, construction is currently ongoing for the County of Orange's RV Storage Site and, thus, construction activities such as grading would not be different than what is encountered now.

   The County of Orange RV Storage Site would require construction related vehicles. In the event that construction of the County of Orange's RV Storage Site and the Project occur simultaneously, a temporary increase in VMT would occur along Marine Way and Ridge Valley during project construction due to construction vehicles utilizing these roadways to access the project site. However, the increase in traffic as a result of the County of Orange RV Storage Site would be less than the Project due to the project's scope of construction. Therefore, the proposed OCMF in conjunction with the County of Orange RV Storage Site would not be cumulatively considerable.

   The project site is located in the adjacent parcel north of the Project. In the event that the construction of the County of Orange's RV Storage Site and Project occur simultaneously, it is anticipated that residential properties located northwest of the project site and visitors from the Great Park would experience temporary visual impacts from both projects. However, visual impacts as a result of the County of Orange's RV Storage Site construction activities would be less than the Project due to the nature of the County of Orange's RV Storage Site size and lesser extent of its construction scope. Therefore, the impacts related to visual quality and aesthetics due to the Project and the County of Orange's RV Storage Site would not be cumulatively considerable.

   The County of Orange's RV Storage Site exists within a portion of the MCAS EL Toro Superfund site and would impact the ongoing military clean-up site operations. This project would be required to implements measures to reduce significant impacts in separate environmental approval processes and would therefore be required to comply with the regulatory frameworks set forth by federal, state, and local agencies concerning hazardous materials. Therefore, the impacts related to hazardous materials due to the Project and the County of Orange's RV park would not be cumulatively considerable.

For this Project, given the extent and comprehensive character of mitigation that has been provided in this document to reduce impacts to less than significant, the Project in conjunction with the related projects listed above would not have substantive residual or significant impacts and thus it is not anticipated that this Project would contribute considerably to any significant cumulative impacts.

3.21.1.3. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Determination: LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Construction and Operational Impacts

As discussed in Section 3.9, Hazards and Hazardous Materials, the Project Site is located on the former MCAS El Toro where two regional groundwater contamination plumes of VOC exist. Both plumes are within the OCWD Management Area and are under active remediation by the DON. The Project would need to notify the appropriate state and local agencies (e.g., OCHCA, DTSC, or the SARWQCB) since soil and groundwater contamination is present due to the MCAS site. Mitigation measures MM-HAZ-2 and MM-HAZ-3 would reduce any potential impacts related to causing a substantial adverse effect on human beings, either directly or indirectly. Therefore, impacts would be less than significant with mitigation incorporated.

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